GILLIAM COUNTY TRANSPORTATION SYSTEM PLAN

VOLUME 2: TECHNICAL APPENDIX

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Prepared for:

Gilliam County &
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Transportation

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TECHNICAL APPENDIX, VOLUME 2

Technical Memorandum #1: Plans and Policies Review

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

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TECHNICAL MEMORANDUM #1

Gilliam County TSP

Plans & Policy Review

Date: December 22, 2014 Project #: 17679.0

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This memorandum summarizes existing plans, policies, standards, rules, regulations, and other applicable federal, state, regional, and local documents as they pertain to development of the Gilliam County Transportation System Plan (TSP) Update. A list of the documents reviewed by the project team are identified in Table 1-1 and summarized in the following sections. This summary will serve as a reference for the project team throughout the project, and if new policies are proposed as part of the TSP they will be reviewed for consistency with existing policies.

BACKGROUND

In 1977, Gilliam County and two of the incorporated cities (Condon and Arlington) were the first jurisdictions in the State of Oregon to be "acknowledged" by the State Land Conservation and Development Commission (LCDC) for having developed and adopted Comprehensive Land Use Plans that complied with the State's Land Use Planning Goals. Over the years, the Comprehensive Plans have been updated several times to keep them in compliance. The current Gilliam County Comprehensive Land Use Plan was updated in 2010, formally adopted by the County in 2011, and acknowledged by Oregon Department of Land Conversation and Development (DLCD) in 2011. The County developed and adopted a Transportation System Plan in 1999 that covered Gilliam County and the incorporated City of Lonerock. The Cities of Arlington and Condon also developed and adopted Transportation System Plans in 1999. A number of new or changing circumstances within the County and the incorporated Cities bring into focus key transportation issues indentified below.

KEY ISSUES

In 2011, the City of Arlington undertook a Urban Growth Boundary (UGB) revision process to bring additional land into the UGB for a large industrial park. Approximately 300 acres of industrial land was added to the City's industrial land base. Subsequent to the UGB expansion, that land has been annexed to the City, bringing the total industrial land available at this site to approximately 450 acres. The City then provided basic water and sewer service to these lands to make the Mesa Industrial Park "shovel ready." The City and the Port of Arlington are taking

aggressive actions to develop this property. The primary transportation issue is providing safe access to/from Highway 19 and for the maintainance and enhancement of the Arlington Municpal Airport.

Table 1-1 Documents and Policies Reviewed

Document/Policy	Page Reference
Statewide Planning Documents	
Statewide Planning Goals (OAR chapter 660 division 012, known as the Transportation Planning Rule or TPR)	3
Transportation System Planning Guidelines	4
Oregon Transportation Plan	4
Oregon Highway Plan (as amended)	6
Oregon Aviation Plan	12
Oregon Bicycle/Pedestrian Plan	12
Oregon Freight Plan	13
Oregon Public Transportation Plan	13
Oregon Rail Plan	14
Transportation Safety Action Plan	14
OAR Chapter 734 Division 051	16
ODOT Highway Design Manual	17
Statewide Transportation Improvement Program	18
House Bill 3379 Administrative Rule Background	18
Regional Planning Documents	
Central Oregon Rail Plan	14
County Planning Documents	
Gilliam County Comprehensive Plan	19
Gilliam County Zoning Ordinance	19
Gilliam County TSP	20
City/Local Planning Documents	
City of Condon Comprehensive Plan	20
City of Condon Buildable Lands Inventory	21
City of Condon Transportation System Plan	22
Condon State Airport Layout Plan	22
City of Arlington Comprehensive Plan	22
City of Arlington Transportation System Plan	23
City of Lonerock Information	23

STATE OF OREGON/ODOT

Statewide Planning Goals

Oregon's Statewide Planning Goals first originated in 1973 to provide a coordinated vision of state land use policies. There are nineteen planning goals within OAR 660-015. Of these, Goal 15 is only relevant to the Willamette Greenway and Goals 16 through 19 are relevant only to coastal communities. While not all of the goals are mandatory, each has been adopted as an Oregon Administrative Rule (OAR) to be followed by government agencies. A summary of the planning goals is provided below.

- Citizen Involvement (Planning Goal 1) – To develop a citizen involvement program that provides the opportunity for engagement in all phases of the planning process.
- Land Use Planning (Planning Goal 2) – To establish land use planning process and policy framework as a basis for all decisions and actions related to use of land, and to assure an adequate factual base for such decisions and actions.
- Agricultural Lands (Planning Goal 3) – To preserve and maintain agricultural lands.
- Forest Lands (Planning Goal 4) - To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.
- Natural Resources, Scenic and Historic Areas, and Open Space (Planning Goal 5) – To protect those resources that promote a healthy environment and a natural landscape that contributes to Oregon's livability for present and future generations.
- Air, Water, and Land Resources Quality (Planning Goal 6) – "to maintain and improve the quality of the air, water, and land resources of the state".
- Areas Subject to Natural Disasters and Hazards (Planning Goal 7) – "to protect people and property from natural hazards", such as floods, landslides, earthquakes, tsunamis, coastal erosion and wildfires.
- Recreational Needs (Planning Goal 8) – to satisfy citizen and visitor's recreational needs. Also, to provide for the siting of necessary recreation facilities (including destination resorts), where appropriate.
- Economy of the State (Planning Goal 9) - To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.
- Housing (Planning Goal 10) – To provide housing needs for the residents of the state.
- Public Facilities and Services (Planning Goal 11) – "to plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development".

- Transportation Planning (Planning Goal 12) – To develop a coordinated transportation system plan that is safe, convenient, and economical, minimizing reliance on any single travel mode.
- Energy Conservation (Planning Goal 13) – to manage and control lands and associated land uses in order to "maximize the conservation of all forms of energy, based on sound economic principles."
- Urbanization (Planning Goal 14) – To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide livable communities.

While all of the goals will help set the necessary policy framework for the TSP processes, Goal 12 (OAR 660-015-0000 (12)) in particular provides the framework that the state requires must be followed as part of the preparation of the updated TSP. Specifically, sections 660-012-0020 through 660-012-0045 outline the requirements and implementation guidance. For compliance with Goal 12, the TSP must provide and encourage a safe, convenient and economic transportation system that is coordinated with urban and rural development.

The TSP must include strategies to reduce reliance on any single travel mode (provide mode choice), facilitate movement of goods and people, develop a system hierarchy for orderly and efficient multimodal travel, and preserve and protect streets and highways for their intended function. The TSP must be coordinated with and consistent with statewide, regional, and local plans.

Transportation System Planning Guidelines (2008)

The TSP Guidelines suggests a logical sequence of planning steps tailored to help smaller, non-Metropolitan Planning Organization (MPO) jurisdictions in particular, prepare a TSP. One of the planning steps prescribes that jurisdictions include a summary to address how the planning project complies with new regulations, policies, and statutes that have been adopted since the TSP was last adopted, or amended. As such, the remainder of this memorandum summarizes applicable state, regional, and local plans, and frames how the existing 1999 Gilliam County Transportation System Plan relates and complies with these. When recommendations to existing plans and policies are developed throughout the TSP Update process, they will be compared to the foundation established in this memo.

Oregon Transportation Plan (2006)

The Oregon Transportation Plan (OTP) is the state's long-range multimodal transportation plan, providing a framework for prioritizing transportation improvements based on future revenue conditions. The OTP is the overarching policy document among a series of plans that together form the state's Transportation System Plan. The plan calls for a transportation system that has a modal balance, is both efficient and accessible, provides connectivity among rural and urban places and between modes, and is environmentally and financially stable.

The OTP outlines the following seven goals, each with associated policies, to guide local, regional and state transportation plans.

- **Goal 1 – Mobility and Accessibility**: Provide a balanced and integrated transportation system that ensures interconnected access to all areas of the state, the nation and the world. Promote transportation choices that are reliable, accessible and cost-effective.
- **Goal 2 – Management of the System**: Improve the efficiency of the transportation system by optimizing operations and management. Manage transportation assets to extend their life and reduce maintenance costs.
- **Goal 3 – Economic Vitality:** Expand and diversify Oregon's economy by transporting people, goods, services and information in safe, energy-efficient and environmentally sound ways. Provide Oregon with a competitive advantage by promoting an integrated freight system.
- **Goal 4 – Sustainability**: Meet present needs without compromising the ability of future generations to meet their needs from the joint perspective of the environment, economy and communities. Encourage conservation and communities that integrate land use and transportation choices.
- **Goal 5 – Safety and Security**: Build, operate and maintain the transportation system so that it is safe and secure. Take into account the needs of all users: operators, passengers, pedestrians and property owners.
- **Goal 6 – Funding the Transportation System**: Create sources of revenue that will support a viable transportation system today and in the future. The goal recognizes that whether or not funds are increased, it is essential to maximize existing resources, invest strategically, consider return on investment and provide equity among rural and urban areas, equity among income groups and access to transportation options throughout Oregon.
- **Goal 7 – Coordination, Communication and Cooperation**: Foster coordination, communication and cooperation between transportation users and providers so various modes of transportation function as an integrated system. Work to help all parties align interests, remove barriers and offer innovative, equitable solutions.

The OTP, as the guiding document for regional and local TSPs, establishes goals, policies, strategies and initiatives that address the core challenges and opportunities facing transportation in Oregon. The OTP includes modal components that outline recommended standards for various forms of transportation. Table 1-2 identifies the relevant modal elements as well as the year of adoption by the OTC. Although there is no separate modal plan for marine freight, the OTP discusses the importance of marine transportation within the state's transportation system and the need to maintain existing ports. The marine freight facilities map in the OTP shows the a Shallow Draft Cargo Handling Port on the Columbia River in Arlington.

Table 1-2 OTP Modal Plan Components

Oregon Transportation Plan Element	Year Adopted
Oregon Highway Plan (OHP)	Originally adopted in 1999 (with subsequent amendments for access management, mobility standards, freight routes, tolling and pricing policy, and expressway classifications)
Oregion Aviation Plan (OAP)	Originally adopted in 2000 and updated in 2007
Bicycle/ Pedestrian Plan	Originally adopted in 1995; Second Part of Plan updated in 2011 and retitled the Oregon Bicycle and Pedestrian Design Guide; Update expected in 2016.
Freight Plan	Adopted in 2011
Public Transportation Plan	Adopted in 1997; update expected in 2017
Rail Plan	Adopted in 2014
Transportation Safety Action Plan (TSAP)	Originally adopted in 1995; the TSAP was last updated in 2011 and will be updated again in 2015.

1999 TSP Assessment Relative to the OTP

The 1999 TSP is generally consistent with the policies listed within the OTP. The updated TSP will need to be modernized to reflect amendments and revisions to the OHP.

The 1999 TSP does include a financial plan inclusive of near-term, mid-term, and long-term funding projections based on various types of revenue streams. The updated TSP will need to address current revenue projections and respond to the need for a financially constrained system.

Oregon Highway Plan (as amended)

The Oregon Highway Plan (OHP) defines policies and investment strategies for Oregon's State highways for the next 20 years. The OHP further refines the goals and policies of the OTP, and serves as the policy basis for implementing the Oregon Administrative Rule (OAR) Division 51, which specifically addresses access to State facilities. The OHP has three main elements:

- A Vision for the future of the State highway system that describes economic and demographic trends in Oregon, future transportation technologies, the policy and legal context of the Highway Plan, and pertinent information on the current highway system;
- Goals, policies, and actions items for: system definition, system management, access management, travel alternatives, and environmental and scenic resources; and
- An analysis of the 20-year State highway needs, revenue forecasts, descriptions of investment strategies and implementation strategies, and performance measures.

The OHP provides policy and investment guidance for local corridor plans and TSPs, but it leaves the responsibility for identifying specific projects and modal alternatives to these more localized plans.

The OHP has been amended several times since its original adoption in 1999, the last amendments were adopted in 2012. These amendments since 1999 have addressed the

designation of expressways, changes in mobility standards, designation of Special Transportation Areas, and other changes affecting the classification and standards for highways throughout the state.

Policies in the OHP pertinent to the TSP update are described below.

OHP Goal 1: System Definition

- **Policy 1A, State Highway Classification System** outlines functions and objectives for state highways to serve different types of traffic. Greater mobility is expected on interstate and statewide highways than on regional or district highways. Facility classification is used to guide planning, management and investment decisions regarding state highway facilities.

  Figure 1-1 (2012 amended OHP) illustrates the existing state highway classifications. I-84, east to west, through the northern edge of the County is a Interstate Highway – NHS. There are two Regional Highways, OR 19 and 206 traversing the County. OR 19 serves Arlington and Condon. Lonerock is served by Lonerock Road, a County road.

- **Policy 1B, Land Use and Transportation** addresses the relationship between the highway and development patterns on and off the highway. It emphasizes development patterns that maintain state highways for regional and intercity mobility, and supports compact development patterns that are less dependent on state highways than linear development for access and local circulation. This policy is designed to clarify how ODOT will coordinate with local governments and others to link land use and transportation in transportation plans, facility and corridor plans, plan amendments, access permitting and project development.

- **Policy 1C, State Highway Freight System** identifies the need to balance the movement of goods and services with other uses and the importance of maintaining efficient through movement on major freight routes.

  I-84 is the designated freight route through Gilliam County.

- **Policy 1F, Highway Mobility Targets**[1] establishes acceptable levels of mobility for the various levels of state highway facilities, and the condition of the transportation system. With respect to transportation system planning, the highway mobility targets are used to "identify state highway mobility performance expectations and provide a measure by which the existing and future performance of the highway system can be evaluated." As such, the targets may be used to identify system mobility deficiencies over a planning horizon of at least 20 years.

  The OHP's mobility targets use volume-to-capacity (v/c) ratios as the primary metric. However, where it can be shown that it is infeasible or impractical to meet the targets,

[1] The Oregon Transportation Commission reviewed and adopted changes to Policy 1F in December 2011.

local jurisdictions may develop alternative targets in coordination with ODOT and other relevant stakeholders. The OHP states that "providing for better multimodal operations is a legitimate justification for developing alternatives to established OHP mobility targets."[2]

Table 1-3 summarizes the mobility standards that are applicable to Gilliam County

Table 1-3 Volume to Capacity Ratio Targets for Peak Hour Operating 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

**N/A = Not applicable within Gilliam County.*
Source: OHP, Table 6, modified for relevance

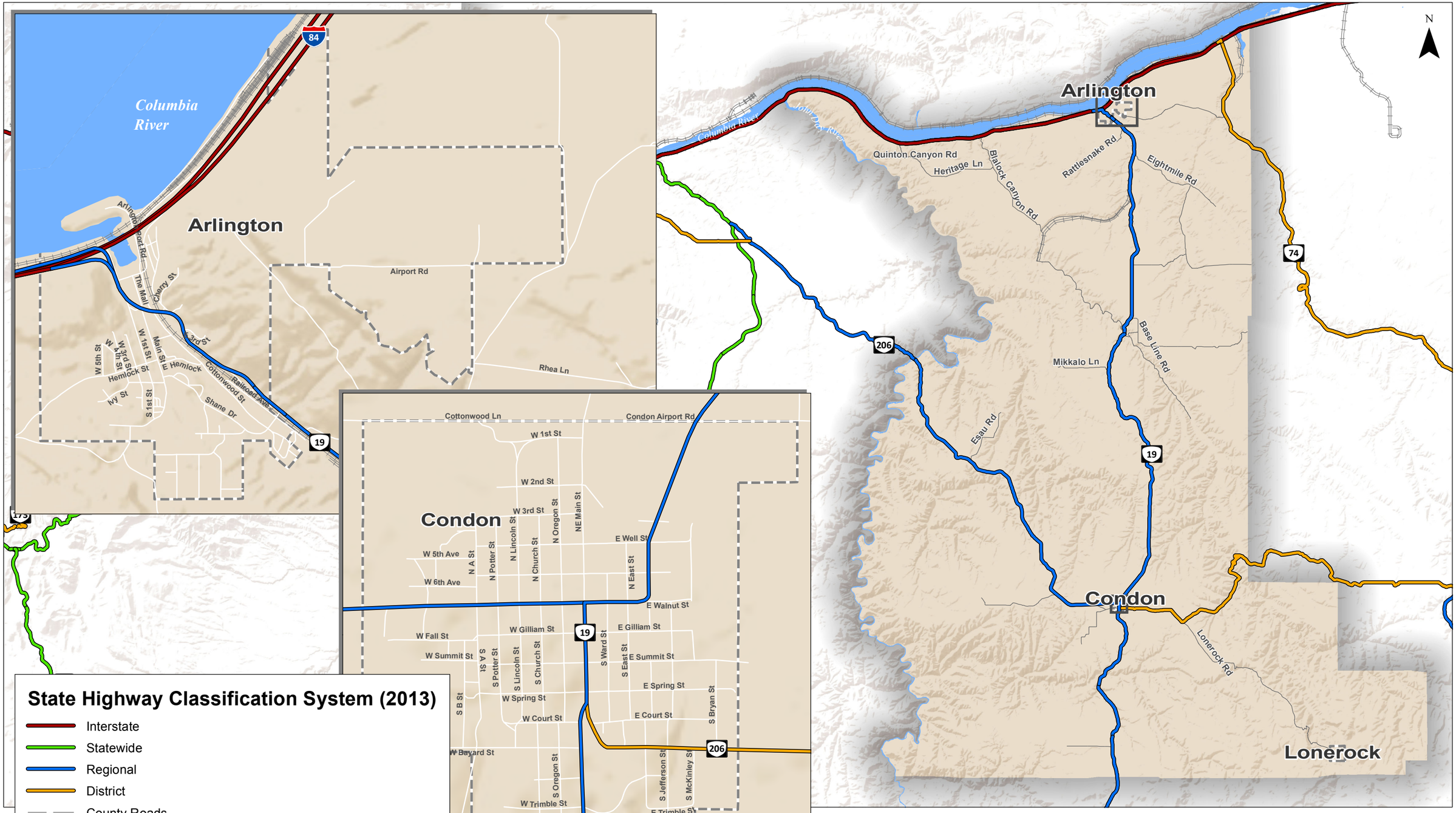
Policy 1G, Major Improvements requires maintaining performance and improving safety by improving efficiency and management before adding capacity. ODOT coordinates with regional and local governments to address highway performance and safety.

OHP Goal 2: System Management

- **Policy 2A, Partnerships** establishes the need for cooperative partnerships between ODOT and state and federal agencies, regional governments, cities, counties, tribal governments, and the private sector.
- **Policy 2B, Off-System Improvements** helps local jurisdictions adopt land use and access management policies.

[2] Any OHP Amendments are contingent on Oregon Transportation Commission (OTC) approval.

- **Policy 2E, Intelligent Transportation Systems** puts emphasis on considering a broad range of Intelligent Transportation Systems services to improve system efficiency and safety in a cost-effective manner.



K:\H_Portland\proj\fei\17679 - Gilliam County TSP\gis\1-1 State Highway Classification.mxd - agriffin - 2:19 PM 11/26/2014

State Highway Classification
Gilliam County, Oregon

Figure
1-1

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Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

Policy 2F, Traffic Safety establishes the need to continually improve safety for all highway system users with solutions involving engineering, education, enforcement and emergency medical services.

OHP Goal 3: Access Management

- **Policy 3A, Classification and Spacing Standards** defines access spacing standards for the location, spacing and type of road and street intersections and approach roads on state highways. The adopted spacing standards consider highway classification, posted speed, safety, and operational needs. Revisions to the OHP were adopted by the Oregon Transportation Commission (OTC) on March 21, 2012 to address Senate Bill 264 (2011). The revisions included reductions in spacing standards outside of interchange areas and established unique standards based on highway volume.

  Access management spacing standards for highway segments with AADT of 5,000 vehicles or less are shown in Table 1-4.

Table 1-4 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	>5000	65	10,560
OR 206	West of Condon	Regional Highway	<5000	55	650
	East of Condon	District Highway	<5000	55	650
	Within Condon City Limits	Regional/District Highway	<5000	40/30/20	360/250/150
OR 19	Entire Section within County Limits, Outside of Cities	Regional Highway	<5000	55	650
	Within Arlington City Limits		<5000	55/45/25	650/360/150
	Within Condon City Limits		<5000	40/30/20	360/250/150
OR 74	Entire Section within County Limits	District Highway	<5000	55	650

- **Policy 3D, Deviations** establishes general policies and procedures for deviations from adopted access management standards and policies.

OHP Goal 4: Travel Alternatives

- **Policy 4A, Efficiency of Freight Movement** establishes the need to maintain and improve the efficiency of freight movement on the state highway system and access to intermodal connections. The State seeks to balance the needs of long distance and through freight movements with local transportation needs on highway facilities in both urban areas and rural communities.

- **Policy 4B, Alternative Passenger Modes** establishes the need to advance and support alternative passenger transportation systems where travel demand, land use and other

factors indicate the potential for successful and effective development of alternative passenger modes.

1999 TSP Assessment Relative to the OHP

The Oregon Highway Plan was and will continue to be relevant in the assessment of ODOT facilities in the current and updated TSPs. The 1999 TSP includes a Streets and Highways Element that defines the street functional classification, and specifies classifications within the Gilliam County roadway network. State mobility targets for the existing and no-build conditions will be developed based on the facility designations and the adopted mobility targets contained within the OHP.

Oregon Aviation Plan

The Oregon Aviation Plan (OAP) is a comprehensive evaluation of Oregon's aviation system, thus providing a systematic approach to meeting improvements and development strategies recommended within the Plan. The plan looks beyond the traditional state aviation system planning elements by assessing the following three areas:

- Existing aviation infrastructure;
- The economic benefit of the aviation industry; and,
- National importance and state significance of each airport.

There are two airports in Gilliam County, the Condon State Airport – Pauling Field, and the Arlington Municipal Airport. The Condon State Airport is classified as a Local General Aviation Airport by the OAP. The Arlington Municipal Airport is a Remote Access/Emergency Service Airport in the OAP.

1999 TSP Assessment Relative to the OAP

The 1999 TSP includes an Air Service Element, which recognizes that the Condon State Airport is a part of the OAP. In addition, there is a 2002 Airport Layout Plan which considers and addresses OAP recommendations for the Condon State Airport. An Airport Layout Plan is recommended to be developed from the existing conditions map of the Arlington Municipal Airport to reflect the OAP.

Oregon Bicycle/Pedestrian Plan

The Oregon Bicycle and Pedestrian Plan is divided into two parts, the Policy and Action Plan and the Bicycle and Pedestrian Design Guide. The first part was adopted in 1995, while the second part was updated in 2011. The Plan outlines key characteristics that should be considered related to accommodating bicycles and pedestrians when planning and designing state facilities. The Oregon Bicycle and Pedestrian Plan does not require specific standards for non-ODOT facilities. However, the plan recommends that land use patterns, transportation system layout, public transportation system design, and other planning related issues consider the impact to bicycle and pedestrian users and to the bicycle and pedestrian system as a whole. To this end, the plan provides specific design recommendations to support bicycle and pedestrian travel.

The Bicycle and Pedestrian Plan recognizes the role that safe, attractive, convenient, and easy to use bicycle and pedestrian facilities play in the provision of the state and local transportation systems. The plan includes seven chapters that guide the planning and design of on-road bikeways, restriping, bicycle parking, walkways, street crossings, intersections, and shared use paths.

1999 TSP Assessment Relative to the Oregon Bicycle and Pedestrian Plan

The existing TSP contains a Bikeway Plan element and a Pedestrian System element that address bicycle and pedestrian system needs, goals and policies, respectively. The TSP update will include revised inventory information, incorporate Safe Routes to School program recommendations, seek to better connect attractions such as community services, downtown areas, parks and trails with County residents using sidewalk improvements and/or shared use paths, and include specific technical analyses relative to the bicycle and pedestrian plan recognizing the important role that these modes play in the provision of a sustainable, safe, and efficient transportation system.

Oregon Freight Plan

The Oregon Freight Plan was adopted in June 2011 and provides a 25-year planning vision. The purpose of the Oregon Freight Plan (OFP) is to "improve freight connections to local, state, regional, national and global markets in order to increase trade-related jobs and income for Oregon workers and businesses." The OFP addresses challenges facing the freight system, including system operation and development, safety, communications, environmental considerations and funding.

While the freight plan serves as a modal element of the Oregon Transportation Plan, the OFP includes elements of several modes including marine, aviation, rail, pipeline, and truck transport. Key routes and transfer sites are presented and summarized within the plan.

Strategic freight corridors identified by the Central Oregon Area Commission on Transportation (ACT) include: The Columbia River Corridor, I-84 and Marine M-84.

1999 TSP Assessment Relative to the OFP

The 1999 TSP does not include a Freight Mobility Element which identifies improvements to the local street network to increase the efficient movement of freight and to decrease traffic impacts to local streets. The TSP Update should identify improvements to the street network in order to improve freight mobility. The TSP update will include railroad, airports, pipelines, Highway 19, and intermodal connections as they pertain to the local freight system.

Oregon Public Transportation Plan

As a modal element of the OTP, the Oregon Public Transportation Plan provides a long range vision for the public transportation system in Oregon. This system incorporates public and private transportation providers and is comprised of ridesharing and volunteer programs, taxi and minibus service, and intercity and intracity bus and passenger rail services. The Public

Transportation Plan outlines three primary goals and associated policies and strategies that guide public transportation through the year 2015. In recognition of limited resources, the Plan prioritizes elements that deliver service to "those Oregonians most dependent on the public transportation system (seniors, disabled, low-income, and youth)."

1999 TSP Assessment Relative to the Public Transportation Plan

The 1999 TSP includes an inventory of public transportation facilities in the cities. The TSP update should document public transportation services available to residents, including trips within the County and the region.

Gilliam County does not have any urban areas containing a population of more than 25,000 and is not required to evaluate the feasibility of public transit systems in those cities. However, Gilliam County operates a dial-a-ride transit system available for all residents.

Oregon Rail Plan

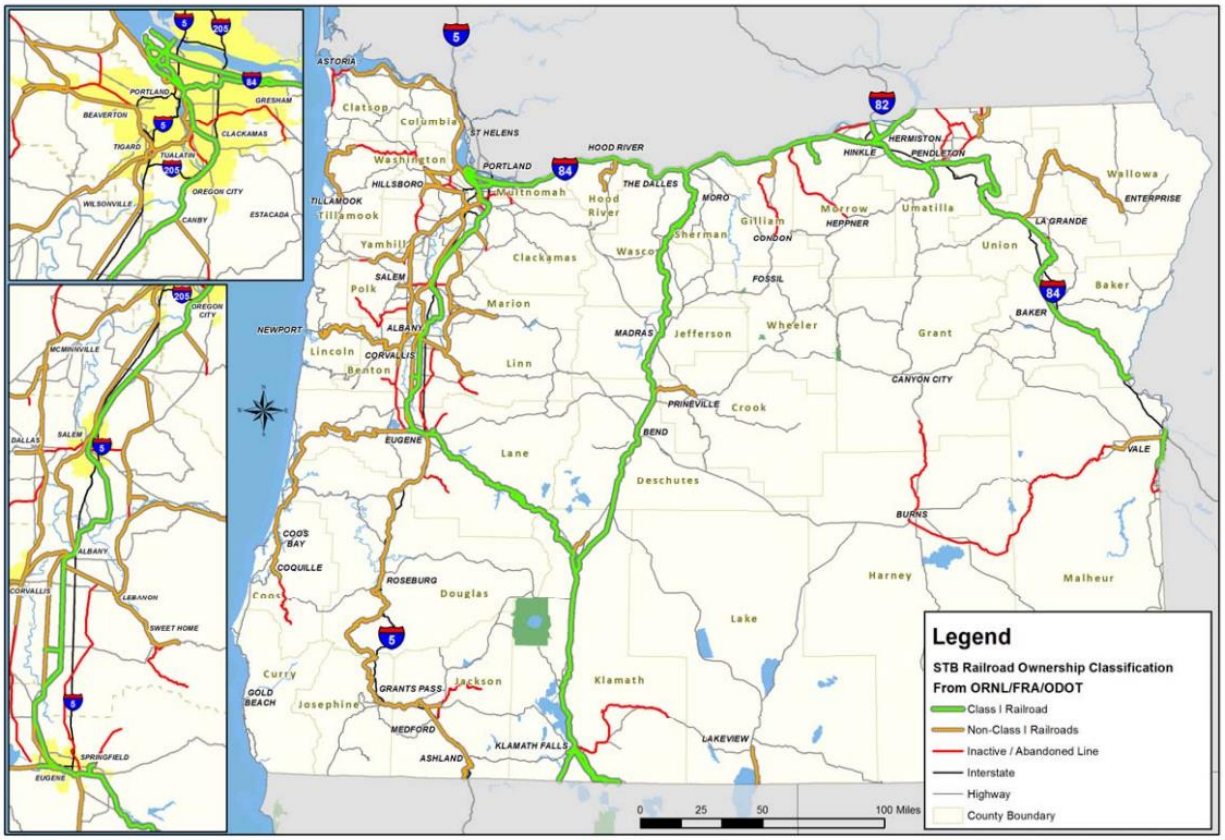
The Oregon Transportation Commission (OTC) officially adopted the Oregon State Rail Plan at their September 18, 2014 meeting. The TSP update should take into account this revised planning document during the update.

The Oregon Rail Plan meets mandatory federal and state planning requirements related to the management and maintenance of the railway system, and provides general management goals for State rail facilities.

Chapter 2 is particularly relevant to Gilliam County given the existing rail infrastructure. The Oregon Rail Plan provides the following benefits associated with railways serving industrial lands.

> *Because of the continuing dependence of many producers upon rail services, communities in their land use planning should attempt to ensure that a sufficient quantity of land with convenient access to rail service is planned and zoned for industrial development. There are several reasons why industrial parks and other industrially zoned property should have rail access:*
>
> 1. *Railroads tend to be more energy efficient than trucks and, therefore, can make better use of available energy resources.*
> 2. *Some commodities and products, especially those that are large, bulky, low valued, oversized, or not transportable over highways can be transported only by, or most efficiently by, railroad.*
> 3. *Access to rail service enable shippers to have a wider choice of transportation options, thus having a better bargaining position when negotiating rates with rail and truck carriers. While the initial occupant or occupants of a particular site or industrial park may not require rail service, subsequent occupants may.*
> 4. *Rail service enables delivery of goods in periods of emergency, strike or inclement weather when trucks cannot operate.*
> 5. *A railroad right-of-way may take less space than roads, and a railroad spur track may handle more volume in less space than could be done with trucks.*

The Oregon Rail Plan further describes the implications of rail service with respect to zoning, noting that industrial lands served by rail are more valuable than those without; whereas residential lands near railways are less valuable. The plan also notes that communities with access to short lines have an advantage in attracting business that need frequent switching or rail car movements.



Source: Oak Ridge National Laboratory Rail GIS Data, FRA, ODOT

Exhibit 1-2. State of Oregon Railroads.

1999 TSP Assessment Relative to the Oregon Rail Plan

The Gilliam County 1999 TSP has an element addressing Rail Service in the County, including a small spur line servicing the Shutler Flats Industrial Park, Columbia Ridge Landfill and Recycle Center and Chemical Waste Management of the Northwest.

Transportation Safety Action Plan

The Transportation Safety Action Plan (TSAP) serves as the state of Oregon's Strategic Highway Safety Plan (SHSP), and satisfies federal requirements. The current TSAP was adopted in 2011 and an update is planned to be complete in 2015 to reflect requirements of the Moving Ahead for Progress in the 21st Century Act (MAP-21). The TSAP lays out a set of actions to reduce crashes. The set of actions are prioritized based on those factors that contribute to the greatest number of transportation-related deaths and injuries. The TSAP identifies impaired driving, not using safety

constraints, vehicle speed, and inexperience drivers as Emphasis Areas that should be the focus of statewide safety projects. Beyond identifying actions to decrease the overall number of fatalities and injuries related to transportation, the TSAP also serves as a guide to prioritize investments.

1999 TSP Assessment Relative to the TSAP

The 1999 TSP does not address the Transportation Safety Action Plan. The updated TSP should include analysis that supports the TSAP Emphasis Areas, and reference national performance goals for Federal highway programs.

OAR Chapter 734-051 (Division 51)

Commonly referred to as Division 51, ODOT has adopted OAR 734-051 to establish procedures and criteria to govern highway approaches, access control, spacing standards, medians and restriction of turning movements in compliance with statewide planning goals, in a manner compatible with acknowledged comprehensive plans and consistent with state law and the OTP. Any new street or driveway connections, as well as any changes to existing street or driveway connections, to state roads within the TSP study boundary must be in compliance with these rules.

OAR 734-051 policies address the following:

- How to bring existing and future approaches into compliance with access spacing standards, and ensure the safe and efficient operation of the highway;
- The purpose and components of an access management plan; and,
- Requirements regarding mitigation, modification and closure of existing approaches as part of project development.

Access management standards adopted by ODOT and applicable to the County's TSP are summarized in Table 1-4. OHP Policies 3A and 3C establish access management objectives for state highways and interchange areas based on facility type and set standards for spacing of approaches. These standards have also been adopted as part of OAR 734-051, which provides the regulatory basis for implementation.

Senate Bill 408 changes Oregon law concerning management of access (private driveways) onto state highways. Its provisions streamline the management of access onto state highways for a large number of private driveways. The bill also provides local government, property owners and other stakeholders a place at the table during planning, development and design process for highway projects. The bill deals with the access management process in three priority areas:

1. Private driveways that do not have a permit issued by ODOT
2. Access management decisions made as part of highway planning projects
3. Access management decisions made as part of highway construction projects

A summary of the Senate Bill 408 changes is provided in Appendix A.

Senate Bill 264 was passed in June 2011, and amended temporary rules that took effect in May 2012. The bill directs ODOT to develop proposed legislation to "codify, clarify and bring consistency to issuance of access based on objective standards for highway segments where the annual amount of daily traffic is 5,000 vehicles or fewer." The temporary rules are reflected in the OHP amendment to the 2011 Access Management Standards.

1999 TSP Assessment Relative to the OAR 734-051

The 1999 TSP outlines the guiding principles used in the adoption of new access management standards consistent with OAR 734-051 and the 1999 OHP. Table 7-1 in the 1999 TSP summarizes the street design guidelines and includes access management standards based on the guiding principles. The TSP Update shall incorporate the amendments to OAR 734-051 through the adoption of Senate Bill 264 and Senate Bill 408 when establishing revised street design guidelines.

ODOT Highway Design Manual

An update to the Highway Design Manual (HDM) was released in 2012, and includes ODOT standards and procedures for the location and design of new construction, major reconstruction, and resurfacing, restoration or rehabilitation (3R) projects. The HDM is used for all projects that are located on state highways. The following matrix in Table 1-5 shows which design standards are applicable for certain projects based on project type, and whether the project pertains to a state route.

Table 1-5 Design Standards Selection Matrix

Project Type	Roadway Jurisdiction	
	State Highways	Local Agency Roads
Modernization/ Bridge New/Replacement	ODOT 4R^/ New Urban	AASHTO*
Preservation/ Bridge Rehabilitation	ODOT 3R^ Urban	AASHTO
Preventive Maintenance	1R (Preservation)	N/A
Safety- Operations- Miscellaneous/ Special Programs	ODOT Urban	AASHTO

^4R = Reconstruction; 3R = Resurfacing, Restoration, and Rehabilitation
**AASHTO: American Association of State Highway and Transportation Officials*
Source: 2012 HDM, Table 1-1

In addition, the HDM identifies more stringent capacity standards than those within the Oregon Highway Plan when developing new highway facilities, to further leverage the investment in infrastructure.

1999 TSP Assessment Relative to the Highway Design Manual

The design standards in the HDM will be integrated into the detailed design and engineering that will occur for projects once they are incorporated into the TSP Update and are programmed as part of the County's Capital Improvement Program (CIP) for transportation.

Statewide Transportation Improvement Program (2015-2018)

The Statewide Transportation Improvement Program (STIP) is Oregon's four-year transportation capital improvement program that identifies the funding for, and scheduling of, transportation projects and programs. It includes projects on the federal, state, county and city transportation systems, multimodal projects (highway, passenger rail, freight, public transit, bicycle and pedestrian) and projects in the National Parks, National Forests and Indian tribal lands. Oregon's STIP covers a four-year construction period, but is updated every two years in accordance with federal requirements. Two projects are included in the approved *2012-2015 STIP; both were completed in 2014*.

The *2015-2018 STIP* was reviewed for projects to consider during the development of Gilliam TSP Update for complementary or conflicting traffic impacts. The 2015-2018 Draft STIP identifies one project within Gilliam County, as summarized in **Table 1-6**.

Table 1-6 2015-2018 Draft STIP Projects within Gilliam County

Section	Total Cost	Description	Status	Year (FFY)
I-84: John Day River Bridge Deck Overlay	$2,482,000	Deck overlap; Joints	Construction Scheduled	2018

House Bill 3379 Administrative Rule

House Bill (HB) 3379, which passed during the 2009 legislative session, directed the Oregon Transportation Commission (OTC) to adopt an administrative rule to establish an application process that local governments can use for economic development projects if they are not able to meet the funding or timing requirements of the Transportation Planning Rule (TPR) related to state highways. The administrative rule describes how a local jurisdiction may work with the OTC and ODOT to do one of the following:

- Apply for a time extension to meet TPR requirements;
- Submit a plan proposing alternative methods of funding that will meet the standards adopted by the OTC;
- Apply to adjust traffic performance measures during an interim period prior to completion of construction of the proposed development; or,
- Apply to allow various types of traffic performance measures other than volume to capacity ratios (v/c).

The OTC adopted the Administrative Rule in December 2010 and provisions pertaining to the above can be found in OAR 731-017-005 through -0055.

REGIONAL PLANS

ODOT Region 4 Park and Ride Lot Plan

The Central Oregon Intergovernmental Council and its partners – the Mid Columbia Economic Development District and Klamath County Planning Department – developed a Park & Ride Lot Plan for ODOT Region 4, which straddles the Highway 97 corridor from California to the Columbia. The Plan identifies there are currently no formally-designated Park and Ride lots or rideshare programs in Region 4 outside of the Central Oregon Area (Jefferson, Crook and Deschutes counties). ODOT Region 4 has funded an analysis of rideshare feasibility in the Lower John Day (Wasco, Sherman, Gilliam, and Wheeler Counties) and South Central Oregon (Klamath and Lake Counties) areas and preliminary findings from this work suggest that there is interest and demand for an expanded rideshare program in these areas. The Plan identifies a need to facilitate partnerships between the Port of Arlington and the City of Arlington to develop the lot at Earl Snell Park.

COUNTY PLANS AND POLICIES

Gilliam County Comprehensive Plan (Last Amended 2011)

The Comprehensive Plan is a statement of public policy for the guidance of growth, development, and conservation of resources within the County. There is basic information in the Comprehensive Plan related to the transportation system within the County, listed under Goal 12 Transportation. There are a number of policies that directly relate to transportation system planning. These policies are provided in Appendix B.

The Comprehensive Plan describes the dynamic tension between rural and urban land uses and the County's role in providing a planning framework that both preserves agricultural land and provides for the smooth transition of rural to urban use. The policy framework set out in Chapter 14 is related to the urban growth boundary (UGB) and urbanization. These policies relate to the timing, location, and funding of public facilities. Pertinent to the TSP Update process, particularly within the areas of the UGB outside of city limits, policies specifically address the role of public facilities in supporting or restricting growth.

Gilliam County Zoning Ordinance (Last updated 2011)

The Gilliam County Zoning and Land Development Ordinance were updated in 2010 and adopted in 2011. Access management standards are contained in Article 5, Section 2.280(A-O). The intent of this section is to manage access to land development to preserve the transportation system in terms of safety, capacity, and function.

Gilliam County TSP (1999)

The 1999 Gilliam County Transportation System Plan (County TSP) addresses the County's anticipated transportation needs through the year 2020. The long-range plan is intended to serve as a guide for managing existing County transportation facilities and developing transportation facilities to meet existing and future needs. Transportation Goals and Policies are found in Chapter 2.

The following projects for the 20 year planning period were listed in table 7.7 of the 1999 TSP. Many of these have been completed.

TABLE 7-7
PRIORITIZED 20-YEAR TRANSPORTATION PROJECT LIST

		Estimated Cost Allocation			
Project Number/Description		**County**	**State**	**Other**	**Total**
GILLIAM COUNTY					
High Priority (1998-2003)					
1	Pavement preservation on I-84 from MP 138.00-149.65[1]		$7,870,000		$7,870,000
2	Pavement preservation on I-84 from MP 149.65-159.30[1]		$6,747,000		$6,747,000
6	Improve traffic control at OR 19/206 intersection		$2,700		$2,700
4	Realign OR 19 through "S" curve at MP 8.4[2]		$600,000		$600,000
Medium Priority (2004-2008)					
3	Improve roadway alignment at Olex Grade		$6,500,000		$6,500,000
7	Install flashing beacon at OR 19/Cedar Sp. Intersection[3]	$6,100			$6,100
8	Extend Columbia View Dr. to Main Street in Arlington	$86,600		$173,400	$260,000[4]
9	Replace state bridge No. 01792 on OR 206 across Rock Creek		$275,000		$275,000
10	Repair county bridge No. 21C04 on Cayuse Canyon Road	$175,000			$175,000
11	Develop multi-use path along Old Cottonwood Road	$54,000			$54,000
Low Priority (2009-2018)					
5	Improve roadway alignment on OR 19 near MP 26-26.7		$1,200,000		$1,200,000
Subtotal High Priority Projects		**$0**	**$15,219,700**	**$0**	**$15,219,700**
Subtotal Medium Priority Projects		**$321,700**	**$6,775,000**	**$173,400**	**$7,270,100**
Subtotal Low Priority Projects		**$0**	**$1,200,000**	**$0**	**$1,200,000**
GILLIAM COUNTY TOTAL		**$321,700**	**$23,194,700**	**$173,400**	**$23,689,800**
CITY OF LONEROCK					
High Priority (1998-2003)					
1	Complete paving of county roads within city limits	$50,500			$50,500[5]
2	Draft 2002-2005 STIP project to replace the Lonerock Bridge		$480,000		$480,000
Subtotal High Priority Projects		**$50,500**	**$480,000**	**$0**	**$530,500**
Subtotal Medium Priority Projects		**$0**	**$0**	**$0**	**$0**
Subtotal Low Priority Projects		**$0**	**$0**	**$0**	**$0**
CITY OF LONEROCK TOTAL		**$50,500**	**$480,000**	**$0**	**$530,500**

Notes
1. 1998-2001 STIP project.
2. The higher cost estimate for this improvement has improvement has been shown; however, cost estimates range from $400,000 to $600,000.
3. The higher cost estimate for this improvement has improvement has been shown; however, cost estimates range from $3,000 to $6,100. The county should also investigate cost sharing with Waste Management.
4. The county should coordinate development of a cost sharing plan among the county, Arlington, and the affected landowners. For this program, all three parties have been assigned an equal share the total project cost.
5. Gilliam County will need to determine what portion of the project they are willing to pay for.

CITY PLANS AND POLICIES

City of Condon Comprehensive Plan (2011 update)

The City of Condon serves as the Gilliam County Seat. The City's Comprehensive Plan was updated in 2011, and notes the City serves as a regional service center for the surrounding

farming community. The City has an existing population of just under 700, according to the 2010 census data.

The Comprehensive Plan, begins with a brief description of the community and local history. The Plan then follows the Statewide Planning Goals, addressing each one individually to provide basic information. The Comprehensive Plan's discussions of Goal 10: Housing, Goal 12: Transportation, and Goal 14: Urbanization are of particular interest in this update of the County (and City's) TSP.

The City joined with Gilliam County to prepare the 1999 Transportation System Plan. That plan is adopted by reference into this Comprehensive Plan. In addition, the City has adopted the recommended street standards in the City's Public Works Standards. Those street design standards are carried over into the City's Subdivision Ordinance and are implemented as development occurs in the City.

City of Condon Buildable Lands Inventory (2001)

In 2001, the City undertook a Buildable Lands Inventory. The purpose of a Buildable Lands Inventory is primarily to determine if there is enough available land remaining within the City and Urban Growth Boundary to meet the projected population needs for the next twenty years. The secondary purpose is to ascertain where most of the development is occurring and determine the probability for needed urban services as the City continues to grow. The Buildable Lands Inventory, once completed, is generally outdated at the issuance of the next building permit and absolute accuracy is not required unless an Urban Growth Boundary Expansion is being contemplated.

The 2010 Census Data indicated the population of the City is just 682; however, City staff believes it is closer to 800. The Census found that that there are 357 occupied homes in the City to yield an average household size of 1.91 persons per home. This is particularly useful when determining future land needs in the City with any potential expansion of the Urban Growth Boundary.

A review of the Buildable Lands Inventory Map of 2001 indicates a sufficient amount of land for future residential development. There are a considerable number of platted residential lots and there is a 30 acre tract that is currently undeveloped in the southwest corner of the City. There is approximately 97 acres within the Urban Growth Boundary, on the east side of the City, which is currently undeveloped. These two areas could support approximately 590 homes, or approximately 1,100 new residents, based on the current household size, without expanding the existing Urban Growth Boundary. There is adequate land available barring some unforeseen economic activity to boost the residential housing needs of the community.

The City has directed its Planning Staff to begin the Planning Process to bring the Condon State Airport into the City's Urban Growth Boundary. The purpose of which is to allow the extension of domestic water service to the airport and to the hangar area. The airport lays almost immediately adjacent to the City's existing UGB. There is but one intervening property. If the process is successful, it should be completed by the end of 2014.

Condon Transportation System Plan (1999)

The 1999 City of Condon TSP provides a guide for the City of Condon to meet its transportation goals and objectives. The following goals and objectives were developed from information supplied by the Transportation Advisory Committee, the Local Working Group, city staff, and public response. Throughout the planning process, each element of the plan was evaluated against these parameters.

The City's goals reflect a desire to maintain a safe, convenient, and economic transportation system that enhances the livability of Condon and accommodates growth and development through careful planning and management of existing and future transportation facilities. Among other goals that reflect state policies, a few of the City's goals reflect its unique characteristics and indicate a desire to:

- Accommodate developing or undeveloped areas without undermining the rural nature of the local community;
- Encourage and support the use of alternative modes of transportation (walking, bicycling, and specialty transit) through improved access, safety, and service; and,
- Improve coordination among Condon, Gilliam County, and ODOT.

The City's 20-year Transportation Project List is provided in Table 7-5 of the TSP.

Condon State Airport Layout Plan (2002)

The Condon State Airport Layout Plan was developed in 2002 for the Oregon Department of Aviation, which owns the facility. The Plan developed using a complete public process and copies of the plan were furnished to the City and the County with a recommendation for adoption.

The airport has been continuously operated by the State of Oregon since it was constructed in 1951. The airport accommodates general aviation and agricultural users serving the local community and the surrounding region. Condon State Airport has a land area of approximately 104 acres and is partially zoned Airport Development (A-D) by Gilliam County. The outer periphery of the airport is predominantly zoned Exclusive Farm Use (A-E). The airport is located entirely outside the City's urban growth boundary (UGB).

City of Arlington Comprehensive Plan (2003)

The City of Arlington Comprehensive Plan was updated in 2003. The Comprehensive Plan begins with a brief description of the community and local history. The Plan then follows the Statewide Planning Goals, addressing each one individually to provide basic information. The Comprehensive Plan's discussions of Goal 10: Housing, Goal 12: Transportation, and Goal 14: Urbanization are of particular interest in this update of the County (and City's) TSP.

The Buildable Lands Map was completed in the Fall of 2002 via a windshield survey by the City's staff. It noted a number of residential lots available, both in the upper areas of the City and in the

southern area of the City where a new subdivision (the first subdivision in the City in over a quarter of a century) has been completed. The buildable lands analysis by staff indicates over 120 vacant lots readily available for development in various portions of the City. There are other vacant lots available that would be difficult to build because of topography, including the area of the early subdivisions in the City where the lots are actually 25'x 100'. In addition, there is a considerable amount of undeveloped residential land on either side of the City that would be available over time.

The Transportation System Plan is an element of the City of Arlington Comprehensive Plan. It identifies the general location of transportation improvements. Changes in the specific alignment of proposed public road and highway projects shall be permitted without plan amendment if the new alignment falls within a transportation corridor identified in the Transportation System Plan.

City of Arlington Transportation System Plan 1999

The 1999 City of Arlington TSP provides a guide for the City to meet its transportation goals and objectives. The following goals and objectives were developed from information supplied by the Transportation Advisory Committee, the Local Working Group, city staff, and public response. Throughout the planning process, each element of the plan was evaluated against these parameters.

The City's goals reflect a desire to maintain a safe, convenient, and economic transportation system that enhances the livability of Condon and accommodates growth and development through careful planning and management of existing and future transportation facilities. Among other goals that reflect state policies, a few of the City's goals reflect its unique characteristics and indicate a desire to:

- Examine the need for specific pedestrian crossing locations in Arlington.
- Encourage and support the development of port and rail freight activities.
- Preserve and enhance Arlington's municipal airport and support airport master planning efforts.
- Improve coordination among Arlington, Gilliam County, ODOT, the Port of Arlington, and Union Pacific Railroad.
- Encourage and support the Port of Arlington's development as a source of freight transport.

The City's 20-year Transportation Project List is provided in Table 7-4 of the TSP.

City of Lonerock

The City of Lonerock lies to the southeast of the City of Condon, approximately 21 road miles. It is a legally incorporated Oregon Municipality. It has a 2013 certified population of 20. There are approximately 16 homes, sited on platted lots with a municipal water system. Gilliam County

performs most of the administrative work for the community, particularly land use planning. The County has the community planned and zoned as a rural service center. There are no apparent commercial activities or goods and services. The Gilliam County 1999 Transportation System Plan listed the paving of the streets of Lonerock at an estimated cost of $50,000. Most of that work, if not all, has been completed as of October 2014. The Lonerock Bridge has not been replaced.

SUMMARY OF TSP UPDATE ACTIONS

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 to the street network 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.
- Account for revisions to the Oregon State Rail Plan.
- Include analysis that supports the TSAP Emphasis Areas, and identify performance goals consistent with the Oregon Transportation Safety Action Plan.

Appendix A Summary of Senate Bill 408 Amendments to OAR 734-051

SB 408

Senate Bill 408 changes Oregon law concerning management of access (private driveways) onto state highways. Its provisions streamline the management of access onto state highways for a large number of private driveways. The bill also provides local government, property owners and other stakeholders a place at the table during planning, development and design process for highway projects. The bill deals with the access management process in three priority areas.

1. Private driveways that do not have a permit issued by ODOT

SB 408 clarifies how to manage the large number of existing private driveways to state highways that exist today, but do not have a written permit issued by ODOT. The bill changes statute to create the presumption that these driveways have written permission from the department as required by ORS 374. The bill places the burden on the department to show where available documentation does not support this presumption. This enables the department, and the adjacent property owners, to treat existing driveways that do not have a written permit as if they are permitted.

- Examples of private driveways covered by SB 408 include driveways onto a state highway that:
- Existed prior to 1949 when the statute managing access onto state highways and county roads became law
- Were built before April 1, 2000 when the department established statewide standards for issuing permits for driveways onto state highways
- Were built by the department as part of highway improvement projects and the department failed to issue a permit

2. Access management decisions made as part of highway planning projects.

SB 408 clarifies the process by which ODOT will engage local governments and abutting property owners to address how decisions affecting access to state highways would occur as part of facility plans (interchange area management plans, corridor plans, transportation refinement plans and access management plans). Facility plans document the agreement between ODOT and local government concerning the location of county roads and city streets that connect to the state highway for which the plan is prepared.

The department must develop key principles to evaluate how properties abutting the state highway will retain or obtain access to the highway. The key principles must balance the state's investment in the highway facility with local government plans, approved land uses, and the economic development objectives of the affected property owners.

When a facility plan identifies the need to modify, relocate or close an existing private driveway, the key principles must have sufficient detail so that affected property owners are informed of the changes.

3. Access management decisions made as part of highway construction projects.

SB 408 clarifies the process by which ODOT will engage local governments and abutting property owners. The bill requires ODOT to develop an access management strategy for a highway improvement and highway modernization project. In developing an access management strategy, the department must engage affected property owners when accesses are proposed for modification, relocation, or closure, or when the department proposes to purchase all rights of access to a segment of state highway.

In addition, SB 408 includes provisions to address opportunities for the applicant to resolve disputes as part of planning or construction projects that identify the need to modify, relocate, or close existing private driveways on a state highway. SB 408 is the third of a series of bills beginning with the 2010 session that address management of access onto state highways. The bill was developed by the Access Management Oversight Task Force

Appendix B Gilliam County Comprehensive Plan Policies

Gilliam County Comprehensive Plan (Last Amended 2011)

The Comprehensive Plan is a statement of public policy for the guidance of growth, development, and conservation of resources within the County. There is basic information in the Comprehensive Plan related to the transportation system within the County, listed under Goal 12 Transportation. There are a number of policies that directly relate to transportation system planning, as outlined below.

1. Major attention by the Oregon State Highway Division should be directed toward improvement of:

   A) Oregon Route 19 between Arlington and Condon;

   B) Oregon Route 206 in its entirety

   In that order, both of these major routes are in need of improvement, including straightening of the basic alignment and widening of the roadway. In several areas, re-engineering and improvement of super elevations should be undertaken. Relative to the State Highway facilities within the County, it shall be the policy of the County to continue to work with, support, and coordinate with the State Highway Six-Year Planning programs. Further, it is not the intent of any county implementing ordinance provisions to preclude or limit any highway improvement project, which merely requires an expansion of an existing right-of-way for completion. Highway projects shall only be regulated when an existing right-of-way realignment is involved where the new alignment crosses productive agricultural lands. Further, should EFU statutes be amended regarding such projects, the County will proceed to consider the inclusion of such amendments into local ordinance provisions.

2. The County's transportation system is at present adequate to handle the needs of the area. Because Union Pacific Railroad has abandoned the line from Arlington to Condon, it will be the policy of Gilliam County to seek the help of appropriate State and Federal agencies for the immediate improvement of the road network so that farm products can continue to move to major market areas in an efficient manner.

3. Current county policy involves periodic maintenance of county roads on a regular schedule. County roads have been prioritized according to use based on the movement of agricultural products, commercial use, and traffic volume with a maintenance schedule adopted. County policy requires that a five-year plan for construction and maintenance of these roads be updated annually. The County hereby reaffirms these policies as being in the general public interest.

4. Although the County, within limitations of available time and manpower, has provided some limited maintenance assistance on private roads on a cost-reimbursable basis, the County is not in a position to guarantee maintenance of private roads or of any road not

designed and constructed to predetermined County standards.

5. It has been and will continue to be the policy of Gilliam County not to build or totally fund major improvements of existing roads to serve isolated non-agricultural areas or developments. The requirements for new roads or major improvements for such areas and/or developments shall, therefore, be the responsibility of those areas or developments needing and requesting such facilities and/or improvements. The County will continue to concentrate its maintenance and construction efforts on County Roads of major significance to the overall economy of the County and to those roads, which have been constructed to and "accepted" as County Roads for full maintenance responsibility.

6. If the Condon Radar Base is converted to housing for such a needed purpose, the County will encourage commuter transportation service from said Base to the point(s) of destination, and/or may fully implement those provisions set forth by Policy No. 5 set forth herein before.

7. In order to reduce weed infestation and to conserve agricultural land, it will be the policy of Gilliam County to acquire new rights-of-way no wider than necessary to satisfy construction and maintenance requirements.

8. It is the policy of Gilliam County to look to the Port of Arlington Commission to provide leadership in the development of identified river port sites and facilities, and to encourage the Port Commission to develop its plans in a manner consistent with the County's Comprehensive Plan. Further, it is the policy of the county governing body to encourage all county offices and agencies to cooperate with the Port District in this development, consistent with available County resources and provided that sufficient benefits to the overall economy of the County will accrue there.

9. Gilliam County recognizes the importance, existing and potential, of the two public use airports in the county. The county's policy will be to protect these airports from hazards to navigation and to otherwise encourage the development of adjacent lands and facilities in a manner that will be conducive to increased utilization of these fields. The county's policy on the Condon Airport is to support its retention as a state-owned facility.

10. Operation, maintenance, repair and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.

11. Dedication of right-of-way, authorization of construction and the construction of facilities and improvements that follow roadway classification and approved road standards shall be allowed without land use review for improvements designated in the Transportation System Plan.

12. For State projects that require an Environmental Impact Study (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use

review, if local review is required.

13. Gilliam County shall coordinate with the Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that is consistent with the Transportation System Plan and Gilliam County Comprehensive Plan.

14. Gilliam County shall provide notice to ODOT of land use applications and development permits for properties that have frontage or access onto a state highway.

15. Gilliam County shall consider the findings of ODOT's draft Environmental Impact Statements and Environmental Assessments as integral parts of the land use decision-making procedures. Other actions required, such as a goal exception or plan amendment, will be combined with review of the draft EA or EIS and land use approval process.

16. Gilliam County shall protect the function of existing and planned roadways as identified in the Transportation System Plan.

17. Gilliam County shall include a consideration of a proposal's impact on existing or planned transportation facilities in all land use decisions.

18. Gilliam County shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.

19. Gilliam County shall consider the potential to establish or maintain access ways, paths, or trails prior to the vacation of any public easement of right -of-way.

20. Gilliam County shall preserve right-of-way for planned transportation facilities through acquisitions, dedications, or setbacks.

21. The function of airports shall be protected through the application of appropriate land use designations to assure future land uses are compatible with continued operation of the airport.

22. Airport Inventory Updates: There are no new airports in Gilliam County and the updated plan for the Condon Airport is hereby adopted by reference, but is not found to conflict with any existing Plan policies or implementing Ordinance provisions. The airport at Arlington is classified as a municipal airport.

23. Highway Inventory Updates (Four-Year Statewide Transportation Improvement Program dated 2008-2011): There are no improvement projects identified as applicable to Gilliam County.

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TECHNICAL MEMORANDUM #2

Gilliam County Transportation System Plan Update

Plan Goals, Objectives, and Evaluation Criteria

Date: December 22, 2014
Project #: 17679

To: Susie Anderson, Gilliam County
Michael Duncan, ODOT Region 4

From: Casey Bergh, PE, Ashleigh Griffin, and Marc Butorac, PE, PTOE

This memorandum documents the guiding principles, goals, objectives, and evaluation criteria for the Gilliam County Transportation System Plan (TSP) update. The goals and objectives will guide the TSP update process to ensure key issues are addressed within this process.

This document is organized into three sections:

- Background – An overview of the goals and objectives from the 1999 TSP. Key transportation issues and changes in Gilliam County since the adoption of the current TSP.
- Goals and Objectives - Desired project outcomes and transportation needs that support the land use and growth vision for Gilliam County. Plan goals for the Updated TSP were developed based on the prior TSP, the County's 2011 Comprehensive Plan, and County and ODOT input. Objectives outline the discrete elements that, taken as a whole, support and promote the goals.
- Evaluation Criteria - Establishes a method for evaluating future alternatives and policies that move in the direction of achieving the identified plan goals and objectives.

This document was developed with input from the County, State, and Project Advisory Committee members representing the cities and other local interests.

BACKGROUND

Transportation System Plans provide the County, Cities, and ODOT with guidance for operating and improving a multimodal transportation system. The TSP focuses on priority projects, policies, and programs for the next 20 years but also provides a vision for longer term projects that could be implemented should funding become available. 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 TSP builds consensus among Cities, the County, and ODOT on the transportation needs and priority projects for the communities, allowing the local citizens to inform projects that are carried forward for funding from state and federal agencies.

The existing 1999 Gilliam County TSP is almost 15 years old. The goals from the existing TSP are summarized below; the complete goals and objectives of the existing plan are provided as Attachment A.

- Goal 1: Preserve the function, capacity, level of service, and safety of the state highways.
- Goal 2: Improve and enhance safety and traffic circulation and minimize delay on local streets.
- Goal 3: Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of the county.
- Goal 4: Increase the use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and dial-a-ride transit) through improved access, safety, and service.
- Goal 5: Ensure that the road system within the county is adequate to meet public needs, including the transportation disadvantaged.
- Goal 6: Improve coordination among Gilliam County, ODOT, the Federal Highway Administration (FHWA), the Port of Arlington, and the local jurisdictions.
- Goal 7: Support efforts to maintain the airport facilities for general aircraft and charter services.

Since 1999, 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 are out of compliance with state rules and regulations, and have exhausted the project lists identified in the 1999 TSP. In addition, 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. The TSP Update will need to include strategies that promote accessibility and connectivity to preserve the local character of the cities of Arlington, Lonerock, and Condon, including:
    - Develop networks that provide safe and more comfortable access to and from schools, and bicycle/pedestrian connections to downtown. These connections 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. Several State Highways run through Condon. The updated TSP will need to promote 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 the transportation system improvements are required to support this and other recent emerging industrial uses. The TSP update will consider elements of 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, minimized grades, straightened curves, snow fencing, offset intersection/junction realignment or bridge upgrades. These improvements address the basic transportation needs of these communities and their industries. Enhancement and preservation projects such as these would also bolster the system of the emergency routes available in the event of a natural disaster and school bus routes transporting the students.

GUIDING PRINCIPLE AND PLAN GOALS

The overall guiding principle of the plan is to update it to provide and encourage a safe, convenient, and economic transportation system. To achieve this guiding principle, the following plan goals have been developed:

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 connects 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 ingress/egress, 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, commodities, 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.

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 but 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 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 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.
- Evaluate 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.

EVALUATION CRITERIA

A qualitative process using the six goals and corresponding objectives above will be used to evaluate the policies and alternatives developed during the TSP update process. The policies and alternatives will be qualitatively scored for each criteria based on the following scale:

- Most Desirable: The concept addresses the criterion and/or makes substantial improvements in this criteria category.
- Moderately Desirable: The concept partially addresses the criterion and/or makes some improvements in this criteria category.
- No Effect: The criterion does not apply to the concept or the concept has no influence on the criteria.
- Least Desirable: This concept does not support the intent of and/or negatively impacts the criteria category.

At this level of screening, the qualitative comparison will be used to inform discussions about the benefits and tradeoffs of each alternative.

ATTACHMENTS

Attachment A: 1999 Gilliam County TSP Goals and Objectives

ATTACHMENT A: 1999 GILLIAM COUNTY TSP GOALS AND OBJECTIVES

CHAPTER 2: GOALS AND OBJECTIVES

The purpose of the TSP is to provide a guide for Gilliam County to meet its transportation goals and objectives. The following goals and objectives were developed from information contained in the county's comprehensive plan and public concerns as expressed during public meetings. An overall goal was drawn from the plan, along with more specific goals and objectives. Throughout the planning process, each element of the plan was evaluated against these parameters.

OVERALL TRANSPORTATION GOAL

To provide and encourage a safe, convenient, and economic transportation system.

Policies

1. Maintain and upgrade the overall transportation system within the county to meet present and future needs.
2. Develop and upgrade highway facilities in such a manner that valuable soil, timber, water, scenic, historic, or cultural resources are not damaged or impaired.
3. Provide adequate signage along major and minor county roads for the purpose of easy identification.
4. Design new roads and highways to preserve and enhance natural and scenic resources, i.e., new roads should not be constructed in areas identified as sensitive wildlife areas.
5. Retain countywide school bus service.
6. Retain rail freight service along OR 19 in the vicinity of Arlington.
7. Actively encourage development of the Port of Arlington enterprises and commerce.
8. Actively encourage continued operation and support of waste management facilities.
9. Protect the county's municipal airports from the encroachment of incompatible land uses to ensure efficient aviation operations and to minimize the noise and safety problems for the general public.
10. Comply with all applicable state and federal noise, air, water, and land quality regulations.
11. The general policy of the Planning Commission will be not to create a traffic hazard in the granting of variances, conditional uses permits, and zone amendments.
12. Encourage active pedestrian and bicycle use within urban areas and along state highways.

Goal 1

Preserve the function, capacity, level of service, and safety of the state highways.

Objectives

A. Develop access management standards that will meet the requirements of the TPR and also consider the needs of the affected communities.

B. Promote alternative modes of transportation (e.g., walking, biking).

C. Promote transportation demand management programs (e.g., dial-a-ride transit, carpooling).

D. Develop passing lanes as warranted.

E. Examine the need for specific pedestrian crossing locations in urban areas.

F. Develop procedures to minimize impacts to and protect transportation facilities, corridors, or sites during the development review process.

Goal 2

Improve and enhance safety and traffic circulation and preserve the level of service on local street systems.

Objectives

A. Develop an efficient road network that would maintain a level of service D or better.

B. Improve and maintain existing roadways (e.g., pavement condition, bike lanes, crosswalks).

C. Ensure planning coordination between the local jurisdictions, the county and the state.

D. Identify truck routes to focus truck traffic to a limited number of roads in urban areas.

E. Encourage citizen involvement in identifying and solving local problem spots.

F. Encourage development of connective sidewalk systems in urban areas.

Goal 3

Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of the county.

Objectives

A. Continue to develop the road system as the principal mode of transportation both for access to the county and within the county.

B. Adopt policies and standards that address street connectivity, spacing, and access management.

C. Improve access into and out of the county for goods and services.

D. Improve the access on, to and off of arterial roadways to encourage growth.

Goal 4

Increase the use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and dial-a-ride transit) through improved access, safety, and service.

Objectives

A. Provide adequate shoulders on rural collector and arterial roads to support biking and walking.

B. Develop a county bicycle plan.

C. Identify needs for bike lanes and sidewalks in urban areas and develop programs to fulfill needs.

D. Promote alternative modes and rideshare/carpool programs through community awareness and education.

E. Encourage development to occur near existing community centers where services are presently available so as to reduce the dependence on automotive transportation.

F. Plan for provision of transportation services to transportation disadvantaged.

G. Seek Transportation and Growth Management (TGM) and other funding for projects evaluating and improving the environment for alternative modes of transportation.

H. Promote railroad and waterway freight service.

Goal 5

Ensure that the road system within the county is adequate to meet public needs, including the transportation disadvantaged.

Objectives

A. Meet identified maintenance and level of service standards on the county roads.

B. Direct commercial development and use access onto major arterials by means of improved county roads.

C. Ensure that roads created in land division and development be designed to tie into existing and anticipated road circulation patterns.

D. Review and revise, if necessary, street cross section standards for local, collector, and arterial streets to enhance safety and mobility.

E. Develop an access management strategy for OR 19, 74 and 206 for rural and urban areas.

F. Analyze the safety of traveling speeds and consider modifying posted speeds as necessary.

G. Continue to monitor the needs of the transportation disadvantaged (e.g., children under the driving age, people with limited physical mobility) people and provide support as required.

Goal 6

Improve coordination among Gilliam County, ODOT, the Federal Highway Administration (FHWA), the Port of Arlington, and the local jurisdictions.

Objectives

A. Cooperate with ODOT in the implementation of the STIP.

B. Encourage improvement of state highways.

C. Work with the local jurisdictions in establishing cooperative road improvement programs, funding alternatives, and schedules.

D. Work with the local jurisdictions in establishing the right-of-way needed for new roads identified in the TSP.

E. Take advantage of federal and state highway funding programs.

F. Encourage development of the Port of Arlington and improved waterway commerce.

Goal 7

Support efforts to maintain the airport facilities for small aircraft and charter services.

Objectives

A. Encourage the state and local municipalities to improve and maintain airport facilities.

B. Support airport master planning efforts.

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TECHNICAL MEMORANDUM #3

Gilliam County Transportation System Plan Update

Existing Conditions Inventory & Analysis

Date: December 22, 2014 Project #: 17679

To: Michael Duncan, ODOT
Susie Anderson, Gilliam County

From: Casey Bergh, PE, Ashleigh Griffin, and Marc Butorac, PE, PTOE

cc: Project Advisory Committee

This memorandum inventories and evaluates the existing conditions of the Gilliam County transportation system to establish a baseline for the planning efforts to be conducted as part of the Transportation System Plan (TSP) update. The information was obtained and assembled using Geographic Information System (GIS) files, data provided by Gilliam County, inventory conducted using Google Earth aerial images, site visits, and studies provided or produced by Gilliam County and the Oregon Department of Transportation (ODOT).

The information contained in this memorandum is organized into a series of sections, listed below.

The majority of the inventory and analysis results are presented in figures and tabular form with supplemental text provided, as needed, to explain the illustrated information. This memorandum will identify existing transportation needs based on currently adopted performance measures that will be addressed in the Transportation System Plan (TSP) Update through policies, projects, programs, pilot projects and refinement studies to improve the system.

STUDY AREA

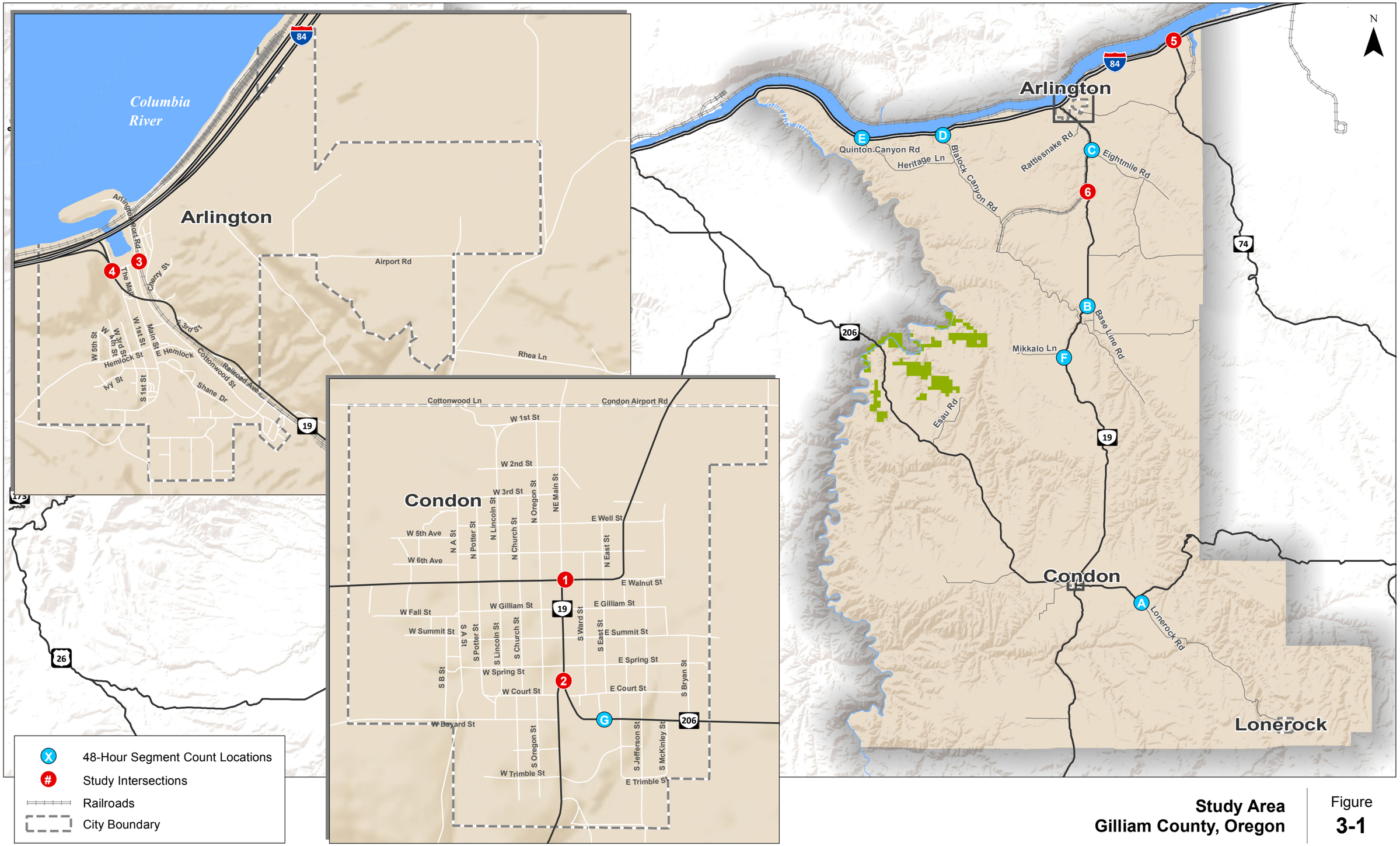
The Transportation System Plan (TSP) focuses on the entire county, including the cities of Arlington, Condon, and Lone Rock, as shown in Figure 3-1. Six intersections and seven roadway segments will be evaluated operationally during the study. These study intersections and segments are shown in Figure 3-1 and summarized in Table 3-1.

Table 3-1. Study Intersections and Segments

Intersection/ Segment Number	Intersection/Segment Name	Location
1	Walnut Street/Main Street	Condon
2	E Bayard Street/Main Street	Condon
3	I-84/Beech Street	Arlington
4	I-84/Locust Street	Arlington
5	I-84/OR 74 (Eastbound Ramps)	County
6	Cedar Springs Lane/OR 19	County
A	Lonerock Road	0.5 mi from OR 206 intersection
B	Baseline Road	0.25 mi from OR 19 intersection
C	Fourmile Road	0.25 mi. from OR 206 intersection
D	Blalock Canyon Road	0.25 mi. from I-84 intersection
E	Quinton Canyon Road	0.25 mi. from I-84 intersection
F	Mikkalo Lane	0.25 mi. from OR 19 intersection
G	E Bayard Street	At Condon High School

LAND USE AND POPULATION

The land use and population inventory identifies existing, planned, and potential land uses. The land use and population inventory will inform existing and future conditions analyses, particularly as the project team works with the community to develop future alternative scenarios that capture the County's vision.



Study Area
Gilliam County, Oregon

Figure
3-1

K:\H_Portland\proj\file\17679 - Gilliam County TSP\gis\3-1 Study Area.mxd - agriffin - 11:12 AM 11/26/2014

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Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

As shown in Figure 3-2, key activity centers and destinations within the County include:

- Arlington and Condon Schools
- Condon City Park
- Earl Snell Memorial Park in Arlington
- Cottonwood Canyon State Park
- Arlington and Condon Golf Courses
- Port of Arlington
- Gilliam County Courthouse
- Arlington and Condon Airports
- Columbia Ridge Landfill
- Wind Turbine farms
- Agricultural farms
- City of Lonerock

In addition to these key activity centers in the County, OR 74 is designated as a scenic byway and may attract visitors from other regions of the state. The cities of Arlington and Condon also have downtown commercial centers that generate regional trips for shopping, dining, and other purposes.

Appendix 1 contains exhibits illustrating the buildable lands inventory map for the communities of Arlington, Condon, and Lonerock. These exhibits show existing land uses and areas where future growth is possible within the respective Urban Growth Boundary (UGB) areas. The following three sections describe the buildable lands within each of the three cities.

City of Arlington

As shown in the exhibit in Appendix 1, the central business district of Arlington is located primarily within the triangle area formed by Cottonwood Street and OR 19, south of the I-84 interchange ramps. The central business district extends south down OR 19 as well. The majority of the residential lands are located in the central and south areas of the City, around the public school lands. The Arlington Buildable Lands Map shown in *Appendix 1* was completed around 2003 for the City of Arlington. Since this inventory was completed, six new homes have been completed within the City, and two existing houses and one church have burned down. The buildable lands inventory indicates opportunity for infill residential development throughout the City, and potential for larger development in the eastern area of the City (near the airport).

The Port of Arlington is actively promoting industrial development at the three industrial parks that are zoned for industrial land use: the Arlington Mesa Industrial Park, the Columbia Plateau Industrial Park (the former radar base), and the Shutler Station Industrial Park (located near the intersection of OR 19/Cedar Springs Lane.)

The Airport is adjacent to the Arlington Mesa Industrial Park, where 30 acres zoned M1 and M2 (industrial) are available for airport development, as shown in Exhibit 3-1. The Airport is located in the

Enterprise Zone within the City Limits of Arlington and maintains an Airport Development (AD) overlay zone.

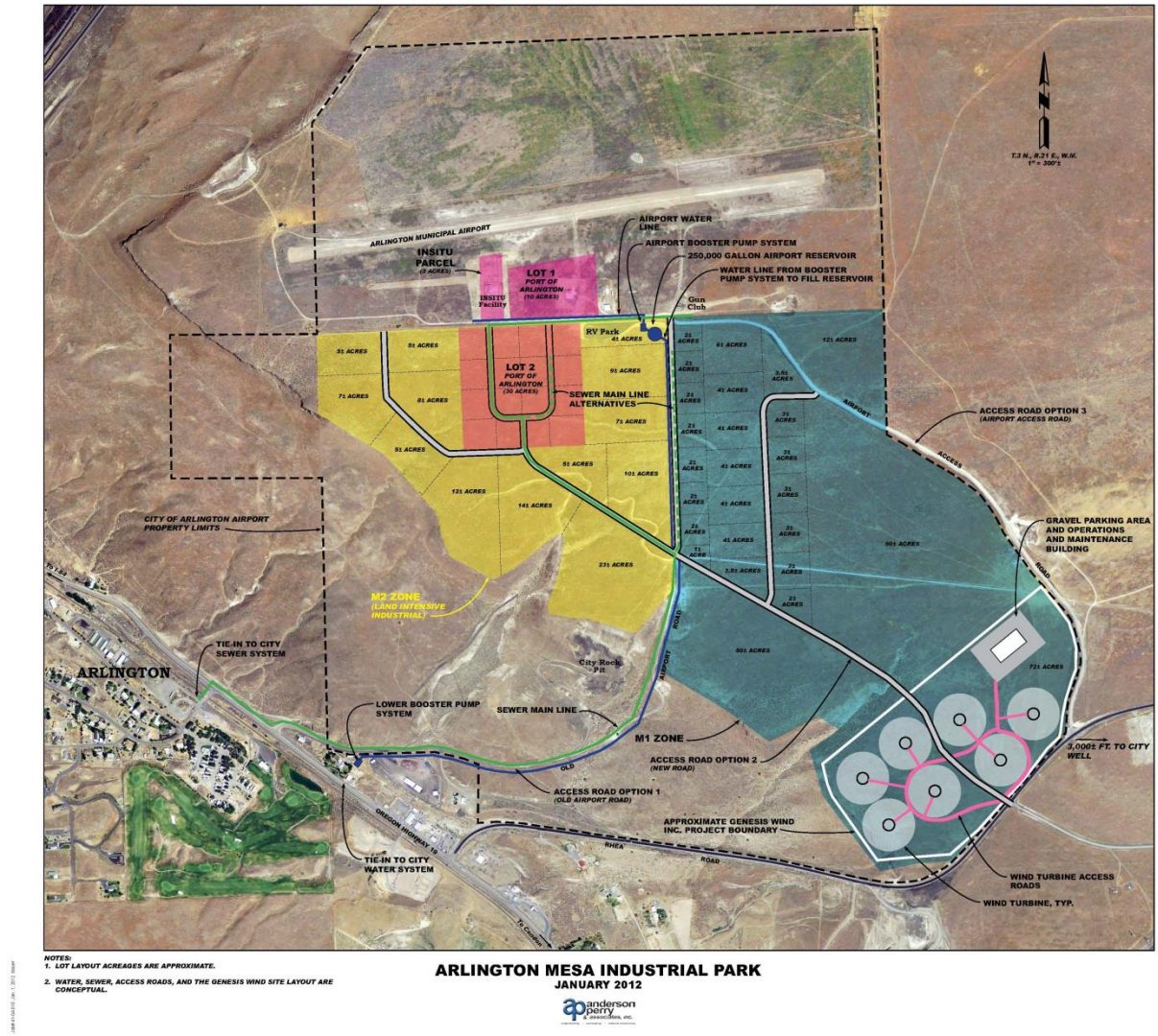


Exhibit 3-1. Arlington Mesa Industrial Park Plan

City of Condon

The City of Condon buildable lands map is also shown in *Appendix 1*. Since this map was updated in 2011, five new homes have been built and one commercial structure has been remodeled. As shown in the exhibit, the majority of the commercial land is located along Main Street, with the majority of the industrial land located along the former railroad track alignment in the northeast quadrant of the City. Residential land surrounds the commercial core area, and public land for schools and parks is located in the southeast, northeast, and northwest quadrants of the City. The majority of the buildable lands are located on the east and west sides of the City, with many residential parcels available throughout.

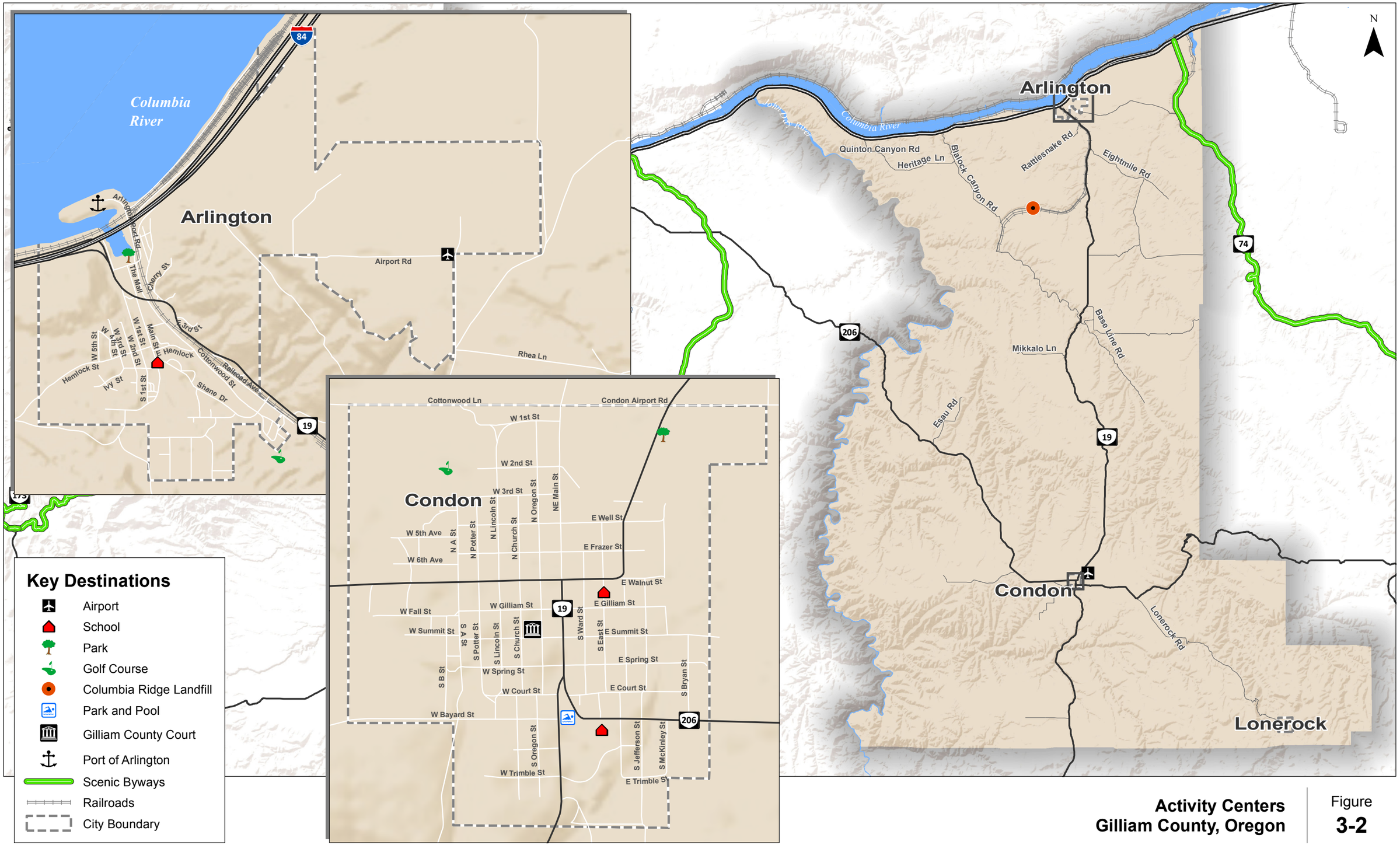
City of Lonerock

Appendix 1 also includes the buildable lands inventory map for Lonerock. Lonerock does not have any commercial land use within the City. The City is primarily residential with several supporting public land uses including a community hall. The buildable lands inventory for Lonerock indicates that residential parcels are available throughout the City, with the most availability located in the far quadrants of the City.

Priority Development Areas

Based on these inventories, areas prioritized for growth within the Cities and County include:

- Industrial development within the industrial lands in Arlington and the County
    - Columbia Plateau Industrial Park (former radar base)
    - Shutler Station
    - Arlington Mesa Industrial Park
    - Columbia Ridge Landfill
- Commercial development within the cities
- Dense residential development within the cities



H:\proj\file17679 - Gilliam County TSP\gis\3-2 Activity Centers.mxd - jsommerville - 11:59 AM 11/21/2014

Activity Centers
Gilliam County, Oregon

Figure **3-2**

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Transportation Engineering/Planning

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

Population Inventory

By Oregon Revised Statute 195.034, the Counties are directed to formulate and adopt coordinated population projections among the County and its incorporated Cities. Further, the Statute requires population projections for Counties be prepared by the Portland State University Center for Population Research. The latest 2015-2040 projections were prepared in 2013 for Gilliam County, as shown in Table 3-2. The total population for the County is shown in the left column of Table 3-2. The other four columns represent the unincorporated area of the County and the Cities of Condon, Arlington, and Lonerock. The basis for the City population projections is historical proportion of the County's total population over time. Condon has generally maintained 39% of the County's population, Arlington has accounted for 26%, and the City of Lonerock has accounted for 1%. Those proportions were projected from 2015 to 2040. This population projection will be adopted as part of the TSP and will be the County's official population projections until the next update is complete.

Table 3-2. Gilliam County Population Projections

Year	Population Projections				
	Gilliam County (Total)	Unincorporated Area (34%)	Condon (39%)	Arlington (26%)	Lonerock (1%)
2010*	1871	582	682	586	21
2015	1958	655	764	509	20
2020	2062	701	804	536	21
2025	2172	739	847	564	22
2030	2280	776	889	592	23
2035	2378	809	927	618	24
2040	2472	840	964	643	25

*2010 population totals are based on the 2010 census data.

As shown in Table 2, the County's population is estimated to grow by over 400 persons in the TSP horizon year of 2035.

STREET SYSTEM AND TRAFFIC ANALYSIS

Three state highways and a network of highways, arterials, collectors, and local streets maintained by the County serve Gilliam 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 jurisdiction and characteristics of the roadways.

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 Lonerock.

City Roadways

The City of Condon is comprised of streets in a grid pattern, with Main Street running north-south down the middle 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 comprised of roadways that are either state, county, or city operated facilities. Most of the roadways are located west of OR 19 and the railroad tracks.

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 identified by ODOT for state facilities, the County for County facilities, and local agencies for their own classification levels within their community. 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 like bike lanes and sidewalk 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 3-3 shows the ODOT functional classification for state facilities in the County. Table 3-3 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.

Table 3-3. State Functional Classifications

Route Name	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 3-2 summarizes the characteristics of the study intersections. Each of the study intersections is under ODOT's jurisdiction. All of the study intersections are unsignalized; no signalized intersections are present within Gilliam County.

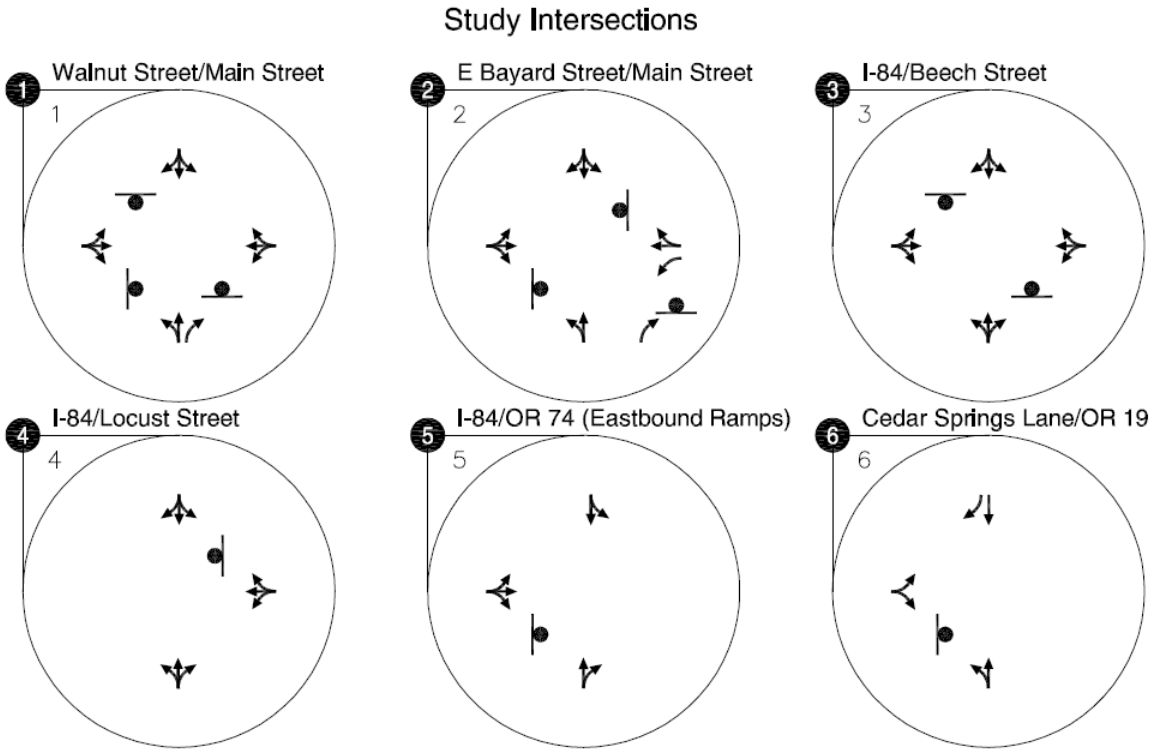


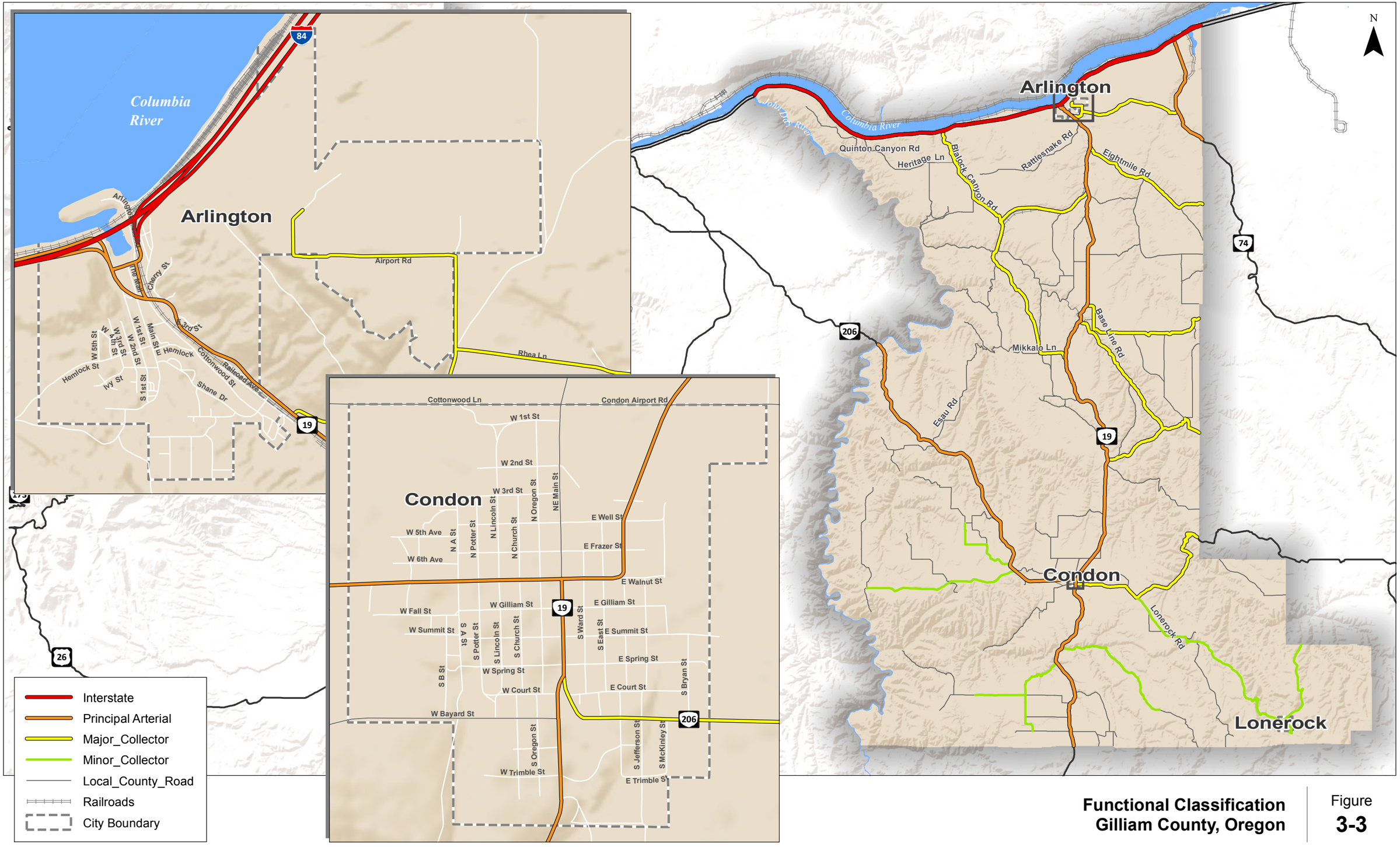
Exhibit 3-2. Study Intersection Existing Lane Configurations and Control

County Facilities

Gilliam County follow's 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 3-3. Changes in development patterns and transportation trends (increased truck traffic, seasonal influences of the Cottonwood Canyon State Park, etc.) since 1999 will be reflected in proposed changes to functional classification during this TSP Update.

City Facilities

The local cities do not have a separate functional classification system. The majority of the roads within the Cities, other than the state highways, generally have the characteristics of local streets.



Functional Classification
Gilliam County, Oregon

Figure **3-3**

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Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

Roadway Cross-Section Standards

Roadway functional classifications typically reflect the roadway's function and influence the recommended roadway cross-section design. 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 current TSP identifies rural roadway design standards, as summarized in Table 3-4. The County also has recommended roadway widths that are intended to serve the forecast future traffic demands in the County, as summarized in Table 3-5.

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 3-4. 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 3-5. 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

*DHV (Design Hour Volume) is the expected two-way traffic in the peak design hour (usually commuter times), usually 13 to 25% ADT.
Note: ADT = Average Daily Traffic, vehicles/day

Local Facilities

The City of Condon does not street design standards. The majority of the non-state highway streets have a 60-foot right-of-way, with pavement width between 15 and 25 feet comprised of two travel lanes and narrows shoulders. Most 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.

The City of Arlington has recommended street design standards, as summarized in Table 3-6.

Table 3-6. Recommended Street Design Standards for the City of Arlington

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

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 to land uses 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. Figure 3-4 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.

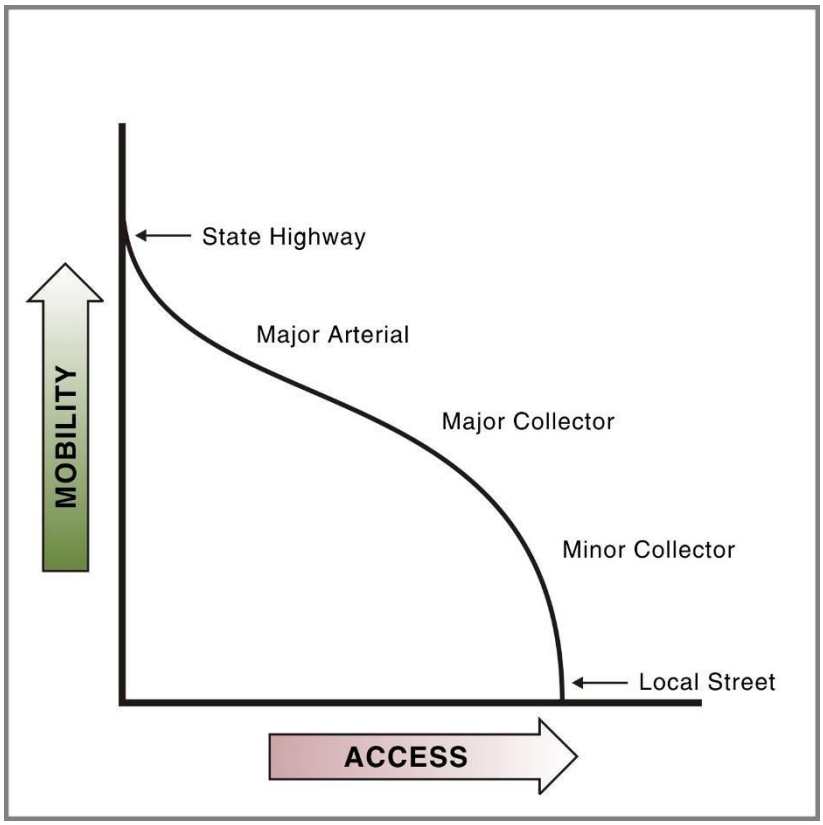


Figure 3-4. Relationship between Access, Mobility, and Functional Classification

State Facilities

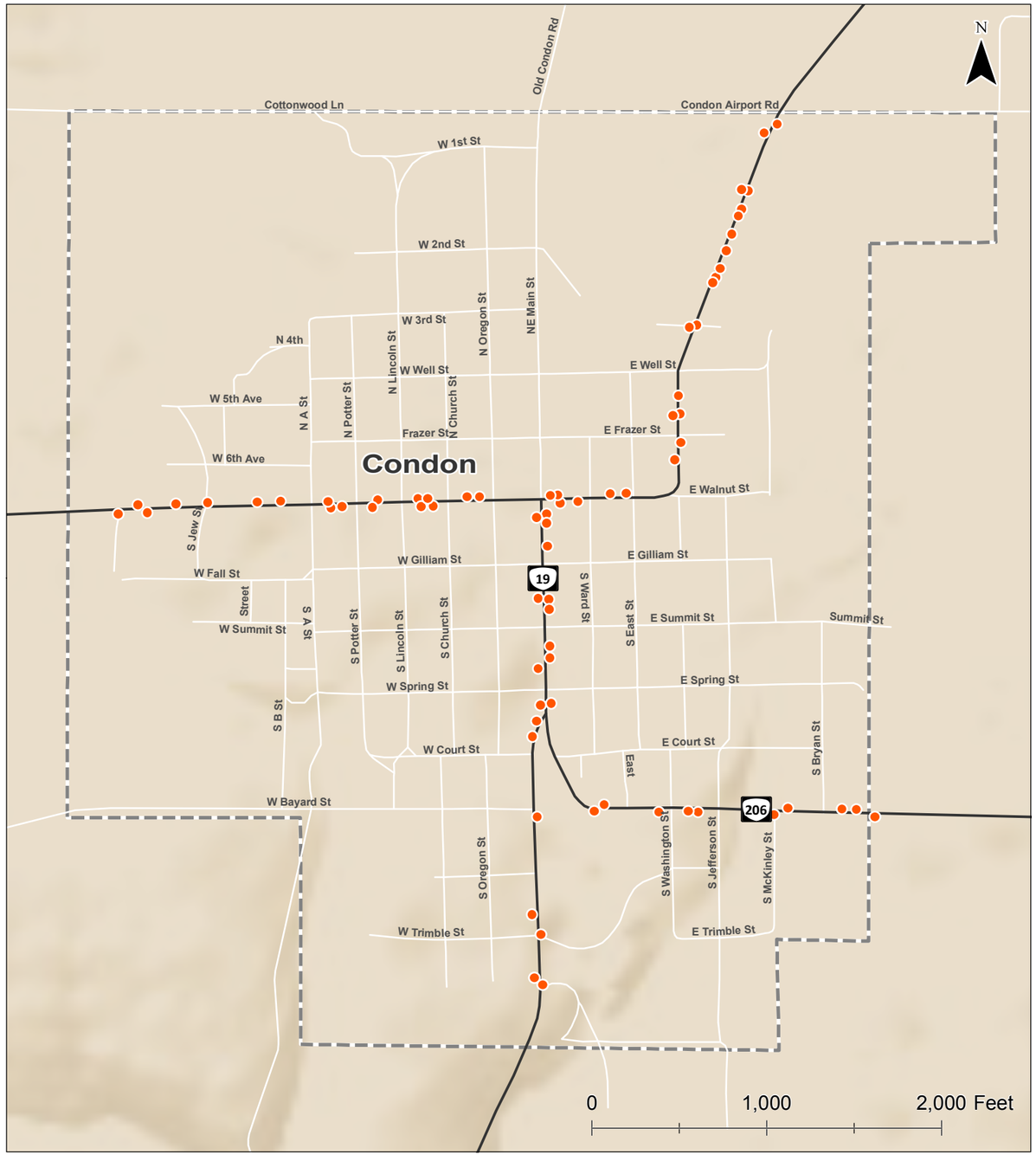
ODOT specifies access management spacing standards for the state facilities in the Oregon Highway Plan (OHP, Reference 1). The corresponding access management spacing standards for state facilities within Gilliam County are summarized in Table 3-7. These standards are based on the 2012 AADT (Annual Average Daily Traffic volume), posted speed limit, proximity to urban areas, and functional classification.

Table 3-7. 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

Figure 3-5 shows the location of access points along state facilities in the two cities. As shown in Figure 3-5, the location of access points within the city limits does not meet the access spacing standards where the state highways also function as main streets in the communities.



Access Points on State Facilities
Railroads
City Boundary

Access Points
Gilliam County, Oregon

Figure
3-5

H:\profile\17679 - Gilliam County TSP\gis\3-5 Access Points.mxd - jsommerville - 11:59 AM 11/21/2014

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

County Facilities

The County has 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 3-8.

Table 3-8. 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 does not have access management standards for these streets, but the streets are generally intended to serve multiple access locations in close proximity.

The City of Arlington has minimum connection spacing for its roadways, depending on functional classification, as summarized in Table 3-9.

Table 3-9. 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

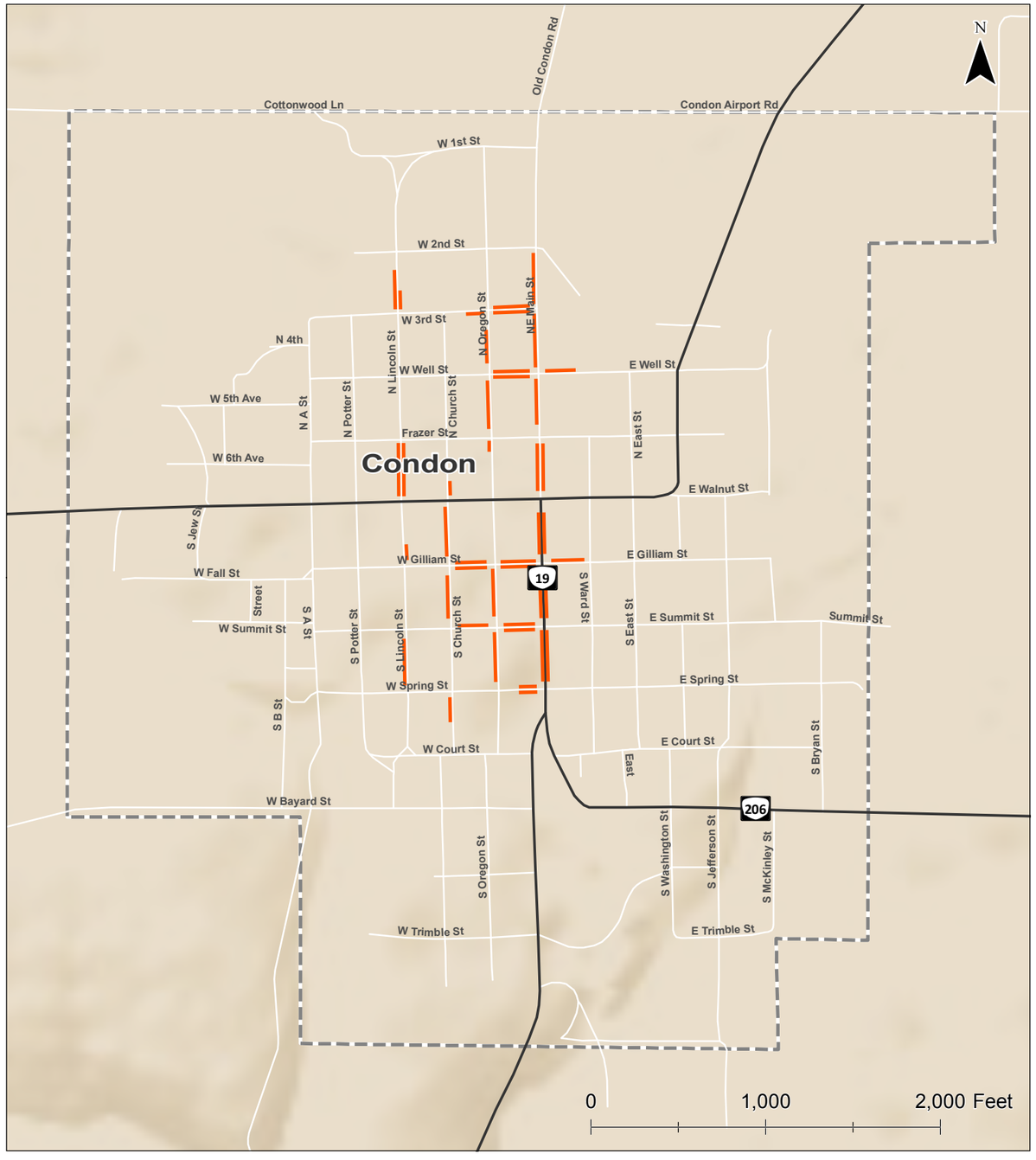
The City of Lonerock follows the County's TSP and therefore does not have its own spacing standards.

On-Street Parking Inventory

Figure 3-6 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.



On-Street Parking Inventory
Gilliam County, Oregon

Figure **3-6**

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Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

Street System Traffic Analysis

The focus of this section is to report the existing traffic operations for study intersections and roadway segments identified for the TSP update. The sub-sections below present information on the traffic count data used in the evaluation, the analysis methodology applied, the operational standards used to assess the results, and the traffic operations results for the study intersections. *Appendix 1* contains the traffic count data obtained from ODOT and used in the analysis. *Appendix 3* contains the Methodology Memorandum documenting the analysis method applied. *Appendix 5* contains the existing conditions traffic operations and queuing analysis worksheets.

Analysis Methodology and Performance Standards

All operations analysis described in this report were performed in accordance with the procedures in the *2010 Highway Capacity Manual* (Reference 2).

Per the Methodology Memorandum (see *Appendix 3*) and the ODOT *Analysis Procedures Manual* (APM) (Reference 3), 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 3-10 and Table 3-11, 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 (OHP, Reference 1) and are summarized below for the state highways within the County.

Table 3-10. Volume to Capacity Ratio Targets for Peak Hour Operation Conditions

Route Name	Facility Extents	Facility Designation	Inside UGB			Outside UGB	
			Posted speed <= 35 mph	Speed > 35 mph but <45 mph	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 3-11. Intersection Performance Standards

Intersection Name	Location	Jurisdiction	Type of Intersection Control*	Performance Standard (v/c ratio)**
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

Traffic Volumes

The following sub-sections discuss the weekday peak hour traffic volume development and the seasonal adjustment factor used to adjust the 2014 traffic counts.

Roadway Segment Hourly Traffic Profiles

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. In addition, they were used to illustrate the demand profile of the roadway by the time of day. *Appendix 4 summarizes the hourly traffic volume profiles for the seven roadway segments studied*. Based on these 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 3-12 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 below the roadway's capacity.

Table 3-12. Roadway Segment Operations Analysis

ID	Roadway	ADT from 2014 Traffic Counts	Peak Hour Time Period	Seasonally-Adjusted Peak Hour Count	PHF*	Two-Way Demand Flow	Critical Flow Rate	Units	Calculated V/C Ratio
A	Lonerock Road, South of OR 19	173	5:00 - 6:00 p.m.	19	0.68	29	3200	pc/h	0.0092
B	Baseline Road, east of OR 19	240	9:30-10:30 am, 1:30-2:30 pm	26	0.93	29	3200	pc/h	0.0092
C	Fourmile Road, SE of OR 19	192	1:45 - 2:45 pm	28	0.65	45	3200	pc/h	0.0142
D	Blalock Canyon Road, South of I-84	142	5:15 - 6:15 pm	19	0.86	23	3200	pc/h	0.0073
E	Quinton Canyon Road, South of I-84	67	8:45 - 9:45 am	10	0.59	18	3200	pc/h	0.0056
F	Mikkalo Lane west of OR 19	145	11:45 am - 12:45 pm	16	0.78	22	3200	pc/h	0.0067
G	East Bayard Street, East of OR 19	576	10:45 - 11:45 am	55	0.68	85	3200	pc/h	0.0266

*PHF = peak hour factor

Weekday Peak Hour Development for Intersections

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. Traffic volumes typically peak during the evening commute period, between 4:00 and 6:00 p.m. However, traffic counts at the study intersections revealed that the peak hours for some of the study intersections occurred midday or during the afternoon, due to the rural nature of the County. Based on these counts, the peak hour and peak 15-minute period within each peak hour were identified for each intersection. An intersection peak hour was used for analysis rather than a system-wide peak hour due to the long distances between study intersections throughout the County.

As summarized in the Methodology Memo (see *Appendix 3*), traffic volumes were adjusted to reflect seasonal fluctuation in traffic patterns. Exhibit 3-3 shows the existing intersection traffic control and lane configurations. Exhibit 3-4 summarizes the existing peak hour traffic volumes after seasonal adjustments were applied and the peak hour time period for each intersection.

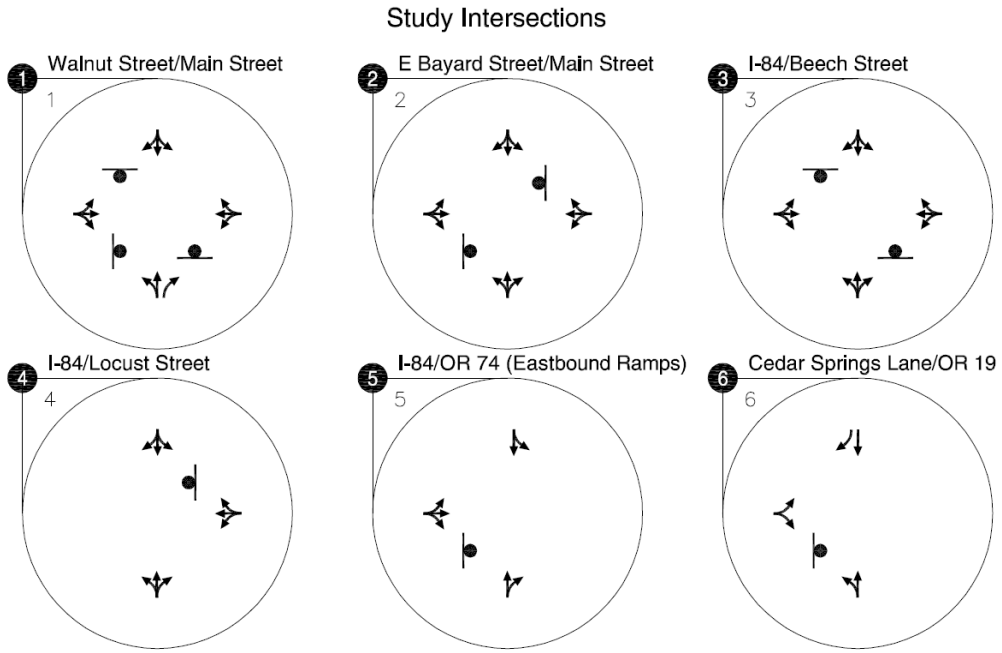


Exhibit 3-3. Study Intersection Traffic Control and Lane Configurations

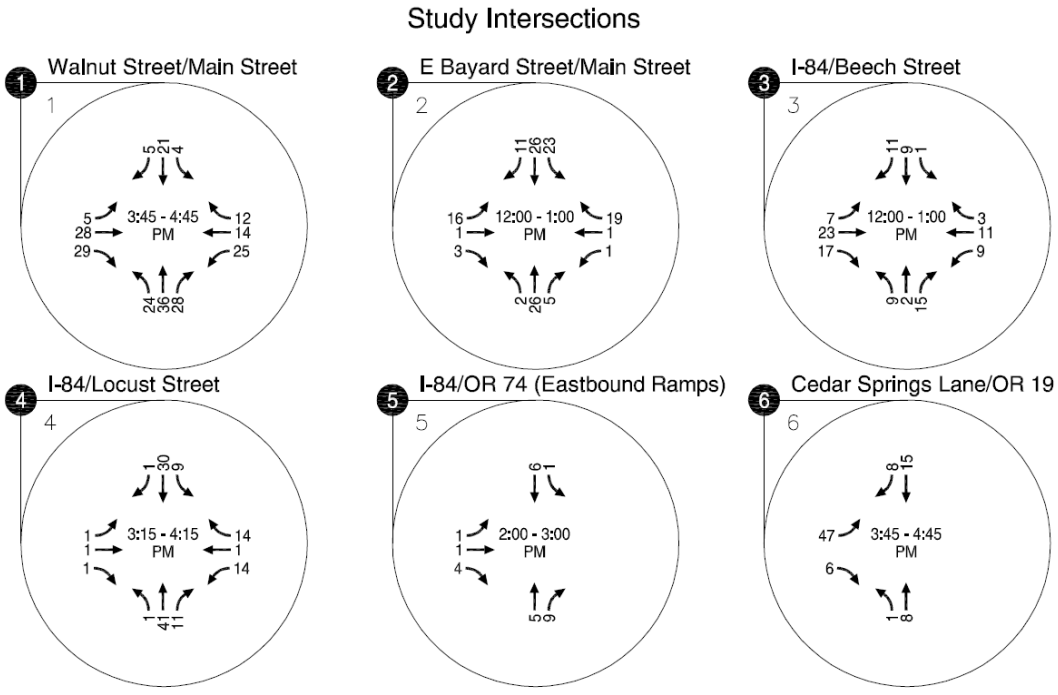


Exhibit 3-4. Existing Traffic Volumes and Peak Hours

Intersection Traffic Operations Analysis Results

Level-of-service (LOS), volume-to-capacity (v/c) ratios, average delay, and 95th percentile queue lengths were calculated for each of the study intersections identified for the Gilliam County TSP

update. Queue lengths were calculated using ODOT's Two-Way Stop-Controlled method, and the remaining analysis were conducted using 2010 HCM methods with Vistro and Sidra software. Table 3-13 summarizes the results of this analysis as well as the corresponding operational targets for the study intersections. As shown in the table, all six study intersections currently operate acceptably. The 95th percentile queue lengths reflect the maximum queue length expected during the peak 15 minutes. As shown in the table, the 95th percentile queue lengths do not exceed two vehicles in length at all study intersections.

Table 3-13. Intersection Operational Analysis Results

ID	Name	Critical Movement	V/C Ratio	LOS	Delay (sec)	95th % 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

Summary of Existing Traffic Conditions

Below is a summary of the major findings of the existing conditions operational analysis.

- The demand volume at the seven study segments is well below capacity.
- The six study intersections currently operate within their performance targets.
- The longest expected 95th percentile queue length was found at Cedar Springs Lane/OR 19 for the eastbound approach. This queue is expected to reach two vehicles during the peak hour.

HISTORIC CRASH ANALYSIS

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 3-7 illustrates reported crash locations throughout the state. As shown in Figure 3-7, the majority of reported crashes are located along state highways. Crash data is provided in *Appendix 6*.

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. Table 3-14 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 Lone Rock. The crash report indicates speed was a contributing factor. The weather and light conditions at the time of the crash were not reported.

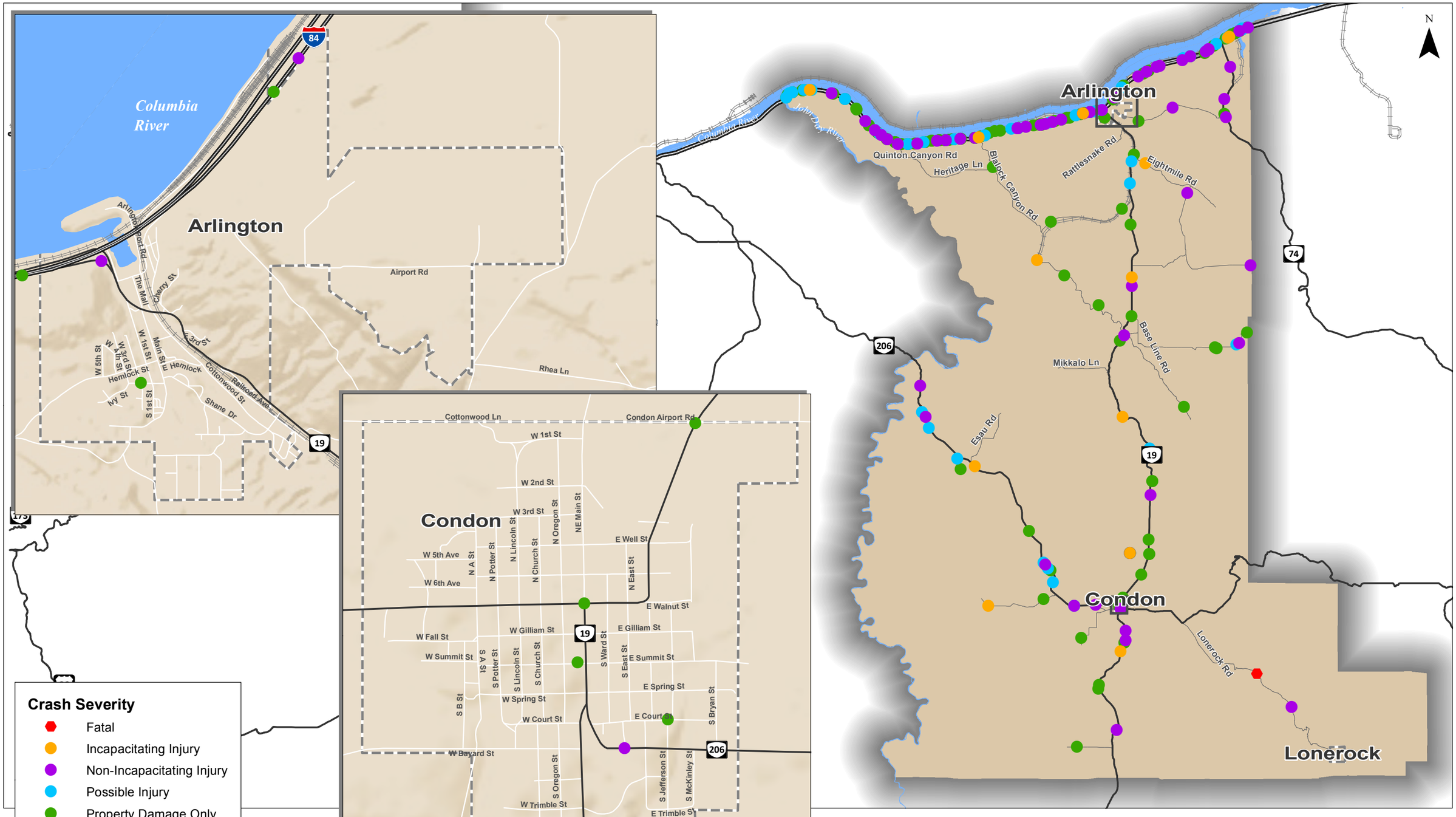
Of the 13 reported severe injury crashes, several trends were noted:

- The most-frequently reported severe-injury crash type is fixed object crashes. Seven crashes involved a vehicle collision with a fixed object.
- Excessive speed was reported in at least six reported crashes.
- Alcohol was indicated as a factor in two reported crashes.
- Eleven occurred during daylight, and
- 11 were reported on dry roadway conditions.

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

Table 3-14. Reported Crashes by Severity in Gilliam County (2009 – 2013)

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



Reported Crash History
Gilliam County, Oregon

Figure **3-7**

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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Exhibit 3-5 shows the number of crashes reported by month.

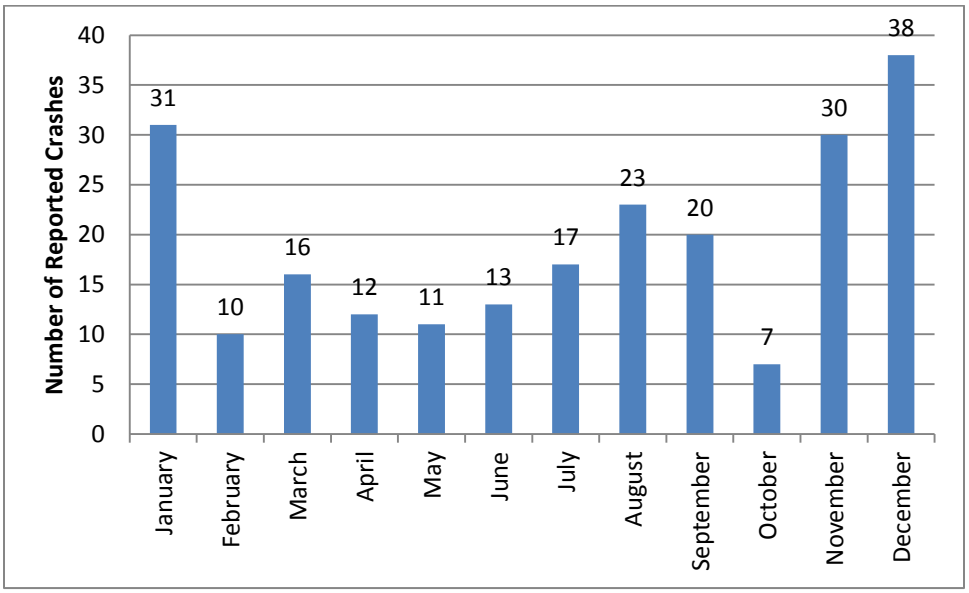


Exhibit 3-5. Reported Crashes by Month (2009-2013)

As shown in Exhibit 3-5, 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.

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 3-16. 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 90th percentile crash rates in the Analysis Procedures Manual, Exhibit 4-1 (Reference 3). These crash rates are presented in Table 3-16. The ODOT APM indicates that intersections that exceed the 90th percentile should be further analyzed. None of the study intersections in Gilliam County exceed their corresponding 90th percentile crash rates.

Table 3-16. Reported Crashes at Study Intersections

Intersection Name	# of Crashes	TEV	Crash Rate	90th 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

[1]TEV = Total entering vehicles
[2]PDO = Property damage only
[3]Crash Rate = Crashes per million entering vehicles

Reported crashes along study roadway segments are summarized in Table 3-17. 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 3-17 for comparison to calculated crash rates for highways in Gilliam County. 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.

Table 3-17. 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 miles	1	576	1.903	1.586	0	1 (Head-On)	0	1	0

Findings from the crash analysis indicate the following:

- Baseline Road, which becomes Ione Road several miles east of OR 19, has the highest crash frequency among the study segments.
- Over 70% of reported crashes in the County occurred on the interstate.
- Over 41% of reported crashes in the County occurred on a wet, icy, or snowy roadway.
- Many of the crashes indicated speed too fast for conditions as a contributing cause.
- Among the severe injury crashes, the majority were single-vehicle crashes. Speed was a contributing factor in approximately half of the reported severe injury crashes. Roadway conditions and lighting were not prevalent factors among the reported severe injury crashes.
- Although individual locations were not identified as issue areas, the prevalence of single-vehicle, speed-related, and weather-related crashes may indicate potential opportunities for low-cost systemic safety improvements throughout the County.

- ODOT identified several sections of the John Day Highway (OR 19) and Wasco-Heppner Highway (OR 206) in Gilliam County in their Roadway Departures Plan. The Plan recommends edgeline rumble strips, where possible with the shoulder width, at those identified locations, and centerline rumble strips for every state highway in the County. The locations where edgeline rumble strips were recommended include:
  - OR 19: MP 15.91 – 16. 48
  - OR 19: MP 17.05 – 17.61
  - OR 19: MP 17.61 – 18.18
  - OR 19: MP 21.59 – 22.16
  - OR 206: MP 17.61 – 18.18
  - OR 206: MP 30.68 – 31.25
  - OR 206: MP 35.23-35.80

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 2013 and 2012 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^{th} – 95^{th} 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 as having safety issues that will be reviewed as part of the TSP Update:

- 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 may be limited 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-5; 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 the interstate.
- The intersection of Lone Rock Road/OR 206 is located on a curve and at an angle, which may limit 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 may be an issue on OR 206 near milepost 22, where vehicles have been trapped in snow drifts in the past.

PEDESTRIAN AND BICYCLIST SYSTEM

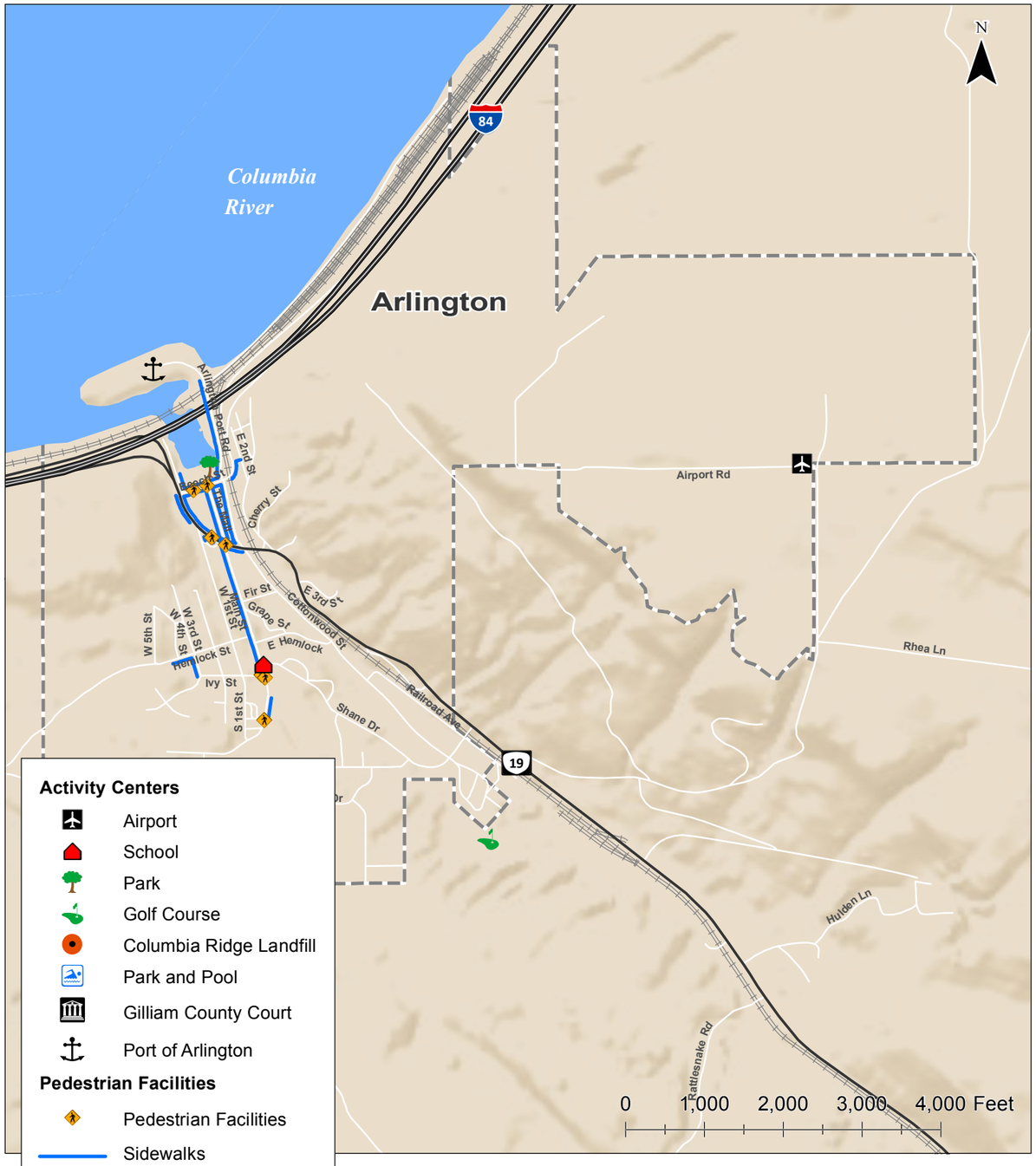
The pedestrian and bicyclist system for Gilliam County are summarized in Figure 3-8 and Figure 3-9, respectively. The inventory was completed based on ODOT's data for state facilities and a review of the downtown areas using Google Earth aerial imagery. No sidewalks or bicycle facilities are located within the City of Lonerock.

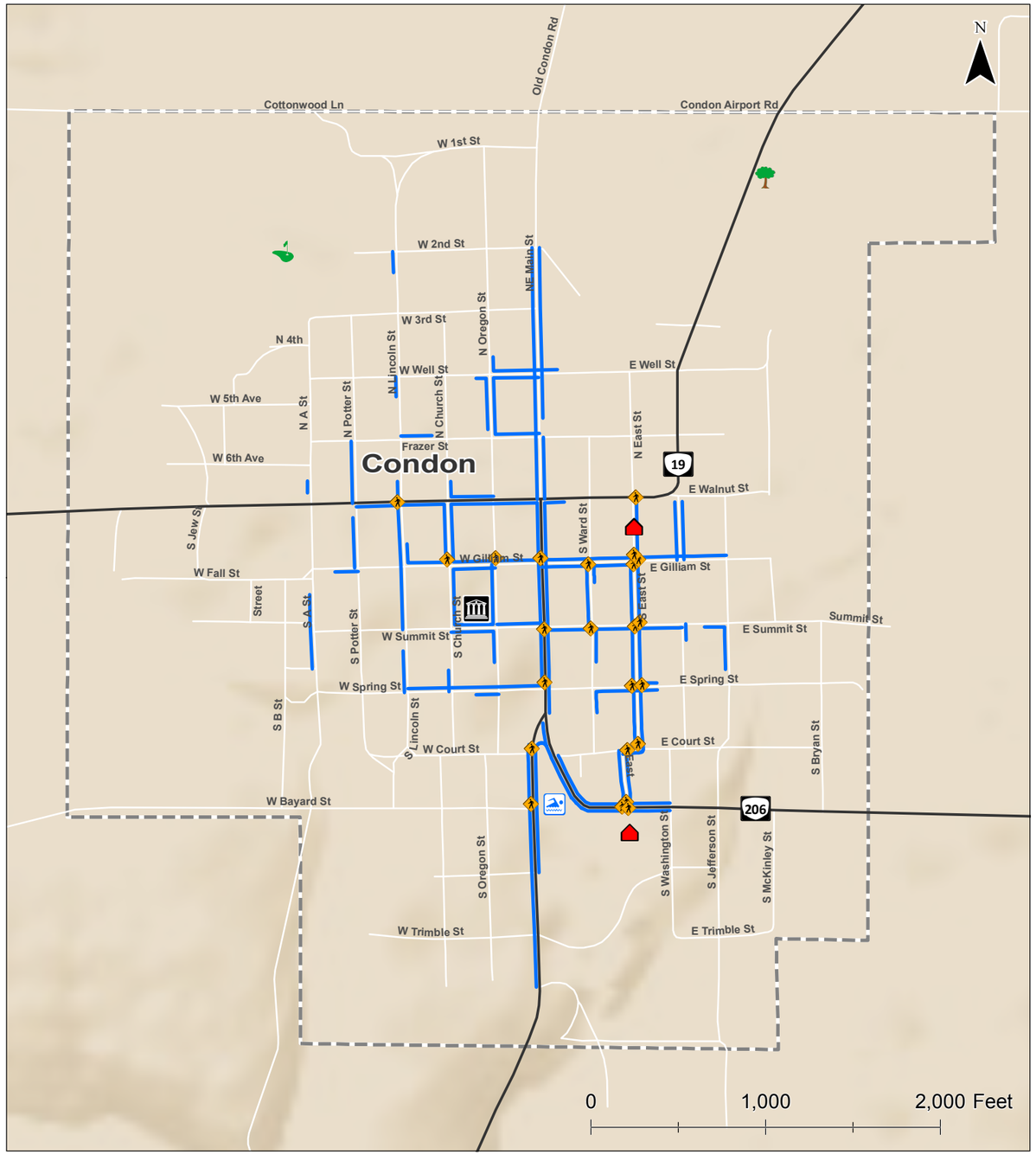
The pedestrian facilities inventory map in Figure 3-8 shows the location of existing sidewalks and crosswalks within the downtown areas of Condon and Arlington. As shown in the figure, sidewalks are located along the downtown commercial cores of both cities, but the sidewalks are discontinuous beyond 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 3-9 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, lower speed and lower volume residential streets are typically not marked for bicyclists as the bicyclists can share the roadway with the slower 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. Bicyclists are not as common between Condon and Arlington. The majority of these routes have minimal shoulders and rough pavement conditions. In addition, there are no commercial or public locations on these routes, with the exception of the new Cottonwood State Park located off of OR 206 on the ride to Wasco, for bicyclists to stop and hydrate on the ride.





Activity Centers
- Airport
- School
- Park
- Golf Course
- Columbia Ridge Landfill
- Park and Pool
- Gilliam County Court
- Port of Arlington

Pedestrian Facilities
- Pedestrian Facilities
- Sidewalks
- Railroads
- City Boundary

Pedestrian System Inventory
Gilliam County, Oregon

Figure **3-8**

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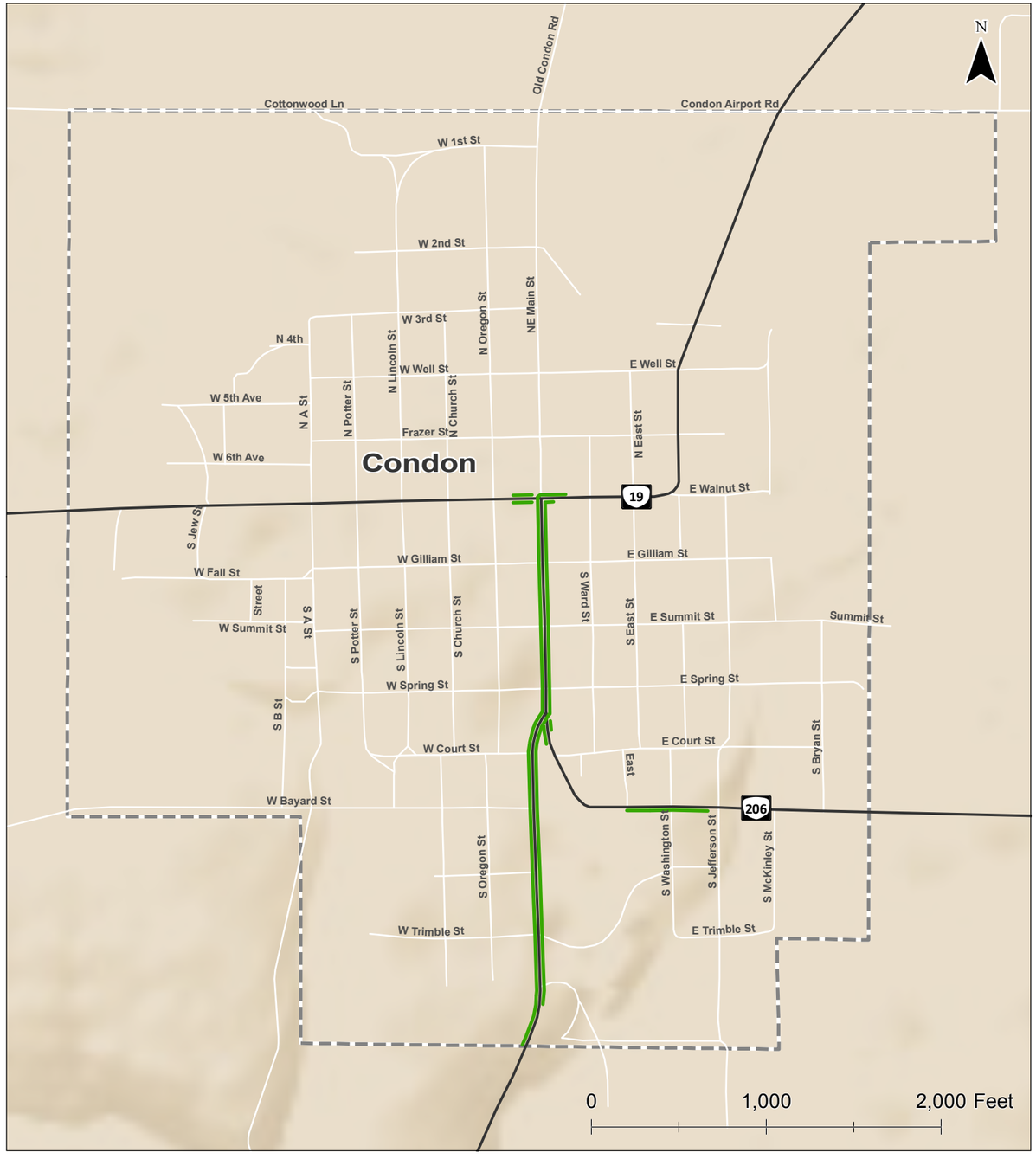
Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census



Bicycle Facilities
Railroads
City Boundary

Bicycle System Inventory
Gilliam County, Oregon

Figure
3-9

K:\H_Portland\proj\file\17679 - Gilliam County TSP\gis\3-10 Bicycle System Inventory.mxd - agriffin - 11:01 AM 11/26/2014

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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 3-10. 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 funding required that the project stop before the remaining few miles could be completed. 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.

Columbia River
Arlington
Arlington Airport Rd
The Mall
Cherry St
3rd St
Airport Rd
Rhea Ln
W 5th St
W 4th St
W 3rd St
Hemlock St
W 1st St
Main St
E Hemlock
Cottonwood St
Railroad Ave
Ivy St
S 1st St
Shane Dr
84
19
26
175
Columbia River
Lower Deer River
Arlington
206
74
19
Condon
Lonerock
N
Cottonwood Ln
Condon Airport Rd
W 1st St
W 2nd St
W 3rd St
Condon
N Oregon St
NE Main St
N Lincoln St
N Potter St
N A St
N Church St
E Well St
W 5th Ave
W 6th Ave
N East St
E Walnut St
W Fall St
W Gilliam St
E Gilliam St
19
S Ward St
S East St
W Summit St
S A St
S Potter St
S Lincoln St
S Church St
E Summit St
E Spring St
S B St
W Spring St
W Court St
E Court St
S Bryan St
206
W Bayard St
S Oregon St
S Jefferson St
S McKinley St
W Trimble St
E Trimble St
ODOT Freight Routes
Railroads
City Boundary

Freight Routes
Gilliam County, Oregon

Figure
3-10

K:\H_Portland\proj\tei\17679 - Gilliam County TSP\gis\3-11 Freight Routes.mxd - agriffin - 11:03 AM 11/26/2014

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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.

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 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. This section describes the two existing airports.

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. This section describes those 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 contains 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 commuting 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 within the County, as summarized in Table 3-18. Table 3-18 includes State, County, and City owned facilities. 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.

Table 3-18. Gilliam County Bridge Inventory

Bridge ID	Owner	Year Built	Length (ft)	Carries	Crosses	MP	Sufficiency Rating	Posting	Operating Load	Inventory Rating (tons)
00108B	ODOT	1963	1540	I-84 (HWY 002)	JOHN DAY RIVER	114.6	76.5	A Open, no restriction	60	36
00795A	ODOT	1982	42	OR 19 (HWY 005)	JUNIPER CANYON	19.25	91.8	A Open, no restriction	71	43
00906A	ODOT	1979	163	OR 74 (HWY 052)	WILLOW CREEK	3.94	88.9	A Open, no restriction	34.3	26.5
01103A	ODOT	1972	475	OR 19 (HWY 005)	THIRTYMILE CR	43.92	83.7	A Open, no restriction	98	24
01792	ODOT	1934	99	OR 206 (HWY 300)	ROCK CREEK	51.67	84.8	A Open, no restriction	48	35
03456	ODOT	1995	25	OR 19 (HWY 005)	CHINA CREEK	4.03	93.6	A Open, no restriction	60	36
07520A	ODOT	1954	292	I-84 (HWY 002) WB	WILLOW CREEK WEST	148.57	51.3	A Open, no restriction	21.2	16.4
08820	ODOT	1964	1463	I-84 (HWY 002)	ARLINGTON VIADUCT	137.91	78	A Open, no restriction	60	36
08944	ODOT	1964	188	PHILLIPI CANYON RD	I-84 (HWY 002)	123.31	79.5	A Open, no restriction	43	26
08945	ODOT	1964	157	I-84 (HWY 002)	BLALOCK CANYON RD	129.43	84.1	A Open, no restriction	30.7	23.7
09126	ODOT	1964	204	OR 74 (HWY 052)	UPRR	3.21	95.4	A Open, no restriction	44.8	34.6
09168	ODOT	1964	69	OR 19 (HWY 005)	CHINA CREEK	0.58	88.6	A Open, no restriction	45	27
09170	ODOT	1964	30	OR 19 (HWY 005) CO	CHINA CREEK	0.73	93.9	A Open, no restriction	53	32
09197	ODOT	1965	340	I-84 (HWY 002) EB	WILLOW CREEK EB	148.6	**33.3**	A Open, no restriction	16.8	13
09198	ODOT	1964	258	OR 74 (HWY 052)	I-84 (HWY 002)	0.31	70	A Open, no restriction	24.5	18.9
13567	ODOT	1972	22	OR 19 (HWY 005)	CONDON CANYON CR	43.23	90.1	A Open, no restriction	60	36
13568	ODOT	1972	22	OR 19 (HWY 005)	CONDON CANYON CR	43.36	98	A Open, no restriction	60	36
13569	ODOT	1972	22	OR 19 (HWY 005)	CONDON CANYON CR	43.62	98.1	A Open, no restriction	60	36
19893	ODOT	2005	135	OR 19 (HWY 005)	ROCK CREEK (OLEX)	17.03	81.9	A Open, no restriction	30.8	23.8
21C01	Gilliam Co.	1987	71	RHEA ROAD	WILLOW CREEK EB	0.05	98	A Open, no restriction	98	59
21C02	Gilliam Co.	1991	72	MORRIS ROAD	ROCK CREEK	0.01	99	A Open, no restriction	70	42
21C03	Gilliam Co.	1987	27	FRENCH CHARLE ROAD	ROCK CREEK	4.5	98	A Open, no restriction	98	56
21C04	Gilliam Co.	1965	82	CAYUSE CANYON ROAD	ROCK CREEK	4	**31.9**	**K Closed to all traffic**	14	8
21C05	Gilliam Co.	1958	69	FOURMILE ROAD	EIGHTMILE CREEK	4.93	95.9	A Open, no restriction	68	41
21C06	Gilliam Co.	1960	40	BASELINE RD	EIGHTMILE CREEK	9.47	85.9	A Open, no restriction	43	28
21C07	Gilliam Co.	1957	63	BARNETT RD	ROCK CREEK	8.38	88.4	A Open, no restriction	44	26
21C08	Gilliam Co.	1962	81	UPPER ROCK CR ROAD	ROCK CREEK	3	94.8	A Open, no restriction	53	32
21C09	Gilliam Co.	1967	111	WOLF HOLLOW LANE	ROCK CREEK	5	96.2	A Open, no restriction	57	34
21C10	Gilliam Co.	1958	71	LONE ROCK ROAD	LONE ROCK CREEK	0	57	**P Posted for load**	38	23
21C12	Gilliam Co.	1960	100	ROCK CREEK ROAD	ROCK CREEK	9.3	94	A Open, no restriction	52	31
21C13	Gilliam Co.	1964	81	MIKKALO LANE	HAY CREEK	0	90.9	A Open, no restriction	68	41
21C14	Gilliam Co.	1957	63	TRAIL FORK ROAD	THIRTYMILE CREEK	2.5	89.9	A Open, no restriction	47	28
21C15	Gilliam Co.	1973	34	MIKKALO LANE	SCOTT CANYON CREEK	2.5	96	A Open, no restriction	77	46
21C16	Gilliam Co.	1973	34	ROCK CREEK ROAD	JUNIPER CANYON CREEK	0.1	96.9	A Open, no restriction	79	48
22190	Gilliam Co.	2013	28	ALVILLE LANE	FERRY CANYON CREEK	1	78	A Open, no restriction	75	45
21521	City of Arlington	1954	35	Port Access Road	CHINA CREEK	0	91.5	A Open, no restriction	90	54
01100A	ODOT	1972	8	OR 19 (HWY 005)	DRY GULCH	42.12	87.1	A Open, no restriction	N/A	N/A
01101A	ODOT	1979	7	OR 19 (HWY 005) SB	CONDON CANYON CREEK	39.04	98	A Open, no restriction	N/A	N/A
01883A	ODOT	1979	16	OR 206 (HWY 300)	SIX MILE CREEK	49.61	99.8	A Open, no restriction	N/A	N/A
01884A	ODOT	1977	13	OR 206 (HWY 300)	DRY WASH	49.24	99.8	A Open, no restriction	N/A	N/A
03466A	ODOT	1974	17	OR 19 (HWY 005)	CHINA CREEK	4.47	100	A Open, no restriction	N/A	N/A
03467	ODOT	1922	6	OR 19 (HWY 005)	SHUTLER CREEK	7.52	98.6	A Open, no restriction	N/A	N/A
03468	ODOT	1922	6	OR 19 (HWY 005)	W FK SHUTLER CREEK	8.39	96.3	A Open, no restriction	N/A	N/A
03470	ODOT	1949	7	OR 19 (HWY 005)	CATTLEPASS	16.2	99.5	A Open, no restriction	N/A	N/A
03471A	ODOT	1977	14	OR 19 (HWY 005)	CATTLEPASS	23.2	99.2	A Open, no restriction	N/A	N/A
03472	ODOT	1951	7	OR 19 (HWY 005)	CATTLEPASS	35.75	94.6	A Open, no restriction	N/A	N/A
03476A	ODOT	1979	8	OR 19 (HWY 005)	CATTLEPASS & DRAINAGE	40.91	98	A Open, no restriction	N/A	N/A
03477	ODOT	1951	7	OR 19 (HWY 005)	CATTLEPASS	45.03	78.9	A Open, no restriction	N/A	N/A
03484	ODOT	1951	7	OR 74 (HWY 052)	CATTLEPASS	4.55	89	A Open, no restriction	N/A	N/A
03491	ODOT	1954	7	OR 206 (HWY 300)	CATTLEPASS	50.39	99.8	A Open, no restriction	N/A	N/A
08359	ODOT	1957	12	OR 206 (HWY 300)EB	COTTONWOOD CANYON	15.27	94.9	A Open, no restriction	N/A	N/A
08361	ODOT	1957	10	OR 206 (HWY 300)EB	COTTONWOOD CANYON	16.35	96.9	A Open, no restriction	N/A	N/A
09171	ODOT	1964	13	I-84 (HWY 002) WB	WOELPERN INT CONN	131.03	66	A Open, no restriction	N/A	N/A
0P301	ODOT	1964	17	I-84 (HWY 002)	WILDCAT CREEK	123.93	65	A Open, no restriction	N/A	N/A
0P302	ODOT	1964	18	I-84 (HWY 002)	BLALOCK CREEK	129.48	70	A Open, no restriction	N/A	N/A
0P303	ODOT	1964	7	I-84 (HWY 002)	LANG CANYON	133.35	70	A Open, no restriction	N/A	N/A
0P304	ODOT	1964	10	I-84 (HWY 002)	CATTLEPASS	133.43	70	A Open, no restriction	N/A	N/A
0P305	ODOT	1964	9	I-84 (HWY 002)	JONES CANYON	135.86	70	A Open, no restriction	N/A	N/A
0P309	ODOT	1964	14	OR 19 (HWY 005)	PATILL CANYON	46.45	98.3	A Open, no restriction	N/A	N/A
0P310	ODOT	1964	14	OR 19 (HWY 005)	PATILL CANYON	46.79	98.3	A Open, no restriction	N/A	N/A
0P311	ODOT	1964	6	OR 19 (HWY 005)	RAMSEY CANYON	47.76	98.3	A Open, no restriction	N/A	N/A
0P312	ODOT	1964	7	OR 19 (HWY 005)	PATILL CANYON	48.24	98.3	A Open, no restriction	N/A	N/A
0P313	ODOT	1964	7	OR 19 (HWY 005)	DYER CREEK	48.98	98.3	A Open, no restriction	N/A	N/A
0P439	ODOT	1977	14	ON FARM APPROACH	JUNIPER CANYON	23.22	100	A Open, no restriction	N/A	N/A
0P442	ODOT	1979	7	OR 19 (HWY 005) SB	CONDON CANYON CREEK	39.27	98	A Open, no restriction	N/A	N/A
0P443	ODOT	2000	12	OR 19 (HWY 005) SB	CONDON CANYON CREEK	39.48	98	A Open, no restriction	N/A	N/A
0P444	ODOT	1979	14	OR 19 (HWY 005)	CONDON CANYON CREEK	41.48	98	A Open, no restriction	N/A	N/A
0P457	ODOT	1979	7	OR 19 (HWY 005) SB	CODER CREEK	40.26	98	A Open, no restriction	N/A	N/A
13572	ODOT	1972	13	OR 19 (HWY 005) SB	CONDON CANYON CREEK	41.8	95.8	A Open, no restriction	N/A	N/A

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 provides access to the river for recreational purposes. The marina is in the process of adding a fuel dock to its amenities. The marina needs a better location where recreational users (kite surfers and wind surfers) can access the water.

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.

FUNDING INVENTORY & ANALYSIS

Roadways within Gilliam County fall under the jurisdiction of the Cities, County, and ODOT. This section discusses the County's existing funding revenue sources for transportation capital improvement projects as well as operations and maintenance activities.

As summarized in Table 3-19, Gilliam County has had an annual revenue of approximately $1.3 million per year over the past ten years. This funding covers all transportation related projects, including maintenance and capital improvements projects. Approximately half of the County's transportation revenue each year comes from property taxes. The remaining amounts are obtained from a variety of sources, including ODOT, as shown in Table 3-19 and vary by year. ODOT has historically been able to fund the County's transportation operations and maintenance activities for state facilities.

Table 3-20 summarizes the County's transportation expenditures over the past ten years. As shown in the table, the majority of the County's transportation expenditures are used to cover maintenance and snow removal throughout the County. According to the County, there has been situations in which the County made a safety improvement on a roadway but had to reinstall the roadway in gravel rather than pavement due to lack of sufficient funds to finish the pavement. The County has trouble affording projects even after receiving grants when consultant fees are too high.

Table 3-19. Ten Year Gilliam County Transportation Revenue Budget

Budget Year	Special Assessments-Property Tax	Motor Vehicle Registration Fees	Surplus Land & Equipment Sales	Interest Income	State Highway Fund Apportionment	Special County Allotment	State Highway Fund Exchange Program	ODOT Issued Permit Fees	Other State Highway Fund Grants	BLM Mineral Leases	Other Federal Funds Receipts	Non-Jurisdiction Road work	U.S. Taylor Grazing Apportionment	TOTALS
FY end June 30, 2014	$ 845,901	$ -	$ -	$ 3,454	$ 114,014	$ 289,828	$ 204,268	$ -	$ -	$ 42,938	$ -	$ -	$ 1,058	$ 1,501,461
FY end June 30, 2013	$ 874,995	$ -	$ -	$ 1,615	$ 116,628	$ 96,623	$ 178,751	$ -	$ -	$ 1,634	$ -	$ -	$ 864	$ 1,271,113
FY end June 30, 2012	$ 1,119,219	$ -	$ -	$ 4,880	$ -	$ 78,539	$ 186,378	$ -	$ -	$ 7,276	$ -	$ -	$ 968	$ 1,397,260
FY end June 30, 2011	$ 931,010	$ -	$ -	$ 6,132	$ 345,955	$ 121,963	$ -	$ 159,963	$ -	$ 7,209	$ -	$ -	$ 3,084	$ 1,574,875
FY end June 30 2010	$ 717,073	$ 131,243	$ -	$ 7,666	$ -	$ 117,002	$ -	$ -	$ -	$ 8,688	$237,810	$ -	$ 1,048	$ 1,220,530
FY end June 30, 2009	$ 432,430	$ 119,982	$ 47,132	$ 13,958	$ -	$ 163,001	$ 186,208	$ -	$ 751,404	$ 4,290	$ -	$ -	$ 967	$ 1,715,382
FY end June 30, 2008	$ 450,495	$ -	$ -	$ 20,462	$ -	$ 456,183	$ -	$ 131,666	$ -	$ 248,524	$ -	$ 37,493	$ 931	$ 1,345,754
FY end June 30, 2007	$ 404,642	$ -	$ -	$ 16,626	$ -	$ 463,554	$ -	$ 150,861	$ -	$ 62	$ -	$ 34,820	$ 1,256	$ 1,071,821
FY end June 30, 2006	$ 385,041	$ -	$ -	$ 4,491	$ 154,533	$ 349,134	$ 266,997	$ -	$ -	$ 31	$ 24,014	$ -	$ 1,284	$ 1,185,529
FY end June 30 2005	$ 314,706	$ -	$ -	$ 2,017	$ 153,376	$ 468,825	$ -	$ -	$ -	$ 61	$ -	$ -	$ 1,440	$ 940,428

Table 3-20. Ten Year Gilliam County Transportation Expenditures Budget

Budget Year	General Maintenance of Condition	Safety and Traffic Maintenance	Snow and Ice Removal	Administration and General Engineering	Total
FY end June 30, 2014	$ 1,158,320	$ 30,178	$ 56,659	$ 216,713	$ 1,461,870
FY end June 30, 2013	$ 839,223	$ 49,860	$ 19,604	$ 199,496	$ 1,108,183
FY end June 30, 2012	$ 1,214,850	$ 51,116	$ 23,783	$ 177,565	$ 1,467,314
FY end June 30, 2011	$ 1,633,896	$ 42,724	$ 44,646	$ 185,514	$ 1,906,780
FY end June 30 2010	$ 946,253	$ 34,233	$ 19,737	$ 184,001	$ 1,184,224
FY end June 30, 2009	$ 577,582	$ 27,063	$ 12,002	$ 172,904	$ 789,551
FY end June 30, 2008	$ 704,814	$ 26,739	$ 69,276	$ 172,087	$ 972,916
FY end June 30, 2007	$ 650,868	$ 21,750	$ 8,041	$ 159,277	$ 839,936
FY end June 30, 2006	$ 359,925	$ 22,081	$ 17,816	$ 134,451	$ 534,273
FY end June 30 2005	$ 364,962	$ 23,623	$ 13,925	$ 129,976	$ 532,486

CONCLUSION

The assessment of the current land use and transportation system conditions identified the following:

- Multiple jurisdictions own and manage the public roadway system within Gilliam County, including the Oregon Department of Transportation (ODOT), Gilliam County, and the incorporated cities of Arlington and Condon. Gilliam County, the City of Arlington, and the City of Condon each has their own current TSP, last updated in 1999. This update will combine those into one TSP.
- Gilliam County is connected to the national and statewide highway network via one Interstate Highway (I-84), two Regional Highways, and one District Highway.
- Existing traffic volume does not exceed capacity at the six study intersections.
- County two-lane roads are not subject to ODOT standards; however, all County roadways operate well below ODOT standards in terms of delay.
- Although no individual intersections or segment locations were identified with safety issues based on crash history, general County-wide trends indicate that some low-cost systemic treatments such as shoulder widening and installation of centerline and shoulder rumble strips may be effective on County facilities. In addition, treatments that inform drivers of roadway conditions may also be effective at reducing weather-related crashes. These options should be evaluated.
- Several intersections were identified by the PAC as locations where safety improvements could reduce crash risk:
    - Walnut Street/Main Street in Condon;
    - Lone Rock Road/OR 206;
    - I-84 Ramps/Arlington Port Road in Arlington.
- The downtown Main Street corridor in Condon contains continuous sidewalks. However, the remainder of Condon and Arlington lack continuous sidewalks providing pedestrians with access to destinations in the cities.
- Bicycles typically ride in the travel lane throughout the County due to the lack of wide shoulders on the state highways. OR 206 and OR 19, south of Condon, are popular recreational bicycling routes. Although traffic volumes are low, conflicts between vehicles and bicyclists may arise when large groups of cyclists are traveling these routes.
- There is no fixed route transit service in the County. The County operates a dial-a-ride service, available to all residents, with volunteer drivers. These services are primarily used for medical purposes and often involve long trips to take residents to hospitals in The Dalles or Portland.
- Arlington and Condon both have general aviation airports.
- The County's largest industries are agriculture, waste management, and wind energy. There are several large industrial lands located in the County and in Arlington that are available for future development.
- Freight traffic travel occurs by truck, rail, and boat. A rail line spur connects the Columbia Ridge Landfill with the railroad that travels east-west along the Columbia River. The Port of

Arlington provides access to the Columbia River for freight movement. OR 19 provides connections to I-84 for the trucking industry.

- Historically, the County and ODOT have funded the general maintenance and upkeep of the Gilliam County roadways. No additional funds are available for large capital projects.

These conclusions will be used to inform the alternatives considered for the TSP.

REFERENCES

1. Oregon Highway Plan
2. 2010 Highway Capacity Manual
3. ODOT Analysis Procedures Manual

APPENDICES

Appendix 1 Buildable Lands Inventory for Cities

Appendix 2 Traffic Count Data

Appendix 3 Methodology Memorandum

Appendix 4 Roadway Segment Traffic Volume Profiles

Appendix 5 Existing Conditions Traffic Operations Analysis Worksheets & Queue Length Calculations

Appendix 6 ODOT Crash Data

Appendix 1 Buildable Lands Inventory for Cities

CITY OF
LONE ROCK
GILLIAM COUNTY, OREGON
SEPTEMBER, 2014

T E C

0' 20' 40' 60' 120'
SCALE IN FEET

BUTTERMILK ROAD

TAX LOT 5S-23 3800

GOV'T LOT 2

TAX LOT 5S-24 2001

ORIGINAL TOWNSITE OF LONE ROCK

STREET

ANN STREET

MAIN STREET

LONE ROCK STREET

ROBINSON STREET

MOODY STREET

BELLE STREET

LUCY STREET

MADDEN

JAIL

COMMUNITY HALL

BRIDGE

LONE ROCK CREEK

VACATED ORD. 94-1

519,600

2,159,100

518,600

36 31

0.52 AC.

0.18 AC.

1898 CHURCH

LONE ROCK

TAX LOT 5S-24 2200

GOV'T LOT 3

TWP.5 S., RANGE 23 E., W.M.

TWP.5 S., RANGE 24 E., W.M.

L E G E N D :

CITY LIMITS LINE (23.1 AC.)

URBAN GROWTH BOUNDARY

LEGEND:

- BUILDABLE LAND (UNDEVELOPED)
- DEVELOPED (RESIDENTIAL) PROPERY
- DEVELOPED PROPERTY COMMERCIAL/INDUSTRIAL)
- DEVELOPED (PUBLIC) PROPERTY
- DEVELOPED (CHURCH) PROPERTY

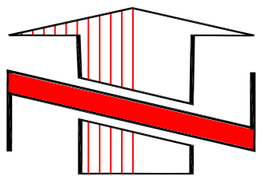
BUILDABLE LANDS MAP

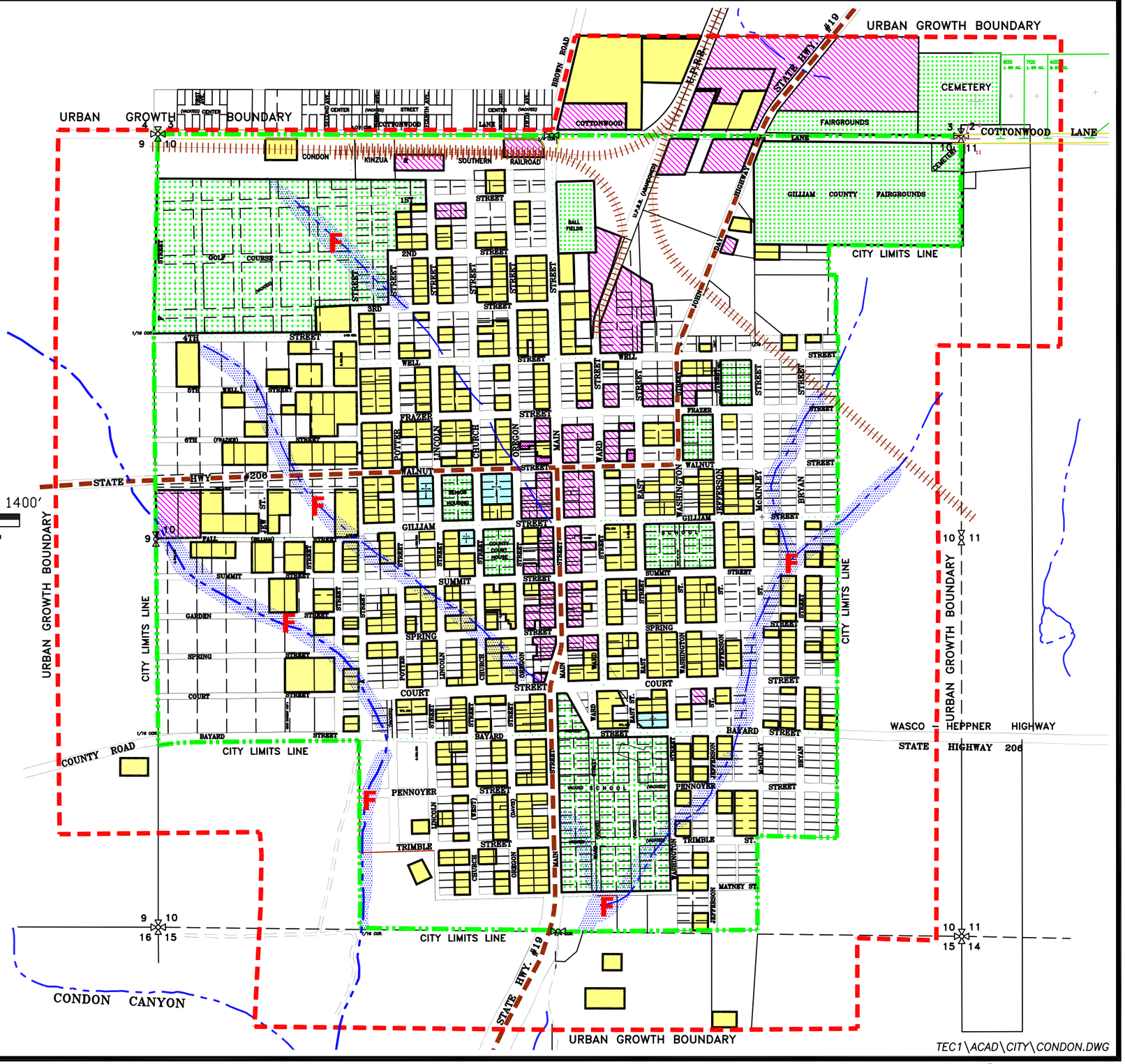
K:\ACAD\CITY\LONE_Rock.dwg

CITY OF CONDON

GILLIAM COUNTY, OREGON
IN SECTIONS 2, 3, 4, 9, 10, 11 AND 15,
TWP. 4 S., RANGE 21 E., W.M.
SEPTEMBER, 2014

BUILDABLE LANDS INVENTORY





LEGEND:

0′ 700′ 1400′
SCALE IN FEET

- BUILDABLE LAND (UNDEVELOPED)
- DEVELOPED (RESIDENTIAL) PROPERY
- DEVELOPED PROPERTY COMMERCIAL/INDUSTRIAL)
- DEVELOPED (PUBLIC) PROPERTY
- DEVELOPED (CHURCH) PROPERTY
- **F** FLOOD ZONE
- CONDON CITY LIMITS LINE (512 AC.±)
- URBAN GROWTH BOUNDARY (823 AC.±)

TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
541-296-9177 FAX 541-296-6657

TEC1\ACAD\CITY\CONDON.DWG

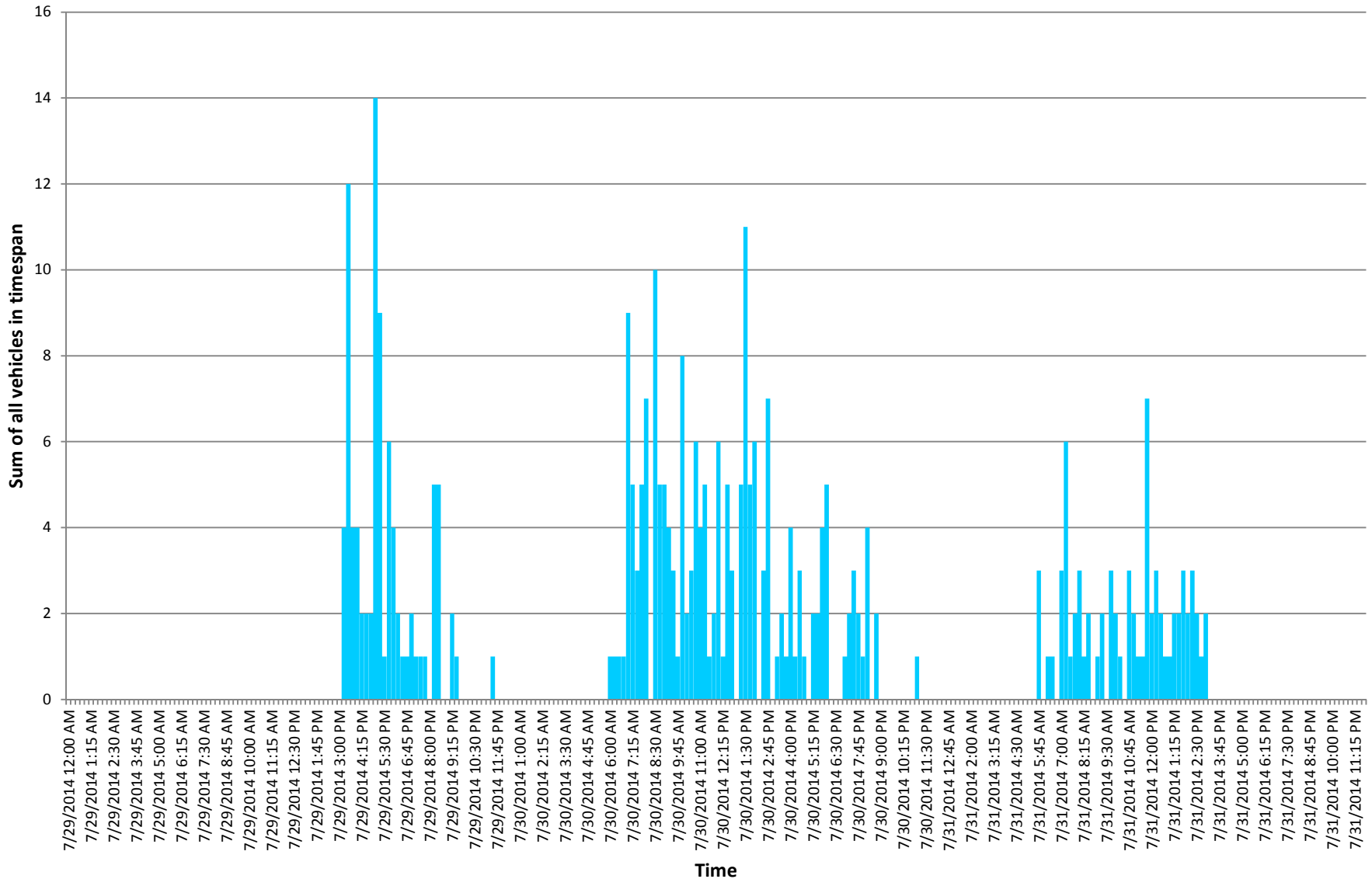
W.O. #10025, 10168, 13100


CITY OF
ARLINGTON
GILLIAM COUNTY, OREGON
SEPTEMBER, 2014
BUILDABLE LANDS MAP
LEGEND:
CITY LIMITS LINE (1,775 AC.)
URBAN GROWTH BOUNDARY (2,200 AC.)
ZONING LEGEND:
R DEVELOPED LANDS WITHIN RESIDENTIAL ZONE
C DEVELOPED LANDS WITHIN CENTRAL BUSINESS ZONE
M DEVELOPED LANDS WITHIN INDUSTRIAL ZONE
P DEVELOPED LANDS WITHIN PUBLIC FACILITY ZONE
MH DEVELOPED LANDS WITHIN MOBILE HOME PARK ZONE
SP DEVELOPED LANDS WITHIN SEMI PUBLIC FACILITY ZONE
AD DEVELOPED LANDS WITHIN AIRPORT DEVELOPMENT ZONE
UNDEVELOPED LANDS
0' 500' 1000'
SCALE IN FEET
COLUMBIA RIVER
STATE OF WASHINGTON
STATE OF OREGON
UNION PACIFIC RAILROAD
INTERSTATE 84
INTERSTATE 84 FREEWAY
ARLINGTON PORT LANE
TAX LOT 3N-21 200
TAX LOT 3N-21 601
TAX LOT 3N-21 600
TAX LOT 3N-21-28 200
TAX LOT 3N-21-28 100
TAX LOT 3N-21-28 201
TAX LOT 3N-21 701
ARLILNGTON MUNICIPAL AIRPORT
INSITU
TAX LOT 3N-21 700
RV PARK
TAX LOT 3N-21 508
TAX LOT 3N-21 501
TAX LOT 3N-21 500
TAX LOT 3N-21 503
TAX LOT 3N-21 599
TAX LOT 3N-21 507
TAX LOT 900
TAX LOT 3N-21 1202
TAX LOT 3N-21 1201
TAX LOT 3N-21 1302
TAX LOT 3N-21 1300
SECTION 26
TWP. 3 N., RANGE 21 E.
TAX LOT 3N-21 500
(J.R. KREBS)
AIRPORT LANE
RHEA LANE
RHEA LANE
60' R/W, POSITION BASED ON EXISTING TRAVELED ROADWAY
O.D.O.T.
T.L. 113
T.L. 112
T.L. 108
T.L. 100
FND. 2" BRASS CAP MON., LS#598
N 00°07'28" W
5243.36'
COLUMBIA VIEW DR.
SUNSET
SUNRISE LANE
KRAMERIA
GOLF COURSE
TRANSMISSION LINE
CEMETERY
K:\ACAD\CITY\ARLINGTONz2.dwg
TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
PH. 541-296-9177 FAX 541-296-6657
PLOT DATE: 9/24/2014
K/ACAD/CITY/ARLINGTONz2.DWG
W.O. #11700

Appendix 2 Traffic Count Data

Time Series- Lonerock Road

Period: 7/29/2014-7/31/2014 | Grouping: By 15min | Lane / Direction / Flow: Whole Section | Vehicle Type: Vehicles | Axle Group: ALL | Weight Bin: ALL | Q | Data Basis: 110001 [15min] |



Time Series - Baseline Road

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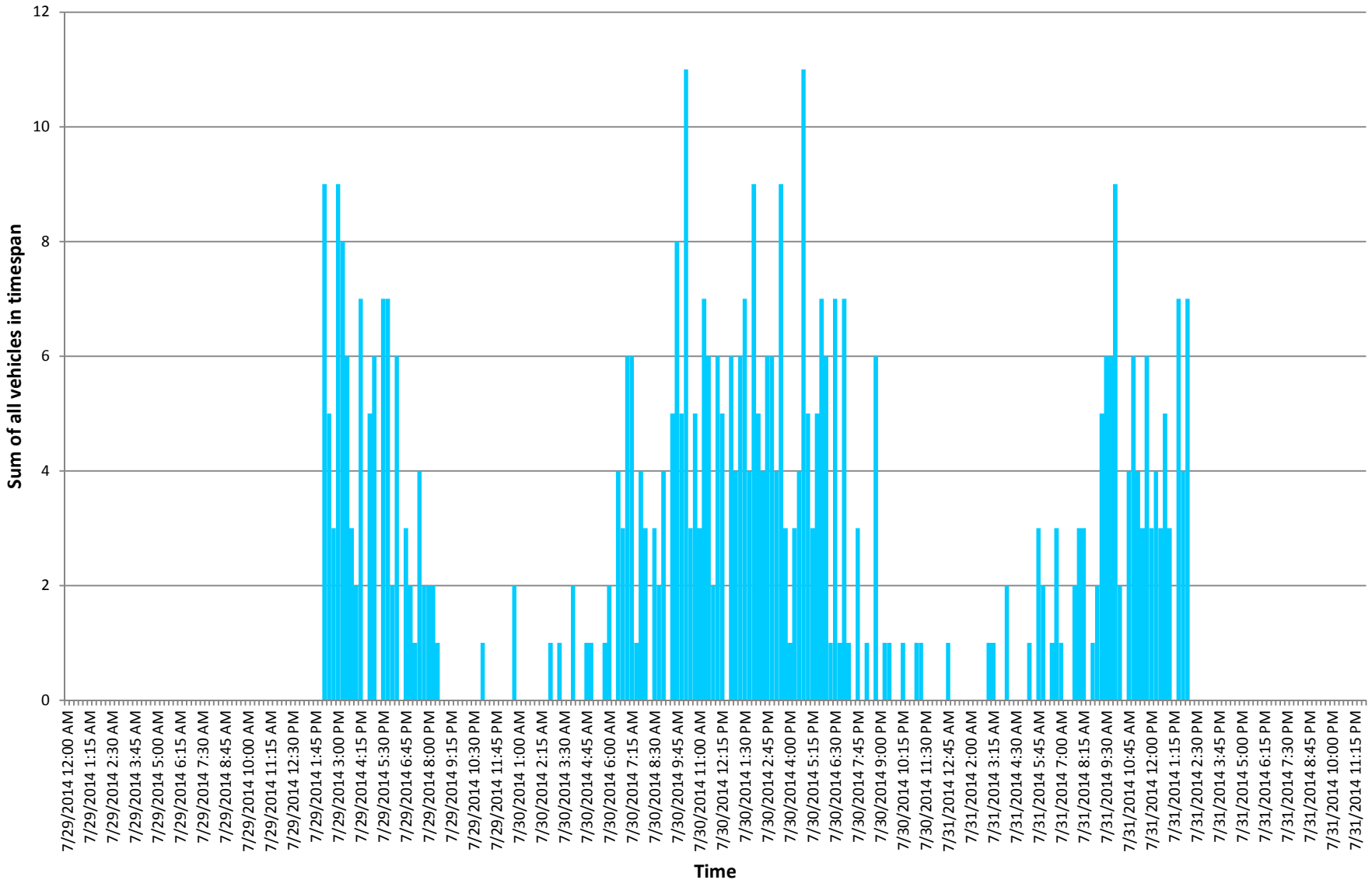

Time Series- Fourmile Road

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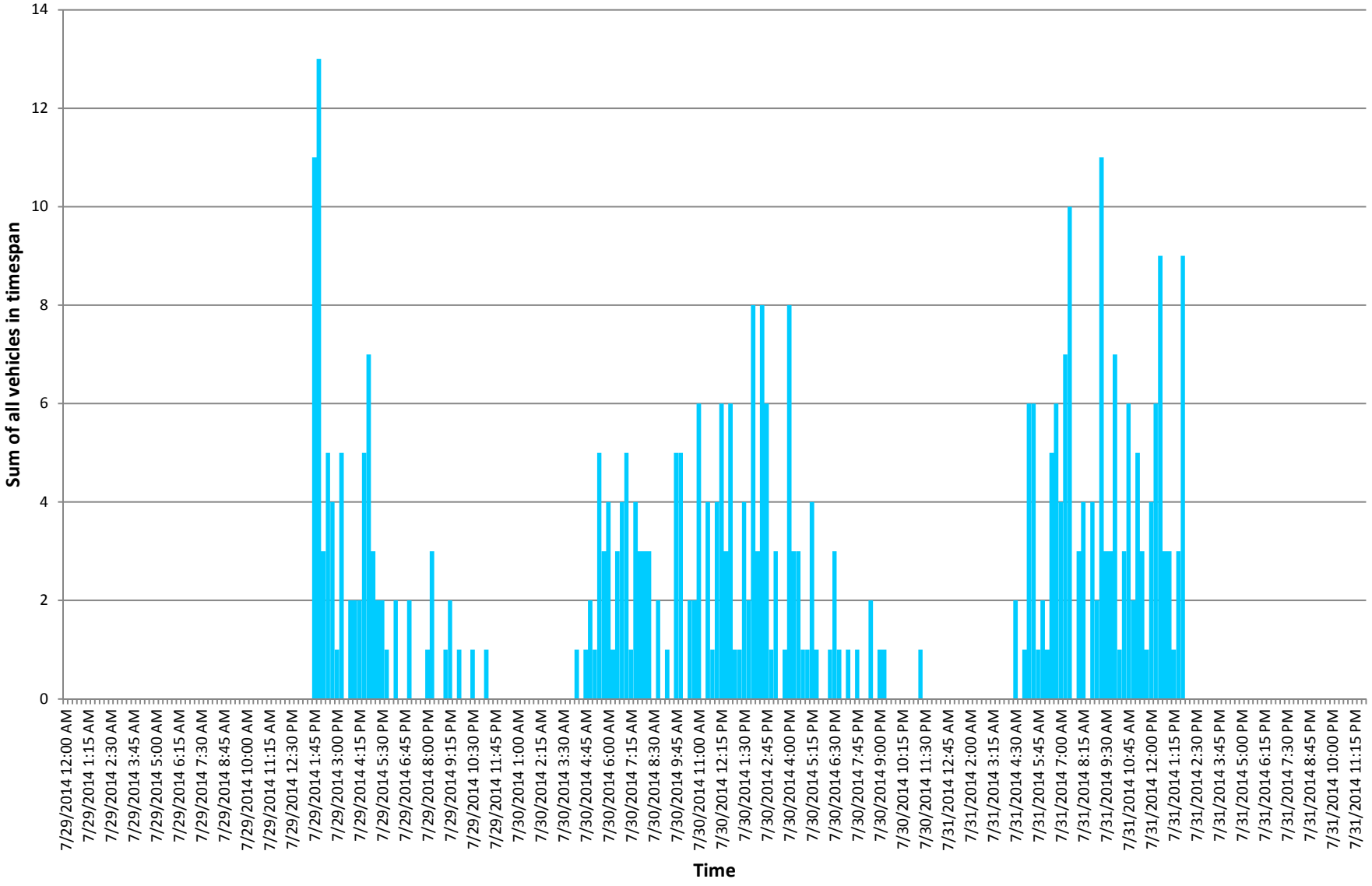
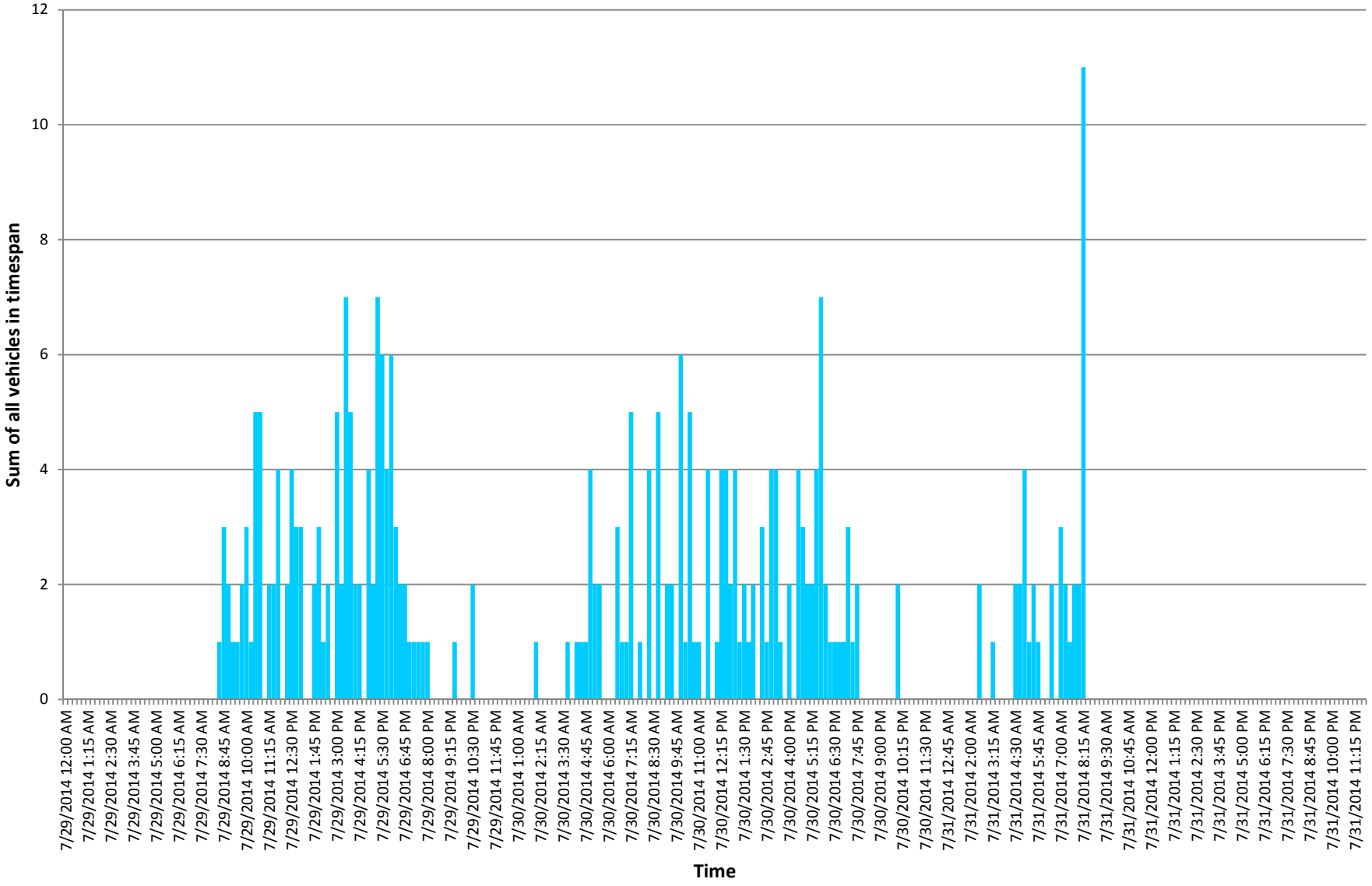


Time Series- Blalock Canyon Road

Period: 7/29/2014-7/31/2014 | Grouping: By 15min | Lane / Direction / Flow: Whole Section | Vehicle Type: Vehicles | Axle Group: ALL | Weight Bin: ALL | Q | Data Basis: 16277 [15min] |



Time Series - Quinton Canyon Road

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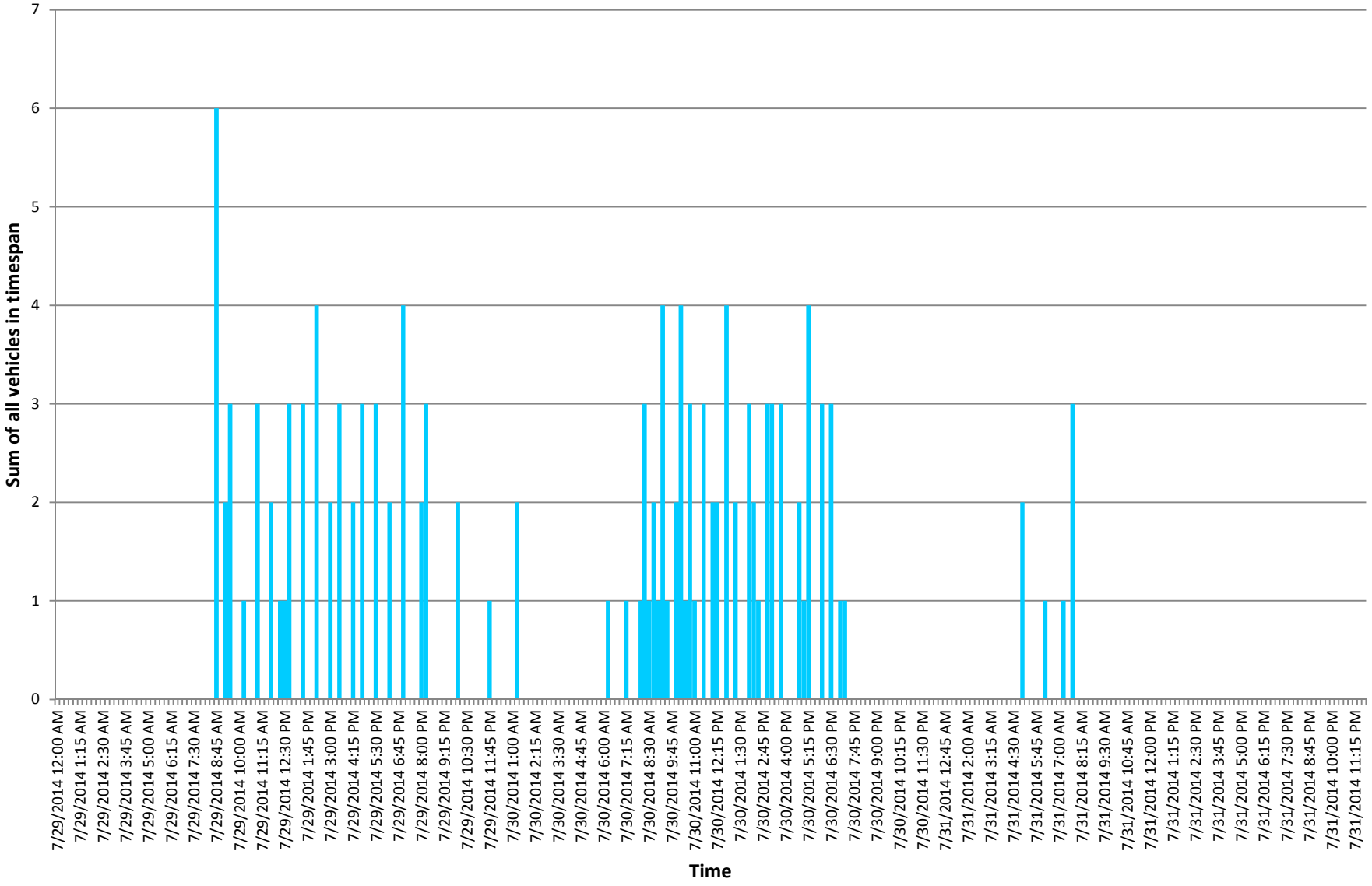

Time Series - Mikkalo Lane

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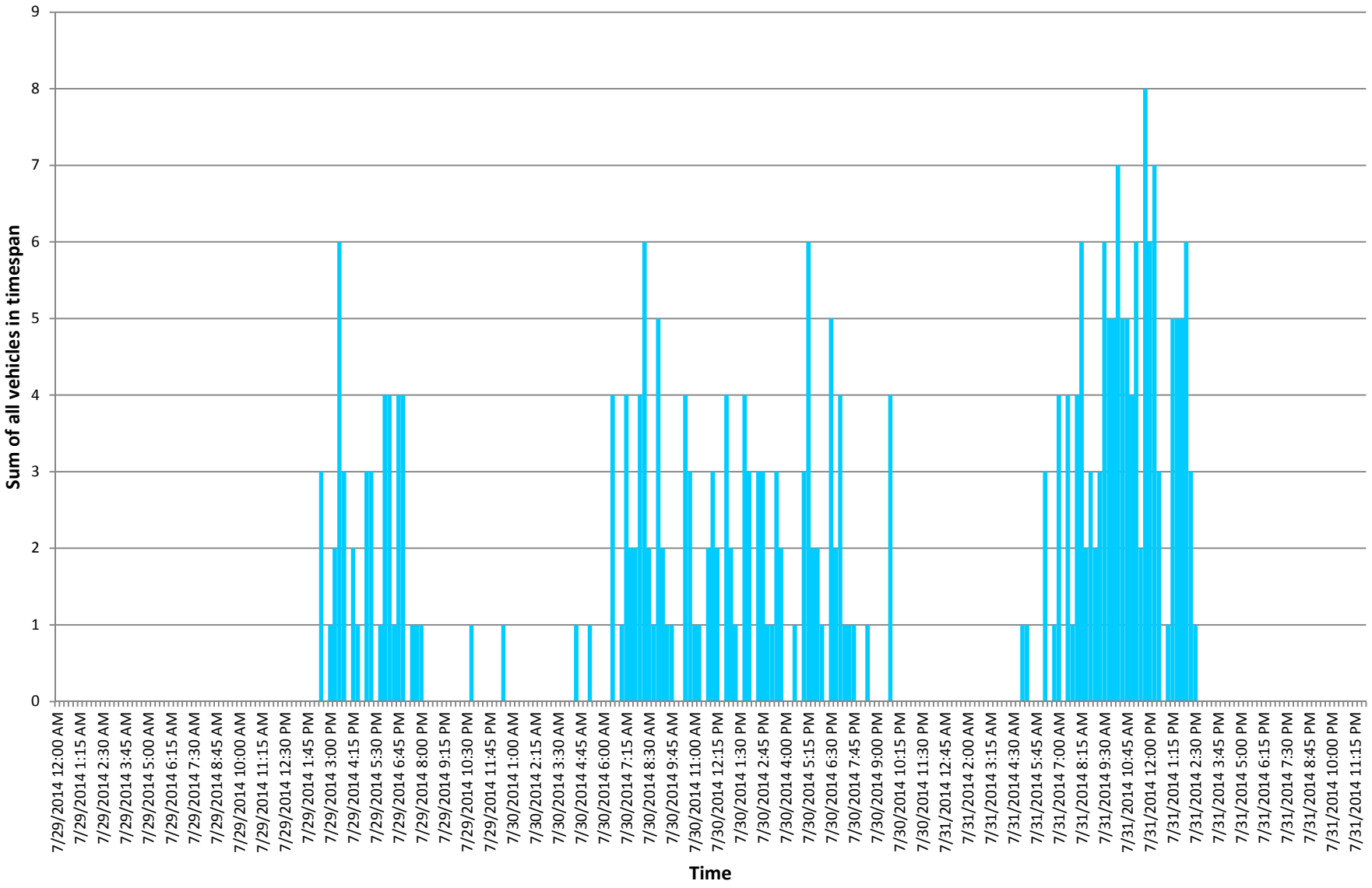
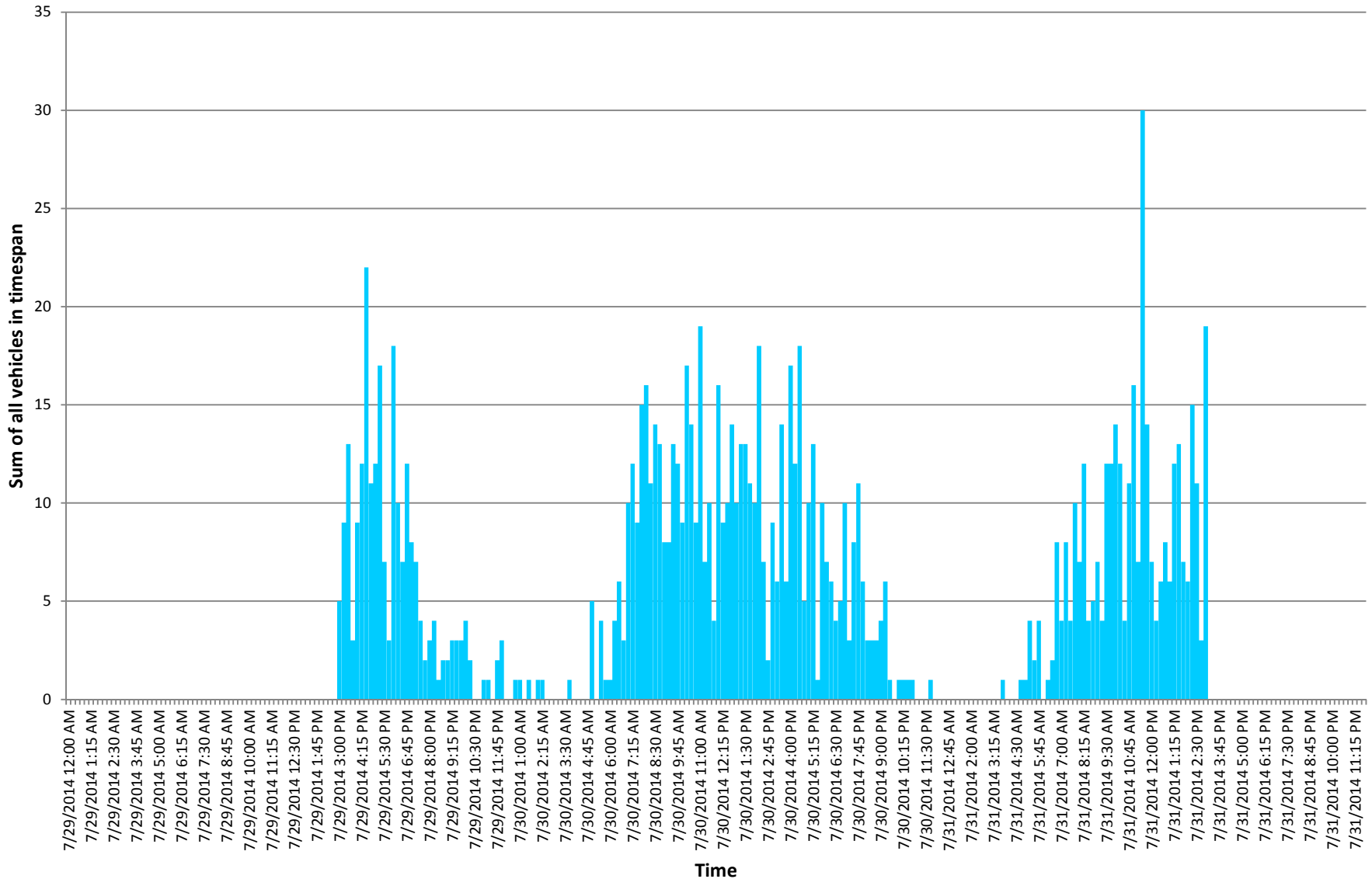


Time Series- E Bayard Street

Period: 7/29/2014-7/31/2014 | Grouping: By 15min | Lane / Direction / Flow: Whole Section | Vehicle Type: Vehicles | Axle Group: ALL | Weight Bin: ALL | Q | Data Basis: 4213 [15min] |



All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #1 MAIN&WALNUT
Site Code :
Start Date : 11/19/2014
Page No : 1

Groups Printed- Lights - HV

	S MAIN ST Southbound				W WALNUT ST - WASCO HEPNER Westbound				S MAIN ST Northbound				W WALNUT ST - WASCO HEPNER Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
05:00 AM	0	1	1	0	0	0	0	0	3	0	0	0	1	2	1	0	9
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
05:30 AM	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3
05:45 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	3
Total	0	1	1	0	0	1	2	0	5	0	0	0	2	4	1	0	17
06:00 AM	1	3	0	0	0	2	2	0	2	1	0	0	0	0	0	0	11
06:15 AM	0	1	0	0	0	3	0	0	4	2	0	0	0	2	1	0	13
06:30 AM	0	1	0	0	2	2	2	0	4	0	4	0	2	4	1	0	22
06:45 AM	0	4	0	0	0	8	1	0	1	0	4	0	1	4	1	0	24
Total	1	9	0	0	2	15	5	0	11	3	8	0	3	10	3	0	70
07:00 AM	0	5	0	0	0	3	1	0	4	1	2	0	0	3	0	0	19
07:15 AM	0	0	1	0	0	1	2	0	1	0	0	0	3	1	0	0	9
07:30 AM	1	1	2	0	0	1	1	0	0	1	5	0	2	5	0	0	19
07:45 AM	0	5	1	0	2	3	8	0	6	3	6	0	10	1	0	0	45
Total	1	11	4	0	2	8	12	0	11	5	13	0	15	10	0	0	92
08:00 AM	1	2	1	0	3	5	3	0	2	2	4	0	3	1	0	0	27
08:15 AM	1	2	2	0	1	1	6	0	5	3	4	0	1	4	0	0	30
08:30 AM	0	4	1	0	1	0	4	0	2	3	2	0	3	3	1	0	24
08:45 AM	0	2	0	0	0	1	3	0	4	4	3	0	3	1	0	0	21
Total	2	10	4	0	5	7	16	0	13	12	13	0	10	9	1	0	102
09:00 AM	2	2	0	0	0	2	5	0	5	2	2	0	2	1	1	0	24
09:15 AM	0	1	1	0	1	0	4	0	3	4	2	0	4	2	2	1	25
09:30 AM	0	3	0	0	1	1	3	0	7	5	3	0	2	3	0	0	28
09:45 AM	0	5	0	0	1	2	2	0	2	3	1	2	6	5	0	0	29
Total	2	11	1	0	3	5	14	0	17	14	8	2	14	11	3	1	106
10:00 AM	2	1	0	0	0	2	6	0	4	4	1	1	3	1	1	0	26
10:15 AM	1	3	0	0	2	2	6	0	4	2	3	0	3	0	1	0	27
10:30 AM	0	4	1	0	0	0	2	0	3	5	5	0	3	0	2	2	27
10:45 AM	0	5	0	0	0	4	3	0	3	4	3	0	5	1	1	2	31
Total	3	13	1	0	2	8	17	0	14	15	12	1	14	2	5	4	111
11:00 AM	0	0	2	0	0	1	7	0	5	3	3	0	1	1	1	0	24
11:15 AM	2	2	0	0	0	2	2	0	3	2	3	1	8	2	1	0	28
11:30 AM	0	4	0	0	0	3	3	0	6	3	3	0	2	1	0	0	25
11:45 AM	2	2	1	0	0	2	3	0	5	2	3	0	7	2	0	1	30
Total	4	8	3	0	0	8	15	0	19	10	12	1	18	6	2	1	107
12:00 PM	2	6	1	0	0	4	6	0	5	2	6	0	4	3	1	0	40
12:15 PM	0	5	0	0	0	4	3	0	4	4	8	0	7	1	0	0	36
12:30 PM	0	2	0	0	1	2	2	0	5	4	4	0	6	3	1	0	30
12:45 PM	1	1	0	0	0	7	8	0	8	4	6	0	5	2	0	1	43
Total	3	14	1	0	1	17	19	0	22	14	24	0	22	9	2	1	149
01:00 PM	0	2	0	0	1	4	2	0	5	5	5	0	2	2	0	0	28
01:15 PM	0	4	3	0	0	1	5	0	3	3	3	0	5	1	0	0	28
01:30 PM	0	4	0	0	4	5	5	0	6	3	3	0	2	4	0	0	36
01:45 PM	2	4	0	0	1	1	6	0	3	3	4	0	4	2	0	0	30
Total	2	14	3	0	6	11	18	0	17	14	15	0	13	9	0	0	122

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

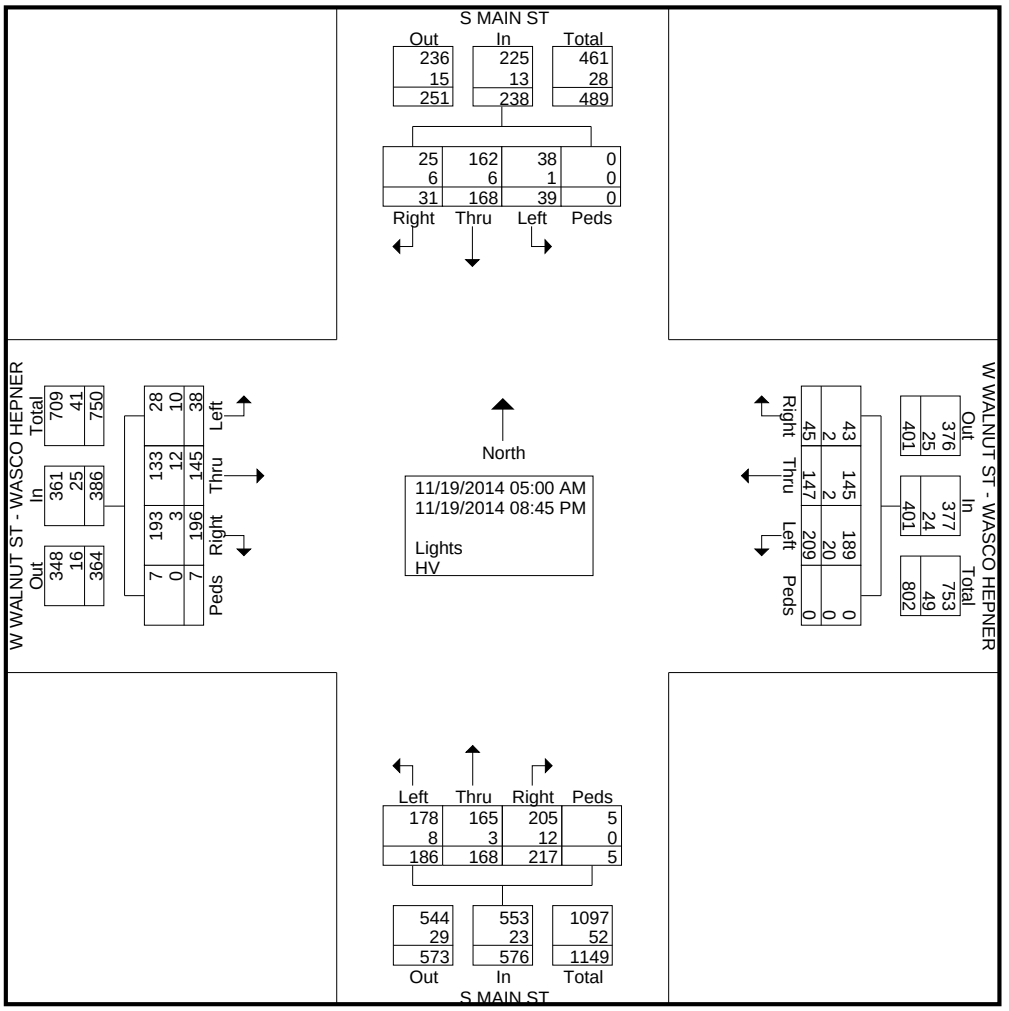
File Name : #1 MAIN&WALNUT
Site Code :
Start Date : 11/19/2014
Page No : 2

Groups Printed- Lights - HV

	S MAIN ST Southbound				W WALNUT ST - WASCO HEPNER Westbound				S MAIN ST Northbound				W WALNUT ST - WASCO HEPNER Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
02:00 PM	1	2	1	0	1	2	3	0	2	1	4	0	6	3	1	0	27
02:15 PM	0	1	0	0	1	5	5	0	5	5	4	0	5	3	1	0	35
02:30 PM	0	3	0	0	0	2	5	0	2	0	3	0	7	4	2	0	28
02:45 PM	0	3	0	0	1	2	4	0	7	1	2	0	7	1	2	0	30
Total	1	9	1	0	3	11	17	0	16	7	13	0	25	11	6	0	120
03:00 PM	0	4	0	0	2	4	6	0	5	3	5	0	4	3	0	0	36
03:15 PM	1	2	1	0	0	2	1	0	7	5	2	0	3	1	1	0	26
03:30 PM	1	10	2	0	1	3	11	0	5	8	3	0	5	6	1	0	56
03:45 PM	1	5	0	0	3	0	5	0	7	7	9	0	4	2	2	0	45
Total	3	21	3	0	6	9	23	0	24	23	19	0	16	12	4	0	163
04:00 PM	1	7	1	0	0	2	5	0	5	8	1	0	6	3	1	0	40
04:15 PM	1	3	1	0	5	6	2	0	5	6	4	0	4	8	1	0	46
04:30 PM	2	6	2	0	2	4	9	0	5	8	5	0	9	9	0	0	61
04:45 PM	0	7	5	0	1	7	4	0	4	5	4	0	0	5	0	0	42
Total	4	23	9	0	8	19	20	0	19	27	14	0	19	25	2	0	189
05:00 PM	1	6	1	0	0	2	5	0	3	3	4	0	4	2	3	0	34
05:15 PM	1	1	3	0	1	5	7	0	8	3	2	0	0	6	3	0	40
05:30 PM	0	3	2	0	1	4	3	0	3	4	5	1	2	5	0	0	33
05:45 PM	1	0	0	0	0	4	1	0	1	0	3	0	1	3	0	0	14
Total	3	10	6	0	2	15	16	0	15	10	14	1	7	16	6	0	121
06:00 PM	0	1	0	0	0	4	4	0	1	1	1	0	3	3	1	0	19
06:15 PM	1	0	0	0	0	3	2	0	6	1	3	0	7	0	0	0	23
06:30 PM	0	2	0	0	0	1	3	0	2	2	4	0	2	0	0	0	16
06:45 PM	0	1	0	0	0	1	0	0	0	1	2	0	1	0	0	0	6
Total	1	4	0	0	0	9	9	0	9	5	10	0	13	3	1	0	64
07:00 PM	1	3	0	0	2	1	1	0	0	3	3	0	0	0	1	0	15
07:15 PM	0	2	0	0	1	1	0	0	0	0	0	0	1	1	0	0	6
07:30 PM	0	1	1	0	0	1	0	0	0	0	2	0	1	2	0	0	8
07:45 PM	0	0	0	0	0	0	0	0	0	1	2	0	1	1	0	0	5
Total	1	6	1	0	3	3	1	0	0	4	7	0	3	4	1	0	34
08:00 PM	0	1	0	0	0	0	0	0	1	1	1	0	2	1	0	0	7
08:15 PM	0	3	0	0	1	0	1	0	2	3	1	0	0	2	0	0	13
08:30 PM	0	0	1	0	0	0	3	0	2	1	2	0	0	1	1	0	11
08:45 PM	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
Total	0	4	1	0	2	1	5	0	5	5	4	0	2	4	1	0	34
Grand Total	31	168	39	0	45	147	209	0	217	168	186	5	196	145	38	7	1601
Apprch %	13	70.6	16.4	0	11.2	36.7	52.1	0	37.7	29.2	32.3	0.9	50.8	37.6	9.8	1.8	
Total %	1.9	10.5	2.4	0	2.8	9.2	13.1	0	13.6	10.5	11.6	0.3	12.2	9.1	2.4	0.4	
Lights	25	162	38	0	43	145	189	0	205	165	178	5	193	133	28	7	1516
% Lights	80.6	96.4	97.4	0	95.6	98.6	90.4	0	94.5	98.2	95.7	100	98.5	91.7	73.7	100	94.7
HV	6	6	1	0	2	2	20	0	12	3	8	0	3	12	10	0	85
% HV	19.4	3.6	2.6	0	4.4	1.4	9.6	0	5.5	1.8	4.3	0	1.5	8.3	26.3	0	5.3

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

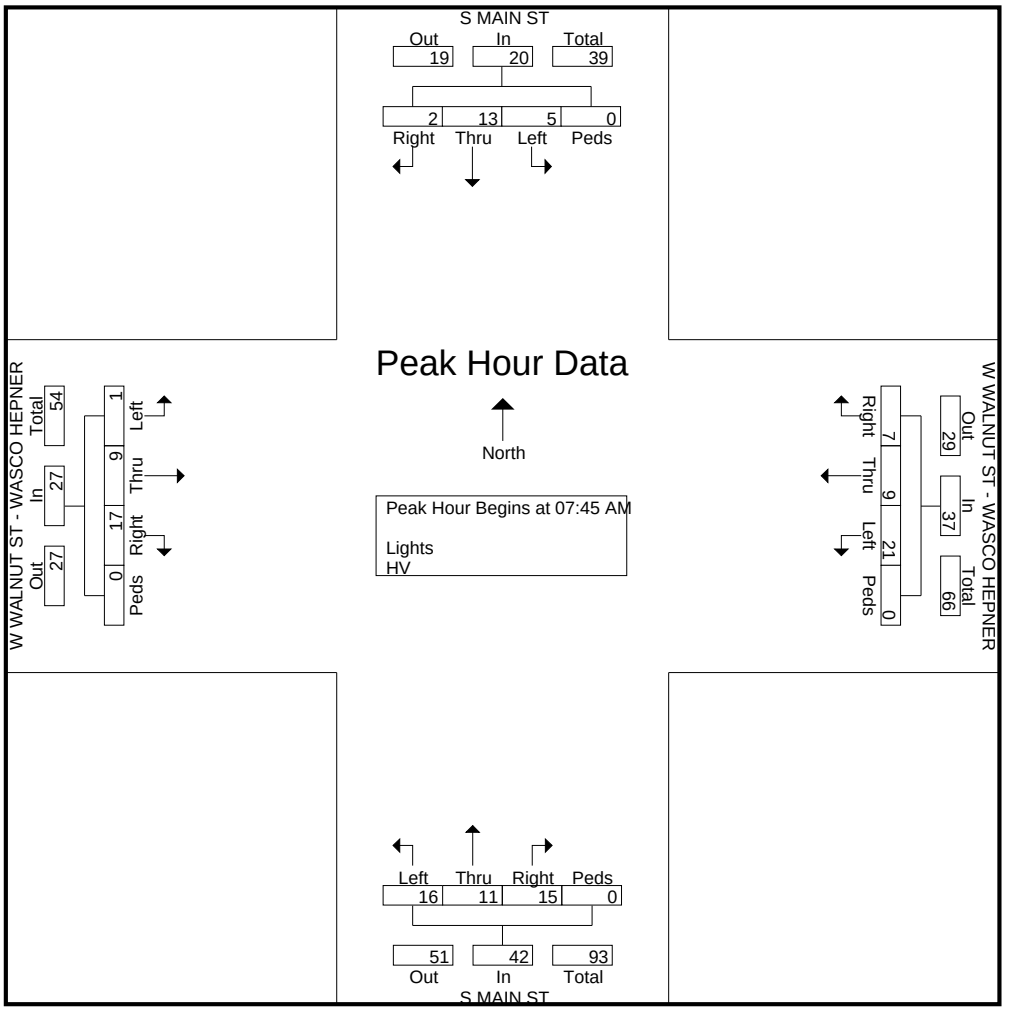
File Name : #1 MAIN&WALNUT
Site Code :
Start Date : 11/19/2014
Page No : 3



	S MAIN ST Southbound					W WALNUT ST - WASCO HEPNER Westbound					S MAIN ST Northbound					W WALNUT ST - WASCO HEPNER Eastbound					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**5**	1	0	**6**	2	3	**8**	0	**13**	**6**	**3**	**6**	0	**15**	**10**	1	0	0	**11**	**45**
08:00 AM	**1**	2	1	0	4	**3**	**5**	3	0	11	2	2	4	0	8	3	1	0	0	4	27
08:15 AM	1	2	**2**	0	5	1	1	6	0	8	5	3	4	0	12	1	**4**	0	0	5	30
08:30 AM	0	4	1	0	5	1	0	4	0	5	2	3	2	0	7	3	3	**1**	0	7	24
Total Volume	2	13	5	0	20	7	9	21	0	37	15	11	16	0	42	17	9	1	0	27	126
% App. Total	10	65	25	0		18.9	24.3	56.8	0		35.7	26.2	38.1	0		63	33.3	3.7	0		
PHF	.500	.650	.625	.000	.833	.583	.450	.656	.000	.712	.625	.917	.667	.000	.700	.425	.563	.250	.000	.614	.700

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #1 MAIN&WALNUT
Site Code :
Start Date : 11/19/2014
Page No : 4

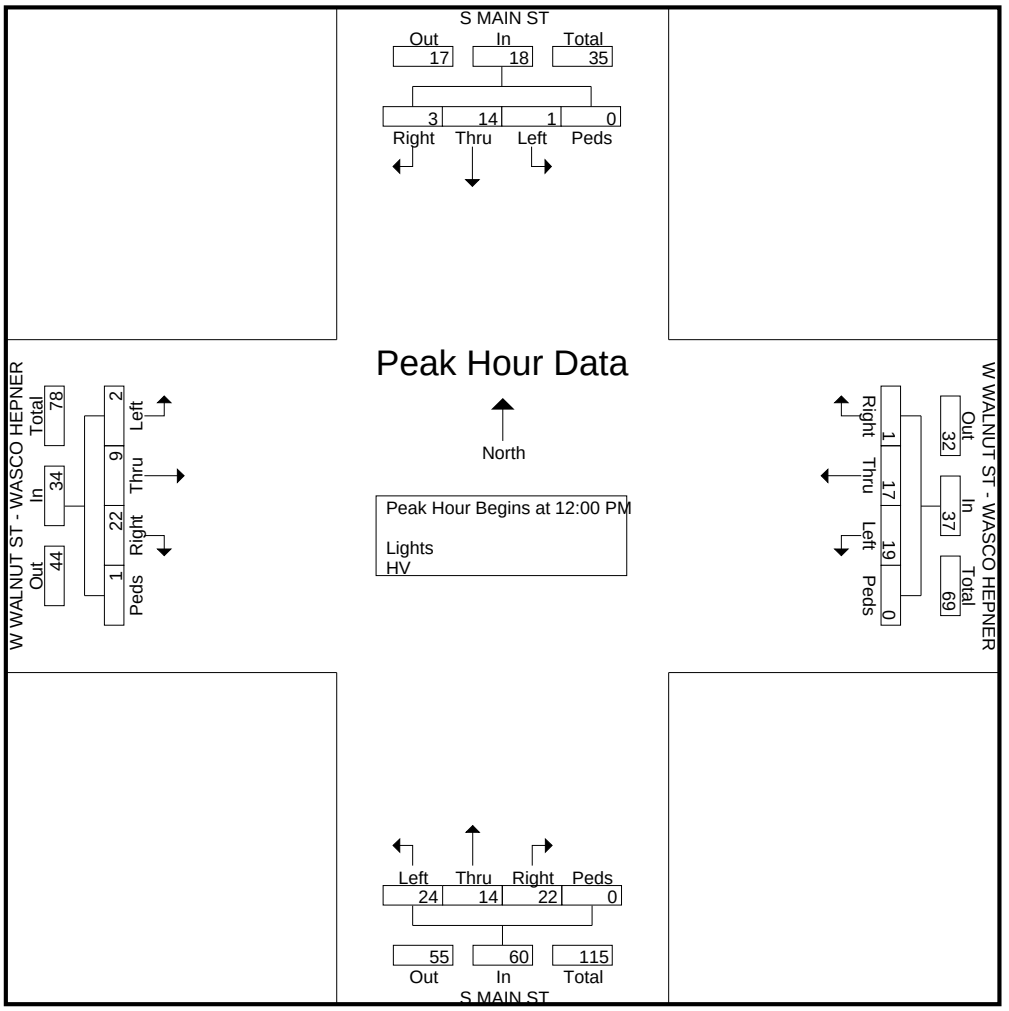


Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:00 PM

12:00 PM	**2**	**6**	**1**	0	**9**	0	4	6	0	10	5	2	6	0	13	4	**3**	**1**	0	8	40
12:15 PM	0	5	0	0	5	0	4	3	0	7	4	**4**	**8**	0	16	**7**	1	0	0	8	36
12:30 PM	0	2	0	0	2	**1**	2	2	0	5	5	4	4	0	13	6	3	1	0	**10**	30
12:45 PM	1	1	0	0	2	0	**7**	**8**	0	**15**	**8**	4	6	0	**18**	5	2	0	**1**	8	**43**
Total Volume	3	14	1	0	18	1	17	19	0	37	22	14	24	0	60	22	9	2	1	34	149
% App. Total	16.7	77.8	5.6	0		2.7	45.9	51.4	0		36.7	23.3	40	0		64.7	26.5	5.9	2.9		
PHF	.375	.583	.250	.000	.500	.250	.607	.594	.000	.617	.688	.875	.750	.000	.833	.786	.750	.500	.250	.850	.866

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #1 MAIN&WALNUT
Site Code :
Start Date : 11/19/2014
Page No : 5

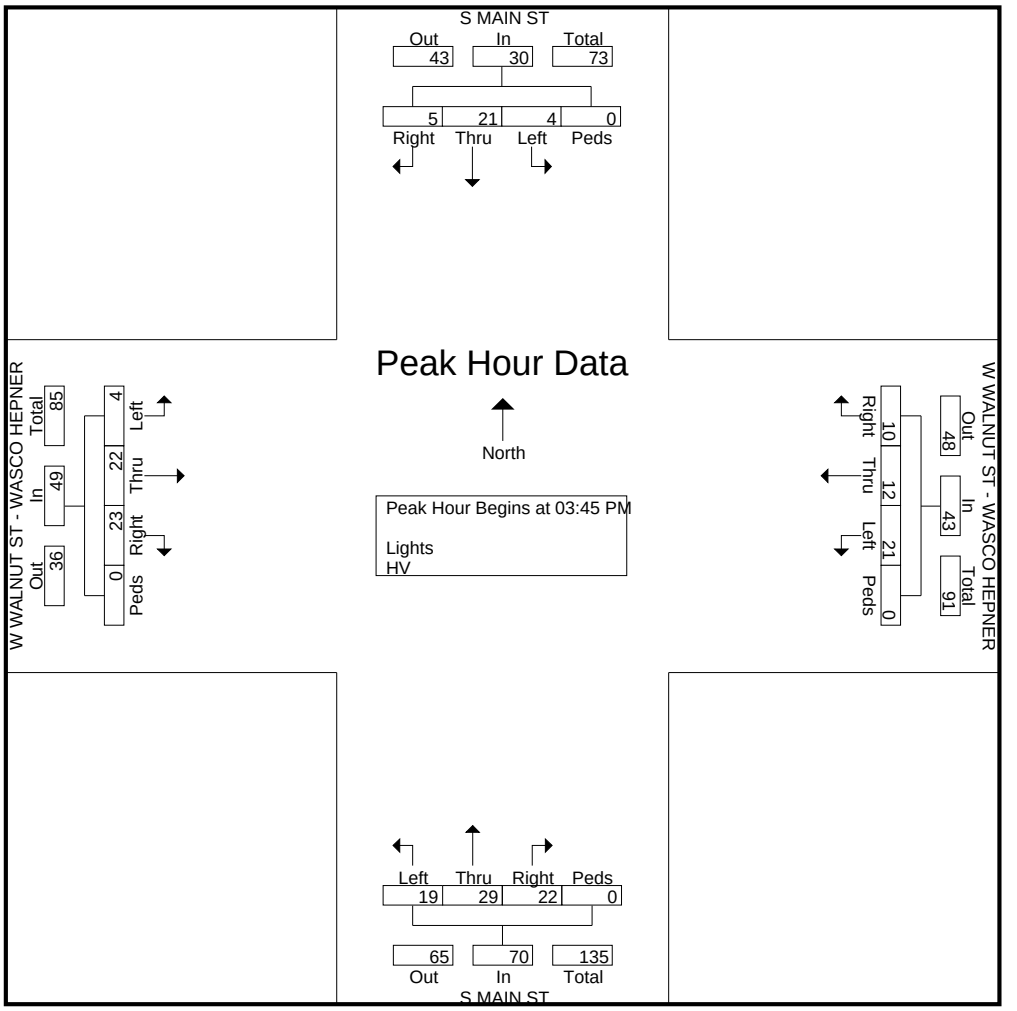


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:45 PM

03:45 PM	1	5	0	0	6	3	0	5	0	8	**7**	7	**9**	0	**23**	4	2	**2**	0	8	45
04:00 PM	1	**7**	1	0	9	0	2	5	0	7	5	**8**	1	0	14	6	3	1	0	10	40
04:15 PM	1	3	1	0	5	**5**	**6**	2	0	13	5	6	4	0	15	4	8	1	0	13	46
04:30 PM	**2**	6	**2**	0	**10**	2	4	**9**	0	**15**	5	8	5	0	18	**9**	**9**	0	0	**18**	**61**
Total Volume	5	21	4	0	30	10	12	21	0	43	22	29	19	0	70	23	22	4	0	49	192
% App. Total	16.7	70	13.3	0		23.3	27.9	48.8	0		31.4	41.4	27.1	0		46.9	44.9	8.2	0		
PHF	.625	.750	.500	.000	.750	.500	.500	.583	.000	.717	.786	.906	.528	.000	.761	.639	.611	.500	.000	.681	.787

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #1 MAIN&WALNUT
Site Code :
Start Date : 11/19/2014
Page No : 6



All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #2 MAIN&EBAYNARD
Site Code :
Start Date : 11/19/2014
Page No : 1

Groups Printed- Lights - HV

	MAIN ST Southbound				E BAYNARD ST Westbound				MAIN ST Northbound				ACCESS Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
05:00 AM	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	4
05:15 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
05:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	2	0	1	0	0	0	0	2	0	0	0	0	0	1	9
06:00 AM	1	4	2	0	0	0	0	0	0	0	0	0	0	0	1	1	9
06:15 AM	1	0	0	0	0	0	0	0	0	5	0	0	0	1	1	0	8
06:30 AM	0	1	0	0	3	0	2	0	0	5	0	0	0	0	1	1	13
06:45 AM	0	2	2	0	1	1	0	0	2	3	0	0	0	0	1	1	13
Total	2	7	4	0	4	1	2	0	2	13	0	0	0	1	4	3	43
07:00 AM	0	3	1	0	1	0	0	0	0	4	0	0	0	0	2	1	12
07:15 AM	0	3	2	0	1	0	0	0	0	4	0	0	1	1	0	0	12
07:30 AM	0	0	3	0	3	0	0	0	1	6	0	0	0	0	0	1	14
07:45 AM	3	7	7	0	10	0	1	0	2	17	0	0	0	0	0	0	47
Total	3	13	13	0	15	0	1	0	3	31	0	0	1	1	2	2	85
08:00 AM	3	2	1	0	2	0	0	0	0	3	0	0	0	0	0	1	12
08:15 AM	0	4	1	0	4	0	2	0	1	5	0	0	0	0	0	0	17
08:30 AM	0	4	2	0	3	0	0	0	0	3	0	0	0	0	2	0	14
08:45 AM	2	2	2	0	3	0	2	0	1	6	0	0	0	0	0	0	18
Total	5	12	6	0	12	0	4	0	2	17	0	0	0	0	2	1	61
09:00 AM	2	1	1	0	2	0	0	0	0	4	0	0	1	1	2	1	15
09:15 AM	0	2	2	0	2	0	0	0	0	6	0	0	2	0	0	0	14
09:30 AM	1	7	2	0	1	0	0	0	0	4	0	0	0	0	0	0	15
09:45 AM	0	2	2	0	1	0	0	0	0	7	0	0	0	0	1	0	13
Total	3	12	7	0	6	0	0	0	0	21	0	0	3	1	3	1	57
10:00 AM	2	8	1	0	4	0	0	0	0	6	1	0	0	0	1	0	23
10:15 AM	1	4	5	0	3	0	0	0	0	4	0	0	0	0	1	0	18
10:30 AM	2	2	1	0	2	0	0	0	0	6	0	0	0	0	1	0	14
10:45 AM	1	6	1	0	2	0	2	0	0	2	0	0	0	0	2	0	16
Total	6	20	8	0	11	0	2	0	0	18	1	0	0	0	5	0	71
11:00 AM	1	1	3	0	4	0	0	0	2	10	0	0	0	0	0	0	21
11:15 AM	3	6	4	0	1	0	0	0	0	3	1	0	0	0	1	0	19
11:30 AM	1	4	4	0	1	0	0	0	0	5	1	0	0	0	3	0	19
11:45 AM	2	4	1	0	2	0	0	0	2	4	0	0	0	0	1	0	16
Total	7	15	12	0	8	0	0	0	4	22	2	0	0	0	5	0	75
12:00 PM	5	11	3	0	2	0	0	0	3	7	1	0	2	0	5	0	39
12:15 PM	0	4	6	0	5	0	0	0	1	4	1	0	0	0	2	2	25
12:30 PM	2	2	7	3	4	1	0	1	0	4	0	0	1	0	2	2	29
12:45 PM	2	4	2	6	3	0	0	0	0	7	0	0	0	0	7	0	31
Total	9	21	18	9	14	1	0	1	4	22	2	0	3	0	16	4	124
01:00 PM	0	7	1	0	6	0	1	0	1	6	0	0	1	0	4	0	27
01:15 PM	0	2	2	0	3	0	0	0	0	4	2	0	0	0	2	0	15
01:30 PM	1	5	3	0	2	0	1	0	0	6	1	0	0	0	1	0	20
01:45 PM	0	4	2	0	0	0	0	10	1	6	0	1	0	0	2	0	26
Total	1	18	8	0	11	0	2	10	2	22	3	1	1	0	9	0	88

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

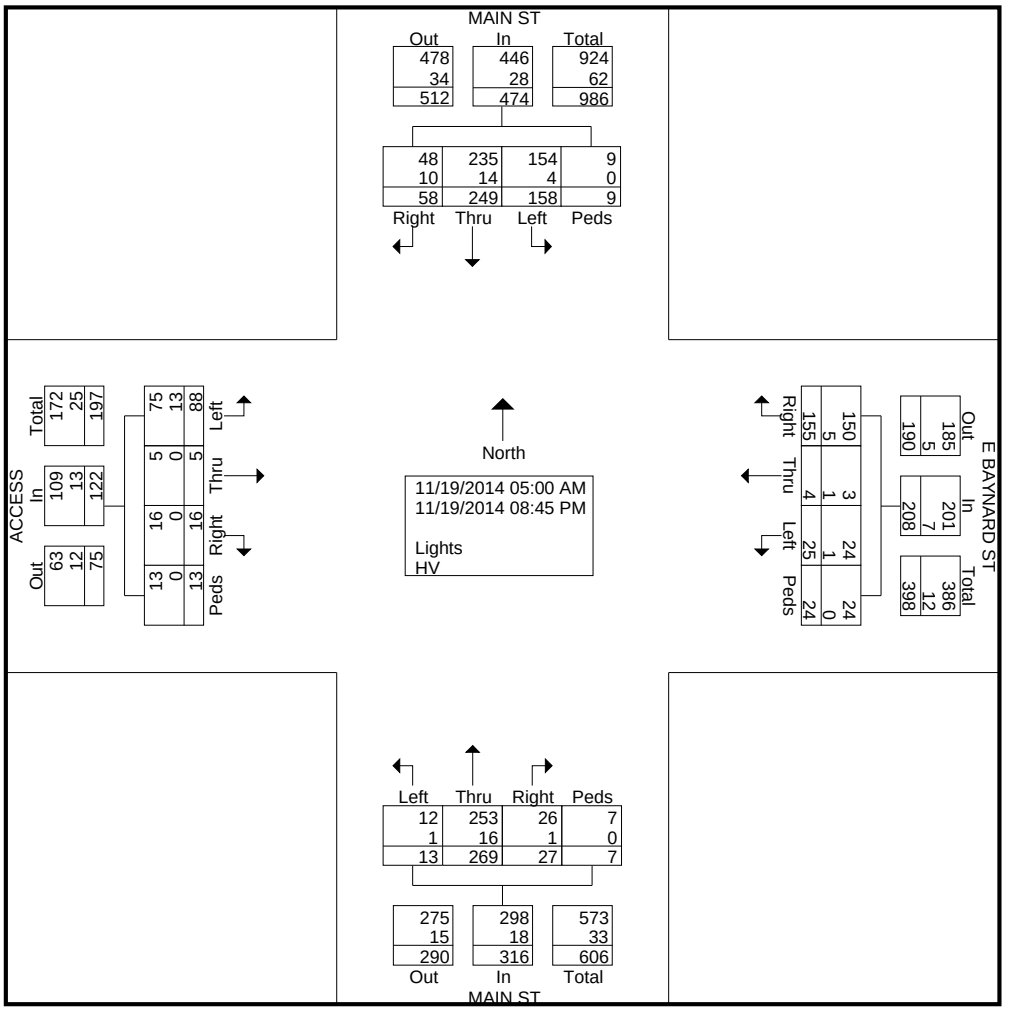
File Name : #2 MAIN&EBAYNARD
Site Code :
Start Date : 11/19/2014

Groups Printed- Lights - HV

	MAIN ST Southbound				E BAYNARD ST Westbound				MAIN ST Northbound				ACCESS Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
02:00 PM	0	9	3	0	1	0	2	0	0	4	0	1	2	0	2	0	24
02:15 PM	1	2	4	0	4	0	2	0	3	4	1	0	1	0	0	0	22
02:30 PM	1	8	2	0	2	0	0	10	0	6	0	0	1	1	1	0	32
02:45 PM	1	7	4	0	4	0	0	0	0	4	3	0	1	0	3	0	27
Total	3	26	13	0	11	0	4	10	3	18	4	1	5	1	6	0	105
03:00 PM	2	6	6	0	3	1	1	0	0	7	0	0	0	0	2	0	28
03:15 PM	1	2	6	0	4	0	1	0	0	3	0	0	0	0	7	0	24
03:30 PM	1	11	5	0	2	0	0	0	0	8	0	0	1	1	4	0	33
03:45 PM	1	6	2	0	8	0	1	2	1	9	0	4	0	0	3	0	37
Total	5	25	19	0	17	1	3	2	1	27	0	4	1	1	16	0	122
04:00 PM	3	8	6	0	0	0	0	0	1	0	0	0	0	0	2	0	20
04:15 PM	0	2	1	0	6	0	0	1	1	8	0	0	0	0	2	0	21
04:30 PM	2	3	7	0	3	0	3	0	0	6	1	1	0	0	3	0	29
04:45 PM	1	10	2	0	4	0	0	0	1	4	0	0	0	0	1	0	23
Total	6	23	16	0	13	0	3	1	3	18	1	1	0	0	8	0	93
05:00 PM	0	14	1	0	1	0	0	0	0	3	0	0	0	0	5	0	24
05:15 PM	0	4	1	0	4	1	1	0	0	9	0	0	0	0	0	0	20
05:30 PM	1	5	5	0	3	0	0	0	0	2	0	0	0	0	2	1	19
05:45 PM	2	2	2	0	4	0	0	0	0	3	0	0	1	0	1	0	15
Total	3	25	9	0	12	1	1	0	0	17	0	0	1	0	8	1	78
06:00 PM	2	2	2	0	2	0	0	0	0	5	0	0	0	0	2	0	15
06:15 PM	0	2	4	0	3	0	0	0	0	6	0	0	0	0	0	0	15
06:30 PM	1	6	2	0	5	0	1	0	0	0	0	0	1	0	1	0	17
06:45 PM	1	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	6
Total	4	11	10	0	12	0	1	0	0	11	0	0	1	0	3	0	53
07:00 PM	0	1	3	0	5	0	1	0	1	2	0	0	0	0	1	0	14
07:15 PM	1	3	1	0	0	0	1	0	0	1	0	0	0	0	0	0	7
07:30 PM	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	4
07:45 PM	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0	0	4
Total	1	5	7	0	7	0	2	0	1	5	0	0	0	0	1	0	29
08:00 PM	0	6	2	0	0	0	0	0	1	2	0	0	0	0	0	0	11
08:15 PM	0	2	4	0	0	0	0	0	0	2	0	0	0	0	0	0	8
08:30 PM	0	5	0	0	1	0	0	0	1	1	0	0	0	0	0	0	8
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	13	6	0	1	0	0	0	2	5	0	0	0	0	0	0	27
Grand Total	58	249	158	9	155	4	25	24	27	269	13	7	16	5	88	13	1120
Apprch %	12.2	52.5	33.3	1.9	74.5	1.9	12	11.5	8.5	85.1	4.1	2.2	13.1	4.1	72.1	10.7	
Total %	5.2	22.2	14.1	0.8	13.8	0.4	2.2	2.1	2.4	24	1.2	0.6	1.4	0.4	7.9	1.2	
Lights	48	235	154	9	150	3	24	24	26	253	12	7	16	5	75	13	1054
% Lights	82.8	94.4	97.5	100	96.8	75	96	100	96.3	94.1	92.3	100	100	100	85.2	100	94.1
HV	10	14	4	0	5	1	1	0	1	16	1	0	0	0	13	0	66
% HV	17.2	5.6	2.5	0	3.2	25	4	0	3.7	5.9	7.7	0	0	0	14.8	0	5.9

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

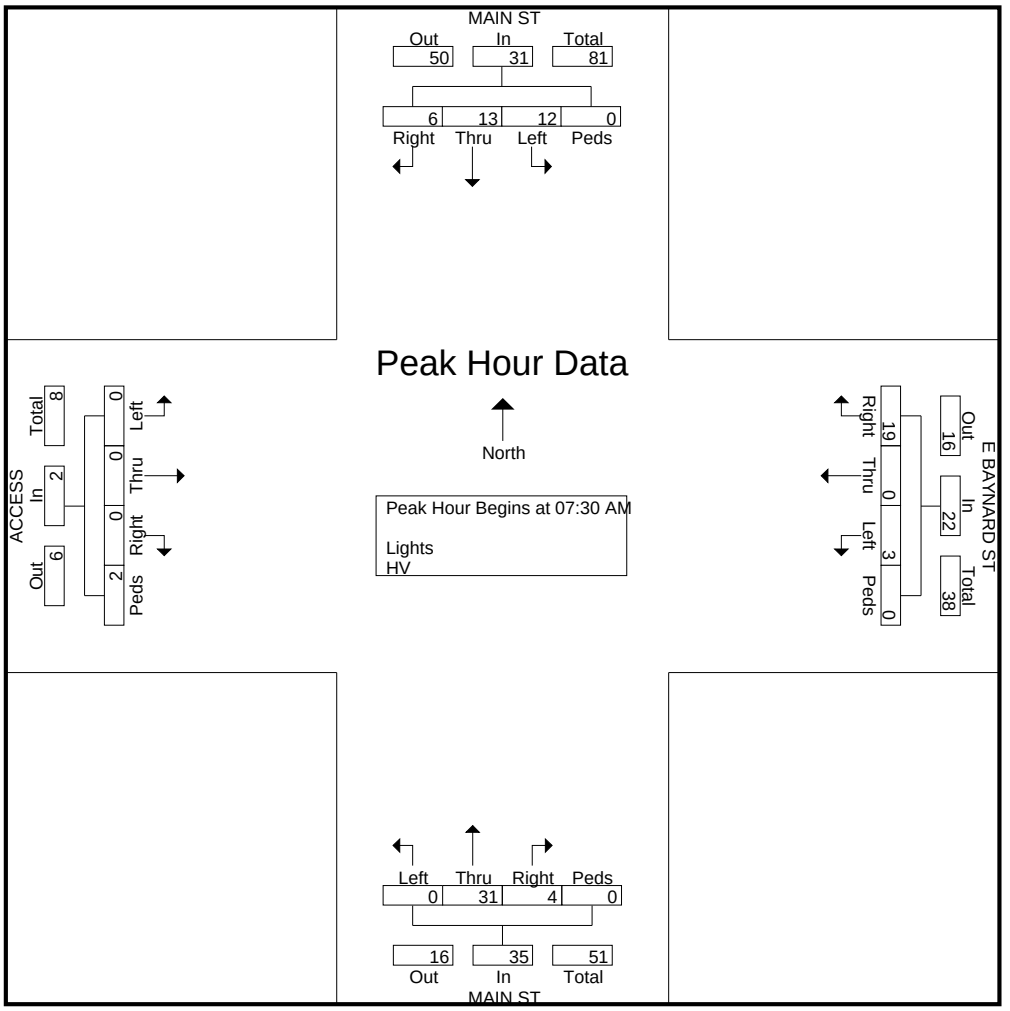
File Name : #2 MAIN&EBAYNARD
Site Code :
Start Date : 11/19/2014
Page No : 3



	MAIN ST Southbound					E BAYNARD ST Westbound					MAIN ST Northbound					ACCESS Eastbound					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	3	0	3	3	0	0	0	3	1	6	0	0	7	0	0	0	**1**	**1**	14
07:45 AM	**3**	**7**	**7**	0	**17**	**10**	0	1	0	**11**	**2**	**17**	0	0	**19**	0	0	0	0	0	**47**
08:00 AM	3	2	1	0	6	2	0	0	0	2	0	3	0	0	3	0	0	0	1	1	12
08:15 AM	0	4	1	0	5	4	0	**2**	0	6	1	5	0	0	6	0	0	0	0	0	17
Total Volume	6	13	12	0	31	19	0	3	0	22	4	31	0	0	35	0	0	0	2	2	90
% App. Total	19.4	41.9	38.7	0		86.4	0	13.6	0		11.4	88.6	0	0		0	0	0	100		
PHF	.500	.464	.429	.000	.456	.475	.000	.375	.000	.500	.500	.456	.000	.000	.461	.000	.000	.000	.500	.500	.479

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #2 MAIN&EBAYNARD
Site Code :
Start Date : 11/19/2014
Page No : 4

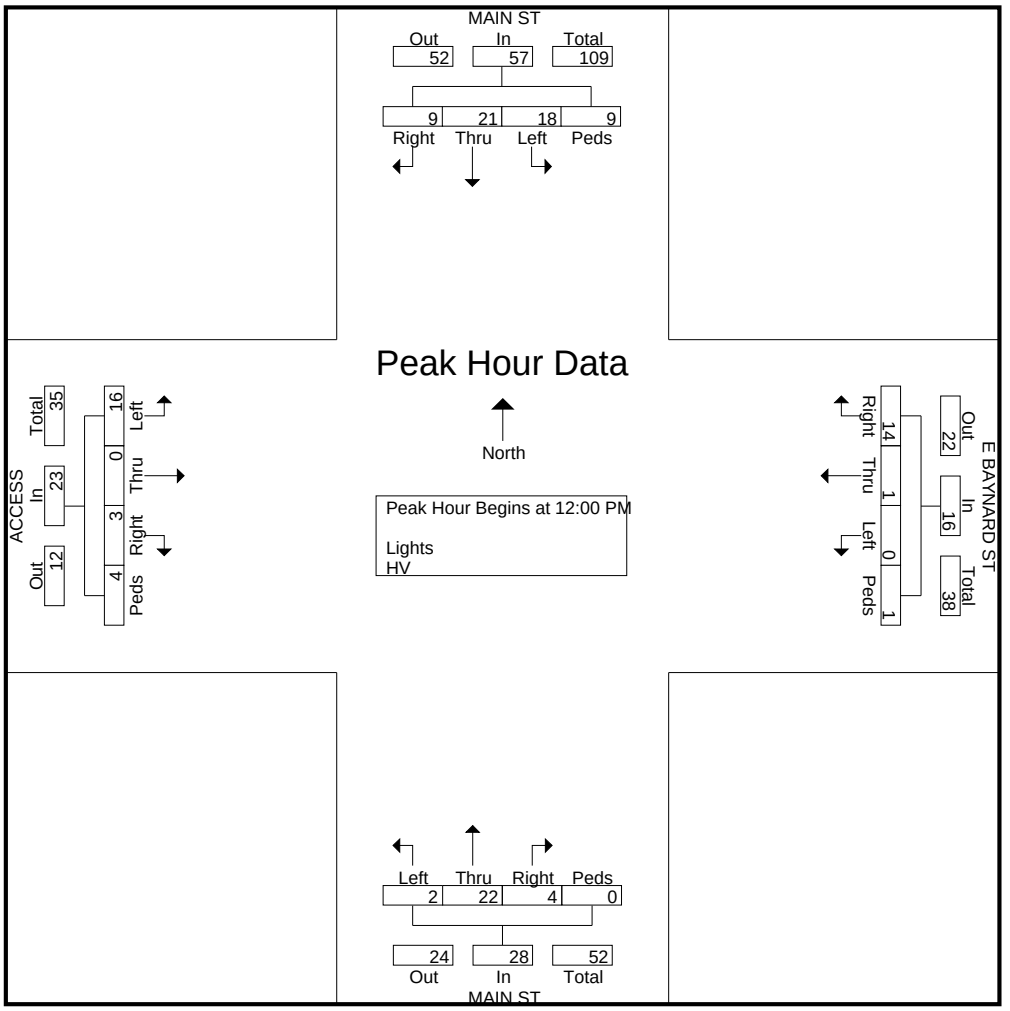


Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:00 PM

12:00 PM	**5**	**11**	3	0	**19**	2	0	0	0	2	**3**	**7**	**1**	0	**11**	**2**	0	5	0	**7**	**39**
12:15 PM	0	4	6	0	10	**5**	0	0	0	5	1	4	1	0	6	0	0	2	**2**	4	25
12:30 PM	2	2	**7**	3	14	4	**1**	0	**1**	**6**	0	4	0	0	4	1	0	2	2	5	29
12:45 PM	2	4	2	**6**	14	3	0	0	0	3	0	7	0	0	7	0	0	**7**	0	7	31
Total Volume	9	21	18	9	57	14	1	0	1	16	4	22	2	0	28	3	0	16	4	23	124
% App. Total	15.8	36.8	31.6	15.8		87.5	6.2	0	6.2		14.3	78.6	7.1	0		13	0	69.6	17.4		
PHF	.450	.477	.643	.375	.750	.700	.250	.000	.250	.667	.333	.786	.500	.000	.636	.375	.000	.571	.500	.821	.795

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #2 MAIN&EBAYNARD
Site Code :
Start Date : 11/19/2014
Page No : 5

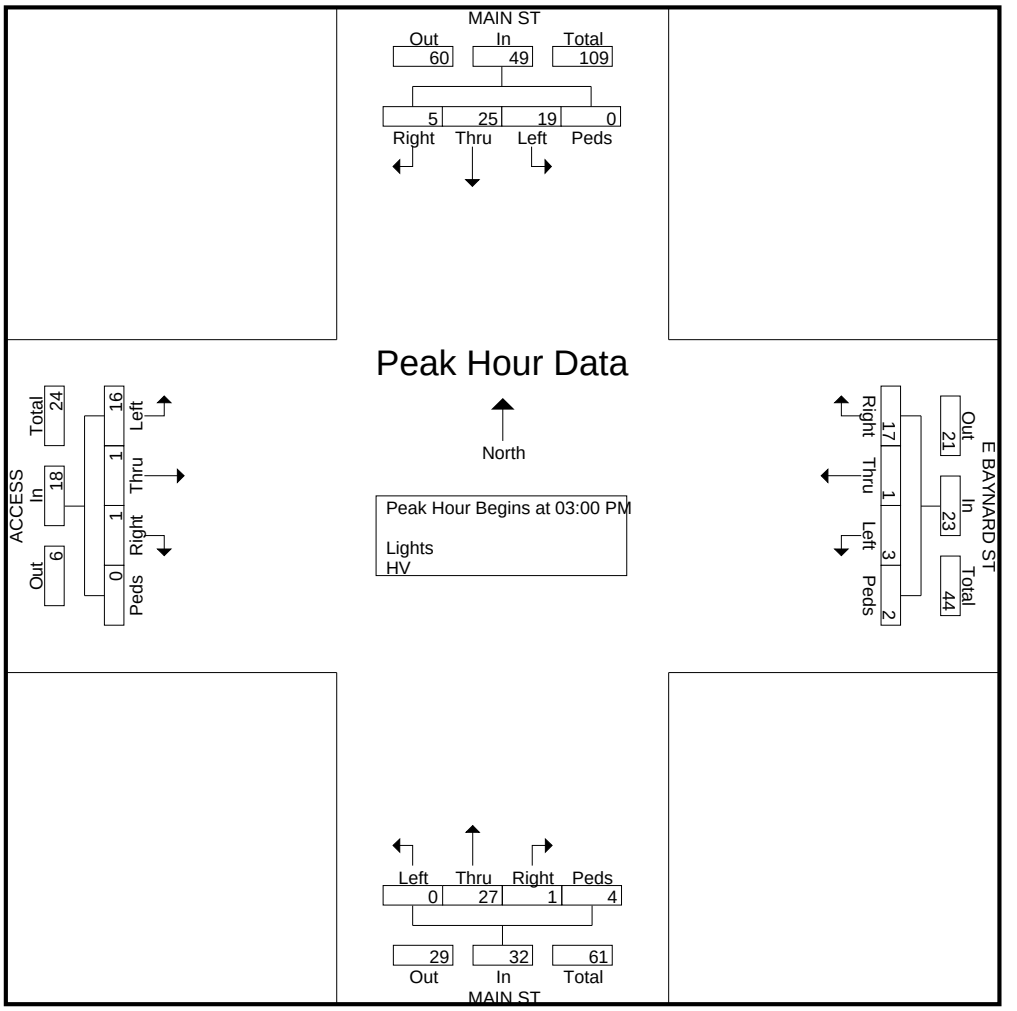


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:00 PM

03:00 PM	**2**	6	**6**	0	14	3	**1**	**1**	0	5	0	7	0	0	7	0	0	2	0	2	28
03:15 PM	1	2	6	0	9	4	0	1	0	5	0	3	0	0	3	0	0	**7**	0	**7**	24
03:30 PM	1	**11**	5	0	**17**	2	0	0	0	2	0	8	0	0	8	**1**	**1**	4	0	6	33
03:45 PM	1	6	2	0	9	**8**	0	1	**2**	**11**	**1**	**9**	0	**4**	**14**	0	0	3	0	3	**37**
Total Volume	5	25	19	0	49	17	1	3	2	23	1	27	0	4	32	1	1	16	0	18	122
% App. Total	10.2	51	38.8	0		73.9	4.3	13	8.7		3.1	84.4	0	12.5		5.6	5.6	88.9	0		
PHF	.625	.568	.792	.000	.721	.531	.250	.750	.250	.523	.250	.750	.000	.250	.571	.250	.250	.571	.000	.643	.824

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #2 MAIN&EBAYNARD
Site Code :
Start Date : 11/19/2014
Page No : 6



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303-216-2439

File Name : #3 COTTONWOOD&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 1

Groups Printed- Lights - HV

	COTTONWOOD ST Southbound				I-84 RAMPS Westbound				COTTONWOOD ST Northbound				I-84 RAMPS Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
05:00 AM	0	0	0	0	0	1	2	0	0	1	0	0	0	1	0	0	5
05:15 AM	0	0	0	0	0	1	2	0	1	0	0	0	1	0	0	0	5
05:30 AM	0	0	0	0	0	1	2	0	3	1	1	0	1	0	1	0	10
05:45 AM	1	0	0	0	0	0	0	0	1	0	1	0	1	2	0	0	6
Total	1	0	0	0	0	3	6	0	5	2	2	0	3	3	1	0	26
06:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	2	3	0	0	6
06:15 AM	0	0	0	0	0	0	0	0	2	1	1	0	0	4	0	0	8
06:30 AM	2	1	0	0	0	2	2	0	4	1	0	0	1	2	0	0	15
06:45 AM	1	1	0	0	0	1	3	0	2	0	0	0	2	0	0	0	10
Total	3	2	0	0	0	3	5	0	8	3	1	0	5	9	0	0	39
07:00 AM	0	0	0	0	0	1	2	0	1	1	0	0	0	1	0	0	6
07:15 AM	0	0	0	0	0	2	5	0	4	1	2	0	0	2	0	0	16
07:30 AM	1	1	0	0	0	2	2	0	0	0	1	0	2	1	1	0	11
07:45 AM	0	0	0	0	0	3	2	0	4	0	0	0	0	2	1	0	12
Total	1	1	0	0	0	8	11	0	9	2	3	0	2	6	2	0	45
08:00 AM	1	0	0	0	0	1	1	0	5	1	0	0	0	1	3	0	13
08:15 AM	1	0	0	0	0	4	1	0	2	1	0	0	2	4	3	0	18
08:30 AM	1	1	0	0	0	3	1	0	3	0	2	0	2	3	0	0	16
08:45 AM	1	0	0	0	0	4	2	0	2	0	2	0	1	3	0	0	15
Total	4	1	0	0	0	12	5	0	12	2	4	0	5	11	6	0	62
09:00 AM	2	0	0	0	0	2	2	0	1	0	5	0	1	3	0	0	16
09:15 AM	0	0	0	0	0	5	5	0	0	0	3	0	5	3	1	0	22
09:30 AM	1	0	0	0	0	1	3	0	3	1	0	0	2	4	1	0	16
09:45 AM	0	1	0	0	0	3	5	0	1	0	3	0	0	3	1	0	17
Total	3	1	0	0	0	11	15	0	5	1	11	0	8	13	3	0	71
10:00 AM	0	0	0	0	1	2	0	0	3	0	1	1	1	5	1	0	15
10:15 AM	0	1	0	0	1	2	1	0	2	0	4	0	1	3	1	0	16
10:30 AM	0	1	0	0	0	2	0	0	1	2	3	0	1	3	1	0	14
10:45 AM	2	1	1	0	0	1	1	0	1	1	2	0	0	3	2	0	15
Total	2	3	1	0	2	7	2	0	7	3	10	1	3	14	5	0	60
11:00 AM	1	1	0	0	0	2	7	0	1	2	2	0	2	6	0	0	24
11:15 AM	0	1	0	0	0	3	5	0	5	0	2	0	0	6	0	0	22
11:30 AM	3	0	1	0	0	1	2	0	2	1	1	0	1	2	0	0	14
11:45 AM	1	0	0	0	0	0	1	0	2	0	1	0	0	6	1	0	12
Total	5	2	1	0	0	6	15	0	10	3	6	0	3	20	1	0	72
12:00 PM	6	3	0	0	0	4	3	0	3	1	3	0	3	6	2	0	34
12:15 PM	1	0	0	0	0	1	2	0	2	0	0	0	4	5	1	0	16
12:30 PM	1	1	0	0	2	1	1	0	4	1	1	1	5	5	2	1	26
12:45 PM	1	4	0	0	0	2	1	0	2	0	4	0	2	1	1	0	18
Total	9	8	0	0	2	8	7	0	11	2	8	1	14	17	6	1	94
01:00 PM	1	0	0	0	1	4	2	0	4	0	3	0	1	4	0	1	21
01:15 PM	2	0	0	0	0	5	1	0	3	0	1	1	4	5	2	0	24
01:30 PM	2	0	0	0	0	3	2	0	2	0	3	0	2	6	1	0	21
01:45 PM	1	0	0	0	0	1	2	0	2	0	4	0	2	3	0	0	15
Total	6	0	0	0	1	13	7	0	11	0	11	1	9	18	3	1	81

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

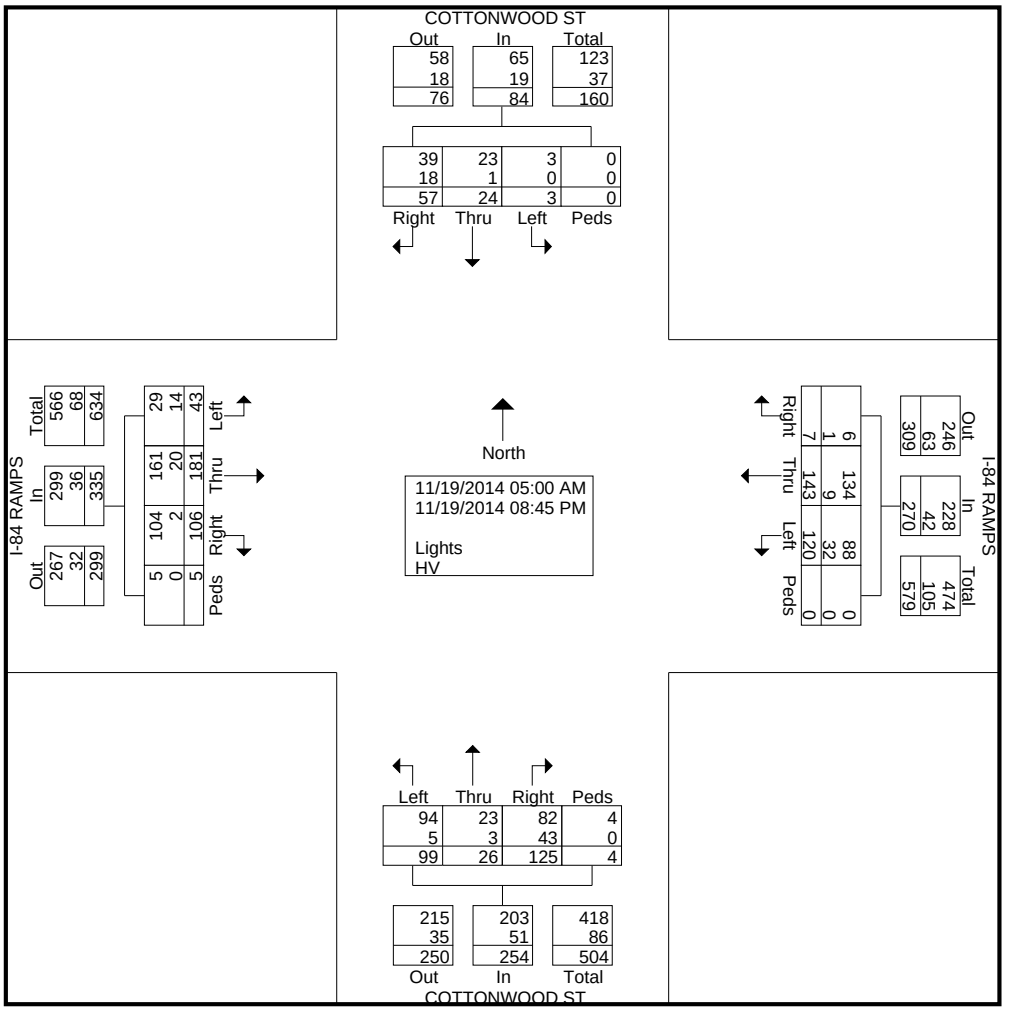
File Name : #3 COTTONWOOD&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 2

Groups Printed- Lights - HV

	COTTONWOOD ST Southbound				I-84 RAMPS Westbound				COTTONWOOD ST Northbound				I-84 RAMPS Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
02:00 PM	1	1	0	0	1	3	0	0	2	0	3	0	2	3	1	0	17
02:15 PM	3	1	0	0	0	3	6	0	0	1	3	0	3	4	2	0	26
02:30 PM	2	0	0	0	0	4	1	0	2	0	2	0	2	4	0	1	18
02:45 PM	1	0	0	0	0	3	3	0	2	0	1	0	4	4	2	0	20
Total	7	2	0	0	1	13	10	0	6	1	9	0	11	15	5	1	81
03:00 PM	4	0	0	0	0	2	0	0	1	2	3	0	2	4	0	0	18
03:15 PM	1	0	0	0	0	5	1	0	1	2	3	0	5	5	1	0	24
03:30 PM	0	0	0	0	0	5	1	0	3	0	3	0	0	1	0	2	15
03:45 PM	2	0	0	0	0	5	3	0	2	0	2	0	1	6	0	0	21
Total	7	0	0	0	0	17	5	0	7	4	11	0	8	16	1	2	78
04:00 PM	1	1	0	0	0	5	3	0	6	0	2	0	0	2	3	0	23
04:15 PM	0	1	0	0	0	4	2	0	5	1	2	0	1	4	1	0	21
04:30 PM	1	0	0	0	0	4	1	0	4	1	0	1	2	1	0	0	15
04:45 PM	0	0	0	0	0	7	2	0	3	0	4	0	3	1	0	0	20
Total	2	2	0	0	0	20	8	0	18	2	8	1	6	8	4	0	79
05:00 PM	1	0	0	0	1	1	2	0	3	0	0	0	2	6	0	0	16
05:15 PM	2	1	1	0	0	5	5	0	1	0	1	0	3	3	1	0	23
05:30 PM	2	0	0	0	0	4	1	0	2	0	5	0	5	6	2	0	27
05:45 PM	0	0	0	0	0	1	1	0	2	0	1	0	1	2	0	0	8
Total	5	1	1	0	1	11	9	0	8	0	7	0	11	17	3	0	74
06:00 PM	0	0	0	0	0	1	2	0	1	0	3	0	2	4	1	0	14
06:15 PM	0	0	0	0	0	3	2	0	2	0	1	0	2	1	0	0	11
06:30 PM	0	0	0	0	0	1	5	0	0	0	0	0	4	1	0	0	11
06:45 PM	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	3
Total	0	0	0	0	0	6	10	0	3	0	5	0	8	6	1	0	39
07:00 PM	0	0	0	0	0	1	3	0	0	0	0	0	1	4	0	0	9
07:15 PM	1	0	0	0	0	1	0	0	1	1	2	0	4	0	0	0	10
07:30 PM	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	3
07:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	3
Total	1	0	0	0	0	2	4	0	3	1	3	0	6	4	1	0	25
08:00 PM	0	1	0	0	0	1	1	0	0	0	0	0	0	2	1	0	6
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
08:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	4
08:45 PM	0	0	0	0	0	1	0	0	2	0	0	0	1	1	0	0	5
Total	1	1	0	0	0	3	1	0	2	0	0	0	4	4	1	0	17
Grand Total	57	24	3	0	7	143	120	0	125	26	99	4	106	181	43	5	943
Apprch %	67.9	28.6	3.6	0	2.6	53	44.4	0	49.2	10.2	39	1.6	31.6	54	12.8	1.5	
Total %	6	2.5	0.3	0	0.7	15.2	12.7	0	13.3	2.8	10.5	0.4	11.2	19.2	4.6	0.5	
Lights	39	23	3	0	6	134	88	0	82	23	94	4	104	161	29	5	795
% Lights	68.4	95.8	100	0	85.7	93.7	73.3	0	65.6	88.5	94.9	100	98.1	89	67.4	100	84.3
HV	18	1	0	0	1	9	32	0	43	3	5	0	2	20	14	0	148
% HV	31.6	4.2	0	0	14.3	6.3	26.7	0	34.4	11.5	5.1	0	1.9	11	32.6	0	15.7

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

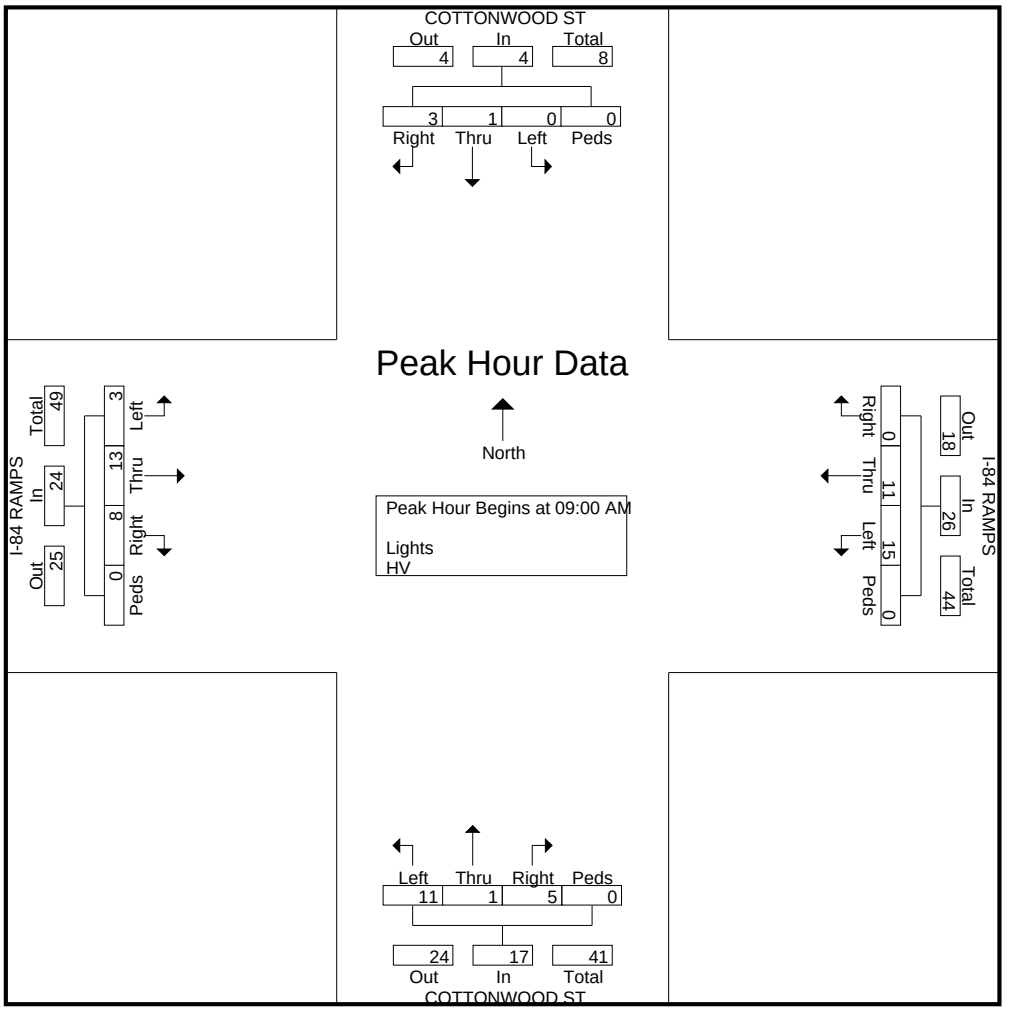
File Name : #3 COTTONWOOD&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 3



	COTTONWOOD ST Southbound					I-84 RAMPS Westbound					COTTONWOOD ST Northbound					I-84 RAMPS Eastbound					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	**2**	0	0	0	**2**	0	2	2	0	4	1	0	**5**	0	**6**	1	3	0	0	4	16
09:15 AM	0	0	0	0	0	0	**5**	**5**	0	**10**	0	0	3	0	3	**5**	3	**1**	0	**9**	**22**
09:30 AM	1	0	0	0	1	0	1	3	0	4	**3**	**1**	0	0	4	2	**4**	1	0	7	16
09:45 AM	0	**1**	0	0	1	0	3	5	0	8	1	0	3	0	4	0	3	1	0	4	17
Total Volume	3	1	0	0	4	0	11	15	0	26	5	1	11	0	17	8	13	3	0	24	71
% App. Total	75	25	0	0		0	42.3	57.7	0		29.4	5.9	64.7	0		33.3	54.2	12.5	0		
PHF	.375	.250	.000	.000	.500	.000	.550	.750	.000	.650	.417	.250	.550	.000	.708	.400	.813	.750	.000	.667	.807

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #3 COTTONWOOD&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 4



Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:00 PM

12:00 PM	**6**	3	0	0	**9**	0	**4**	**3**	0	**7**	3	**1**	3	0	**7**	3	**6**	**2**	0	11	**34**
12:15 PM	1	0	0	0	1	0	1	2	0	3	2	0	0	0	2	4	5	1	0	10	16
12:30 PM	1	1	0	0	2	**2**	1	1	0	4	**4**	1	1	**1**	7	**5**	5	2	**1**	**13**	26
12:45 PM	1	**4**	0	0	5	0	2	1	0	3	2	0	**4**	0	6	2	1	1	0	4	18
Total Volume	9	8	0	0	17	2	8	7	0	17	11	2	8	1	22	14	17	6	1	38	94
% App. Total	52.9	47.1	0	0		11.8	47.1	41.2	0		50	9.1	36.4	4.5		36.8	44.7	15.8	2.6		
PHF	.375	.500	.000	.000	.472	.250	.500	.583	.000	.607	.688	.500	.500	.250	.786	.700	.708	.750	.250	.731	.691

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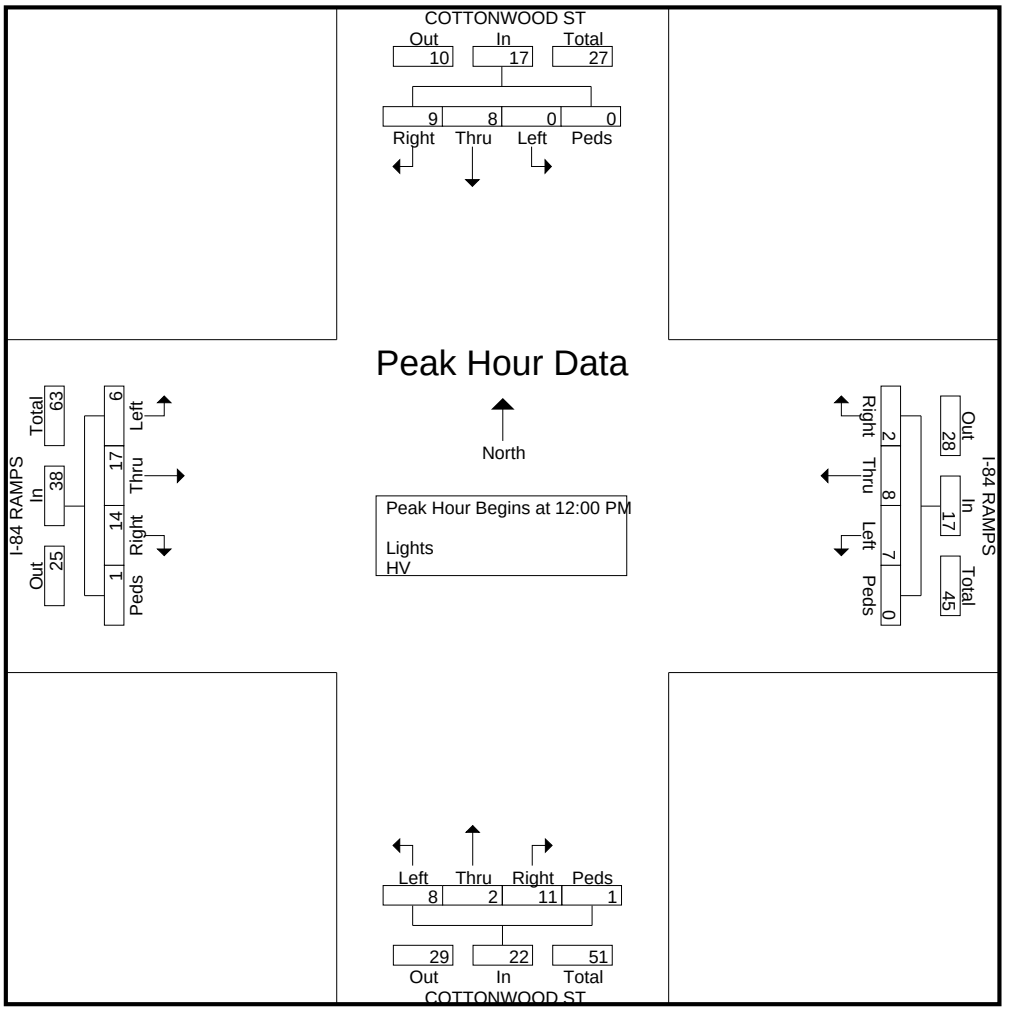
File Name : #3 COTTONWOOD&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 5



Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	0	0	0	0	0	**7**	2	0	9	**3**	0	4	0	**7**	3	1	0	0	4	20
05:00 PM	1	0	0	0	1	**1**	1	2	0	4	3	0	0	0	3	2	**6**	0	0	8	16
05:15 PM	**2**	**1**	**1**	0	**4**	0	5	**5**	0	**10**	1	0	1	0	2	3	3	1	0	7	23
05:30 PM	2	0	0	0	2	0	4	1	0	5	2	0	**5**	0	7	**5**	6	**2**	0	**13**	**27**
Total Volume	5	1	1	0	7	1	17	10	0	28	9	0	10	0	19	13	16	3	0	32	86
% App. Total	71.4	14.3	14.3	0		3.6	60.7	35.7	0		47.4	0	52.6	0		40.6	50	9.4	0		
PHF	.625	.250	.250	.000	.438	.250	.607	.500	.000	.700	.750	.000	.500	.000	.679	.650	.667	.375	.000	.615	.796

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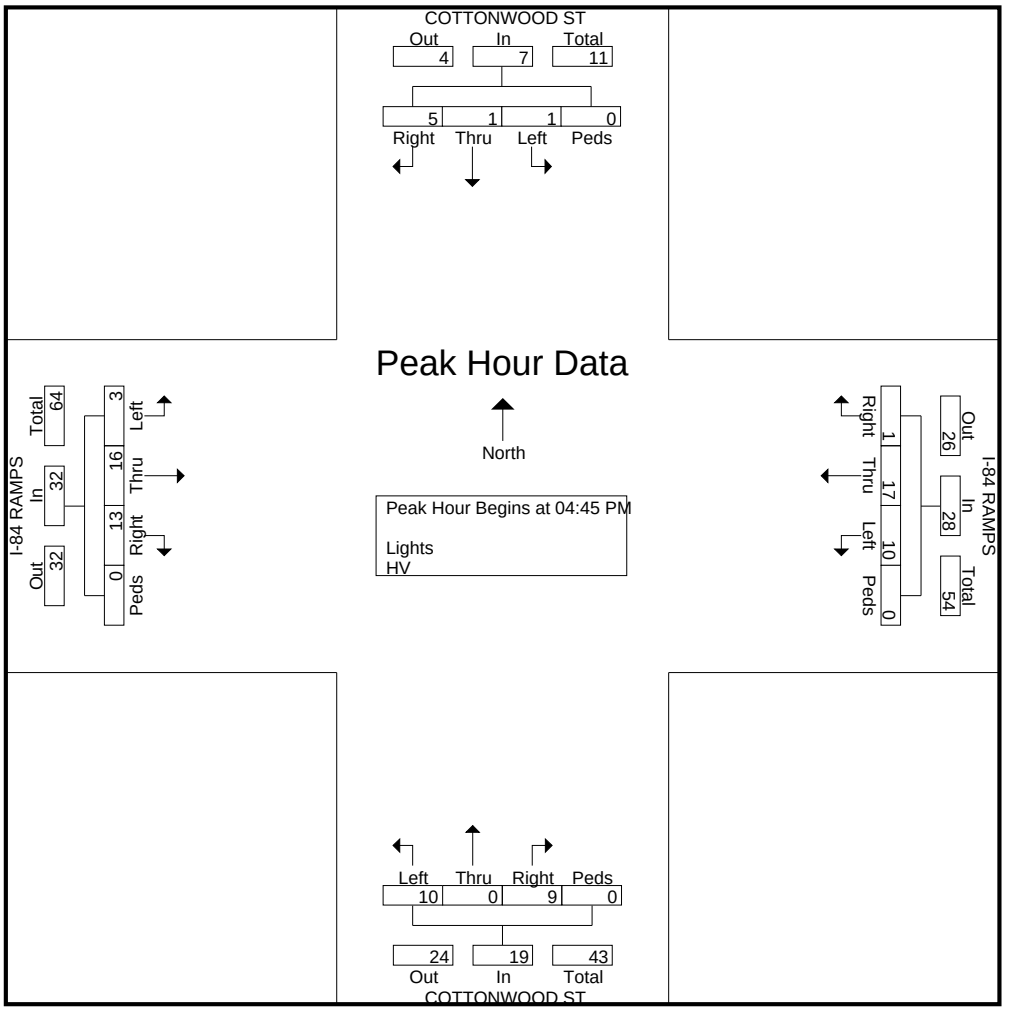
File Name : #3 COTTONWOOD&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 6



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File Name : #4 I84&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 1

Groups Printed- Lights - HV

	I-84 RAMPS Southbound				BEECH ST Westbound				I-84 RAMPS Northbound				BEECH ST Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
05:00 AM	0	2	0	0	1	0	4	0	0	1	0	0	0	0	0	0	8
05:15 AM	0	2	0	0	0	0	2	0	0	1	0	0	0	0	0	0	5
05:30 AM	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	4
05:45 AM	0	1	0	0	0	0	2	0	1	0	0	0	0	0	0	0	4
Total	0	6	0	0	2	0	8	0	2	3	0	0	0	0	0	0	21
06:00 AM	0	2	0	2	0	0	0	0	1	1	0	0	0	0	0	0	6
06:15 AM	0	10	0	1	0	0	2	0	0	2	0	0	0	0	0	0	15
06:30 AM	0	10	1	0	3	0	0	0	1	1	0	0	0	0	0	0	16
06:45 AM	0	11	0	0	1	0	1	0	0	3	0	0	0	0	0	0	16
Total	0	33	1	3	4	0	3	0	2	7	0	0	0	0	0	0	53
07:00 AM	2	3	0	2	1	0	1	0	1	2	0	0	0	0	0	0	12
07:15 AM	0	5	0	1	1	0	2	0	1	4	0	0	0	0	0	0	14
07:30 AM	0	5	2	0	3	0	3	0	1	3	0	0	0	0	0	0	17
07:45 AM	0	7	1	0	0	0	4	0	1	4	0	0	0	0	0	0	17
Total	2	20	3	3	5	0	10	0	4	13	0	0	0	0	0	0	60
08:00 AM	0	5	1	1	1	0	1	0	0	4	0	0	0	0	0	0	13
08:15 AM	0	8	2	0	0	0	5	0	2	0	0	0	0	0	0	0	17
08:30 AM	0	3	0	0	2	0	3	0	1	8	0	0	0	0	0	0	17
08:45 AM	0	6	0	0	3	0	4	0	2	2	0	0	0	0	0	0	17
Total	0	22	3	1	6	0	13	0	5	14	0	0	0	0	0	0	64
09:00 AM	1	4	1	1	2	0	2	0	3	6	0	0	0	0	0	0	20
09:15 AM	0	4	1	0	2	0	3	0	1	6	0	0	0	0	0	0	17
09:30 AM	0	5	7	0	4	0	2	0	0	4	0	0	0	0	0	0	22
09:45 AM	0	3	1	0	0	0	3	0	3	3	0	0	0	0	0	0	13
Total	1	16	10	1	8	0	10	0	7	19	0	0	0	0	0	0	72
10:00 AM	0	2	4	1	2	0	3	0	1	8	0	0	0	0	0	0	21
10:15 AM	0	5	1	0	3	1	3	0	1	3	0	0	0	0	0	0	17
10:30 AM	0	4	2	0	1	0	4	0	0	3	0	0	0	0	0	0	14
10:45 AM	0	5	3	0	2	0	1	0	2	2	0	0	0	0	0	0	15
Total	0	16	10	1	8	1	11	0	4	16	0	0	0	0	0	0	67
11:00 AM	0	7	1	1	2	0	3	2	2	1	0	2	0	0	0	0	21
11:15 AM	0	4	1	0	1	0	2	3	2	4	0	3	0	0	0	1	21
11:30 AM	0	4	2	0	7	0	2	0	2	3	0	0	0	0	0	0	20
11:45 AM	0	3	2	0	1	0	2	0	2	3	0	0	0	0	0	0	13
Total	0	18	6	1	11	0	9	5	8	11	0	5	0	0	0	1	75
12:00 PM	0	5	2	0	9	0	3	0	2	6	0	0	0	0	0	0	27
12:15 PM	0	2	2	0	3	0	2	0	3	4	0	0	0	0	0	0	16
12:30 PM	0	4	5	0	3	0	0	0	1	3	0	0	0	0	0	0	16
12:45 PM	0	4	0	0	1	0	3	0	2	3	0	0	0	0	0	0	13
Total	0	15	9	0	16	0	8	0	8	16	0	0	0	0	0	0	72
01:00 PM	0	8	2	0	4	0	3	0	1	5	0	0	0	0	0	0	23
01:15 PM	0	1	6	0	2	1	5	0	0	5	0	0	0	0	0	0	20
01:30 PM	0	5	6	0	3	0	1	1	0	1	0	0	0	0	0	0	17
01:45 PM	0	4	3	0	8	0	1	1	0	6	0	0	0	0	0	0	23
Total	0	18	17	0	17	1	10	2	1	17	0	0	0	0	0	0	83

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File Name : #4 I84&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 2

Groups Printed- Lights - HV

	I-84 RAMPS Southbound				BEECH ST Westbound				I-84 RAMPS Northbound				BEECH ST Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
02:00 PM	0	6	4	0	4	0	2	0	2	5	0	0	0	0	0	0	23
02:15 PM	0	2	5	0	3	0	0	0	2	2	0	0	0	0	0	0	14
02:30 PM	0	6	2	0	2	0	1	0	1	3	0	0	0	0	0	0	15
02:45 PM	0	4	3	0	4	0	1	0	5	7	0	0	0	0	0	0	24
Total	0	18	14	0	13	0	4	0	10	17	0	0	0	0	0	0	76
03:00 PM	0	1	1	0	4	0	7	0	1	5	0	0	0	0	0	0	19
03:15 PM	0	3	3	0	0	0	4	0	2	10	0	0	0	0	0	0	22
03:30 PM	0	6	1	0	4	0	2	0	0	6	0	0	0	0	0	0	19
03:45 PM	0	7	1	0	5	0	1	0	2	4	0	2	0	1	0	0	23
Total	0	17	6	0	13	0	14	0	5	25	0	2	0	1	0	0	83
04:00 PM	0	6	2	0	1	0	5	0	5	10	0	0	0	0	0	0	29
04:15 PM	0	2	1	0	1	0	6	0	1	6	0	0	0	0	0	0	17
04:30 PM	0	4	1	0	1	0	3	0	2	4	0	0	0	0	0	0	15
04:45 PM	0	5	0	0	1	0	3	0	3	2	0	0	0	0	0	0	14
Total	0	17	4	0	4	0	17	0	11	22	0	0	0	0	0	0	75
05:00 PM	0	4	0	0	2	0	2	0	4	5	0	0	0	0	0	0	17
05:15 PM	0	3	5	0	2	0	1	0	1	8	0	2	0	0	0	0	22
05:30 PM	0	4	4	0	4	0	3	0	4	2	0	0	0	0	0	0	21
05:45 PM	0	5	1	0	2	0	4	0	3	2	0	0	0	0	0	0	17
Total	0	16	10	0	10	0	10	0	12	17	0	2	0	0	0	0	77
06:00 PM	0	4	0	0	0	0	3	0	4	1	0	0	0	0	0	0	12
06:15 PM	0	1	0	0	0	0	1	0	3	2	0	0	0	0	0	0	7
06:30 PM	0	1	2	0	1	0	1	0	1	1	0	0	0	0	0	0	7
06:45 PM	0	3	0	0	1	0	3	0	0	0	0	0	0	0	0	0	7
Total	0	9	2	0	2	0	8	0	8	4	0	0	0	0	0	0	33
07:00 PM	0	2	1	0	1	0	3	0	4	1	0	0	0	0	0	0	12
07:15 PM	0	2	2	0	2	0	6	0	2	2	0	0	0	0	0	0	16
07:30 PM	0	1	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7
07:45 PM	0	1	3	0	0	0	1	0	0	0	0	0	0	0	0	0	5
Total	0	6	6	0	3	0	13	0	6	6	0	0	0	0	0	0	40
08:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
08:15 PM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4
08:30 PM	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	5
08:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
Total	0	7	0	0	1	0	2	0	2	1	0	0	0	0	0	0	13
Grand Total	3	254	101	10	123	2	150	7	95	208	0	9	0	1	0	1	964
Apprch %	0.8	69	27.4	2.7	43.6	0.7	53.2	2.5	30.4	66.7	0	2.9	0	50	0	50	
Total %	0.3	26.3	10.5	1	12.8	0.2	15.6	0.7	9.9	21.6	0	0.9	0	0.1	0	0.1	
Lights	0	180	82	10	103	1	139	7	84	141	0	9	0	0	0	1	757
% Lights	0	70.9	81.2	100	83.7	50	92.7	100	88.4	67.8	0	100	0	0	0	100	78.5
HV	3	74	19	0	20	1	11	0	11	67	0	0	0	1	0	0	207
% HV	100	29.1	18.8	0	16.3	50	7.3	0	11.6	32.2	0	0	0	100	0	0	21.5

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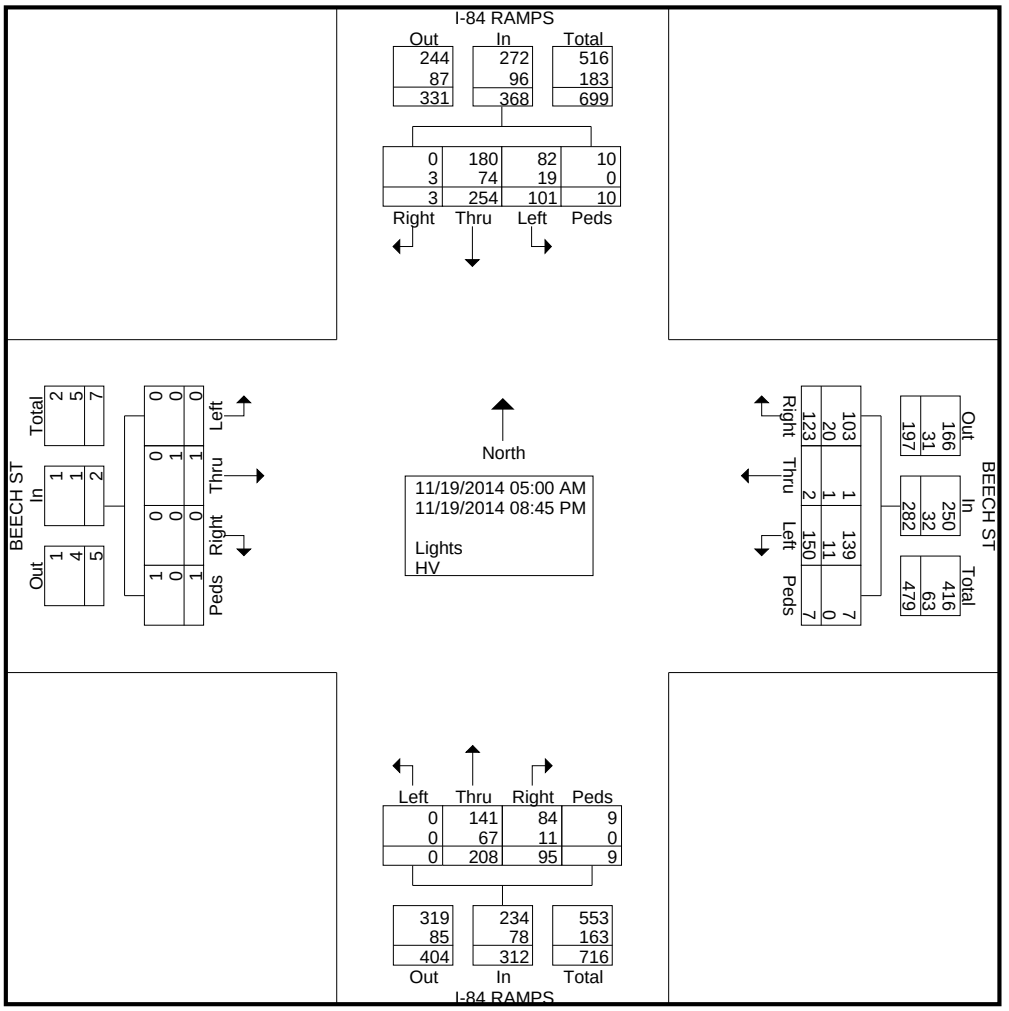
303-216-2439

File Name : #4 I84&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 3



	I-84 RAMPS Southbound					BEECH ST Westbound					I-84 RAMPS Northbound					BEECH ST Eastbound					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:45 AM																					
08:45 AM	0	**6**	0	0	6	3	0	**4**	0	**7**	2	2	0	0	4	0	0	0	0	0	17
09:00 AM	**1**	4	1	**1**	7	2	0	2	0	4	**3**	**6**	0	0	**9**	0	0	0	0	0	20
09:15 AM	0	4	1	0	5	2	0	3	0	5	1	6	0	0	7	0	0	0	0	0	17
09:30 AM	0	5	**7**	0	**12**	**4**	0	2	0	6	0	4	0	0	4	0	0	0	0	0	**22**
Total Volume	1	19	9	1	30	11	0	11	0	22	6	18	0	0	24	0	0	0	0	0	76
% App. Total	3.3	63.3	30	3.3		50	0	50	0		25	75	0	0		0	0	0	0		
PHF	.250	.792	.321	.250	.625	.688	.000	.688	.000	.786	.500	.750	.000	.000	.667	.000	.000	.000	.000	.000	.864

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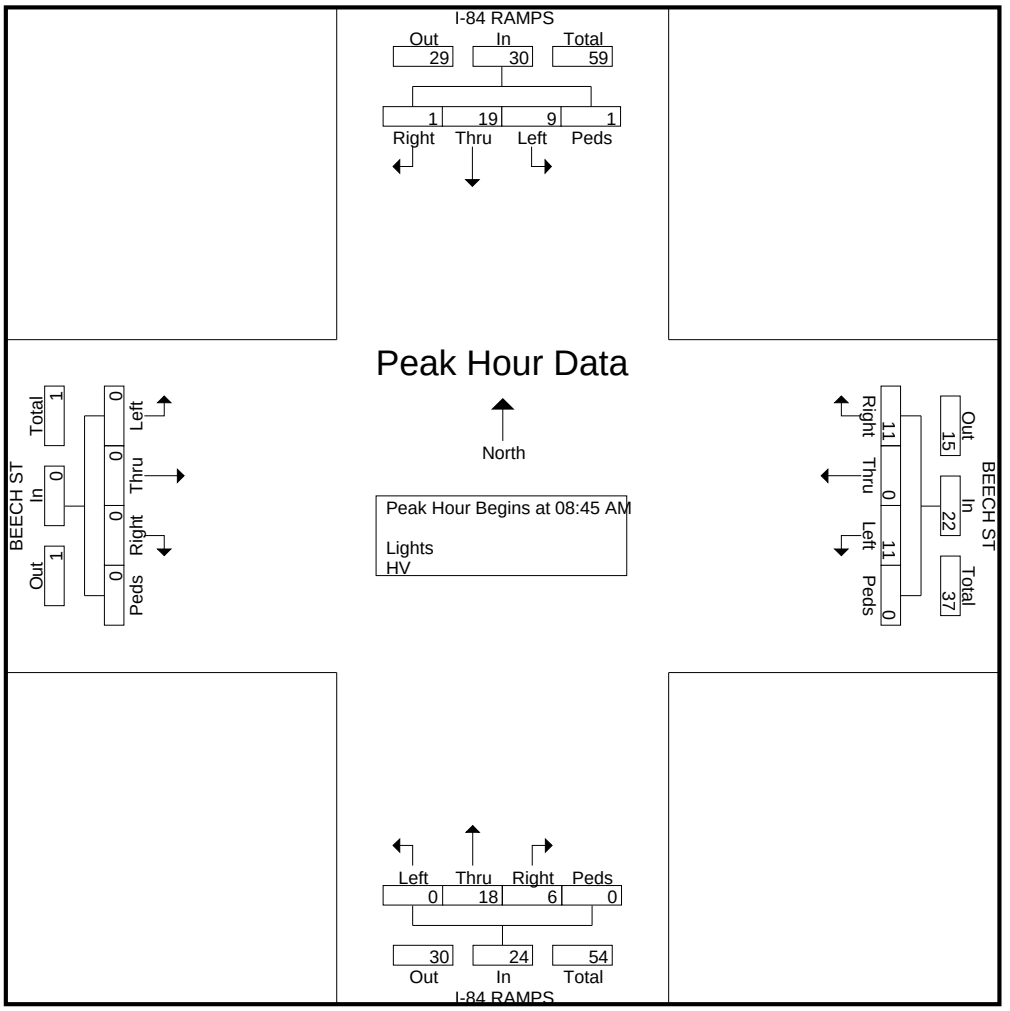
File Name : #4 I84&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 4



Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	0	**8**	2	0	10	4	0	3	0	7	**1**	5	0	0	**6**	0	0	0	0	0	**23**
01:15 PM	0	1	**6**	0	7	2	**1**	**5**	0	8	0	5	0	0	5	0	0	0	0	0	20
01:30 PM	0	5	6	0	**11**	3	0	1	**1**	5	0	1	0	0	1	0	0	0	0	0	17
01:45 PM	0	4	3	0	7	**8**	0	1	1	**10**	0	**6**	0	0	6	0	0	0	0	0	23
Total Volume	0	18	17	0	35	17	1	10	2	30	1	17	0	0	18	0	0	0	0	0	83
% App. Total	0	51.4	48.6	0		56.7	3.3	33.3	6.7		5.6	94.4	0	0		0	0	0	0		
PHF	.000	.563	.708	.000	.795	.531	.250	.500	.500	.750	.250	.708	.000	.000	.750	.000	.000	.000	.000	.000	.902

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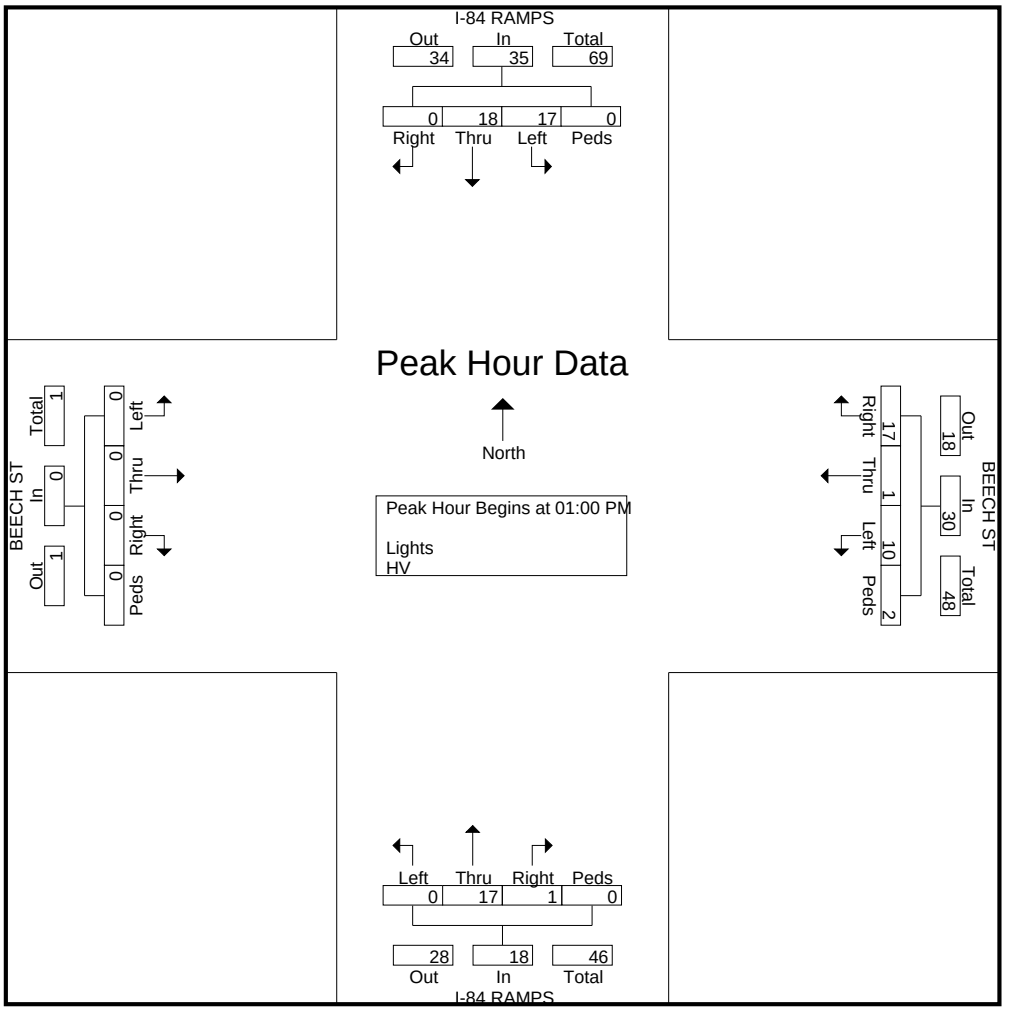
File Name : #4 I84&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 5



Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:15 PM

03:15 PM	0	3	**3**	0	6	0	0	4	0	4	2	**10**	0	0	12	0	0	0	0	0	22
03:30 PM	0	6	1	0	7	4	0	2	0	**6**	0	6	0	0	6	0	0	0	0	0	19
03:45 PM	0	**7**	1	0	**8**	**5**	0	1	0	6	2	4	0	**2**	8	0	**1**	0	0	**1**	23
04:00 PM	0	6	2	0	8	1	0	**5**	0	6	**5**	10	0	0	**15**	0	0	0	0	0	**29**
Total Volume	0	22	7	0	29	10	0	12	0	22	9	30	0	2	41	0	1	0	0	1	93
% App. Total	0	75.9	24.1	0		45.5	0	54.5	0		22	73.2	0	4.9		0	100	0	0		
PHF	.000	.786	.583	.000	.906	.500	.000	.600	.000	.917	.450	.750	.000	.250	.683	.000	.250	.000	.000	.250	.802

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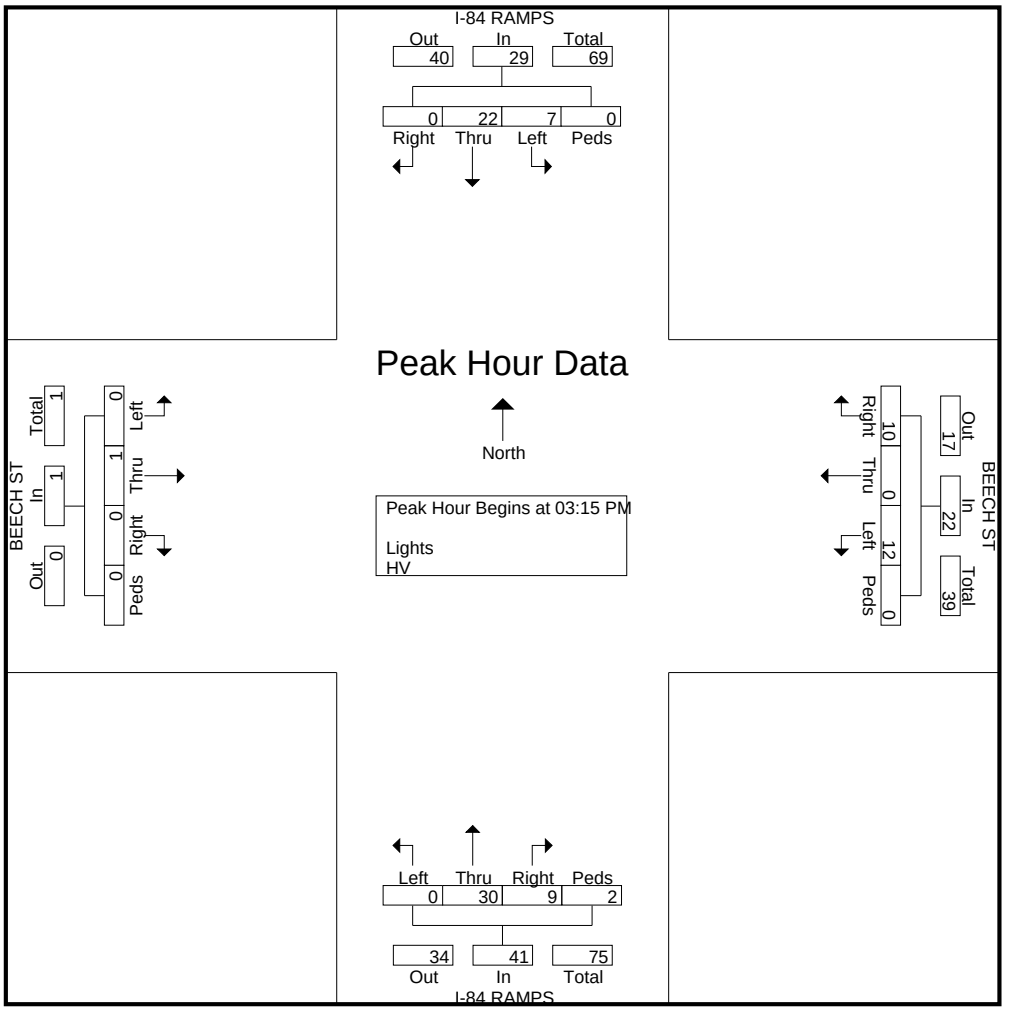
File Name : #4 I84&BEECH
Site Code :
Start Date : 11/19/2014
Page No : 6



All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
303-216-2439

File Name : #5 OR74&I84
Site Code :
Start Date : 11/19/2014
Page No : 1

Groups Printed- Lights - HV

	OR 74 - HEPPNER HWY Southbound				I-84 EB RAMPS Westbound				OR 74 - HEPPNER HWY Northbound				I-84 EB RAMPS Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
05:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	3
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
05:30 AM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	2	0	0	0	0	3	0	0	6
06:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
06:15 AM	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
06:30 AM	0	2	0	0	0	0	0	0	1	0	0	0	0	1	0	0	4
06:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0	0	4
Total	0	6	0	0	0	0	0	0	2	0	0	0	1	4	0	0	13
07:00 AM	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	3
07:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
07:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	4
Total	0	5	0	0	0	0	0	0	6	0	0	0	0	1	0	0	12
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
08:45 AM	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	3	2	0	0	1	4	0	0	10
09:00 AM	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	4
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
09:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	0	4
09:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
Total	0	0	0	0	0	0	0	0	4	2	0	0	4	1	0	0	11
10:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3
10:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	3
10:30 AM	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	4
10:45 AM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
Total	0	2	1	0	0	0	0	0	2	5	0	0	3	0	0	0	13
11:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
11:15 AM	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
11:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
Total	0	2	0	0	0	0	0	0	1	2	0	0	2	1	0	0	8
12:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	3
12:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	3
12:30 PM	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	3
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3
Total	0	0	2	0	0	0	0	0	1	2	0	0	5	2	0	0	12
01:00 PM	0	2	1	0	0	0	0	0	0	1	0	0	0	1	0	0	5
01:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	5
01:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
303-216-2439

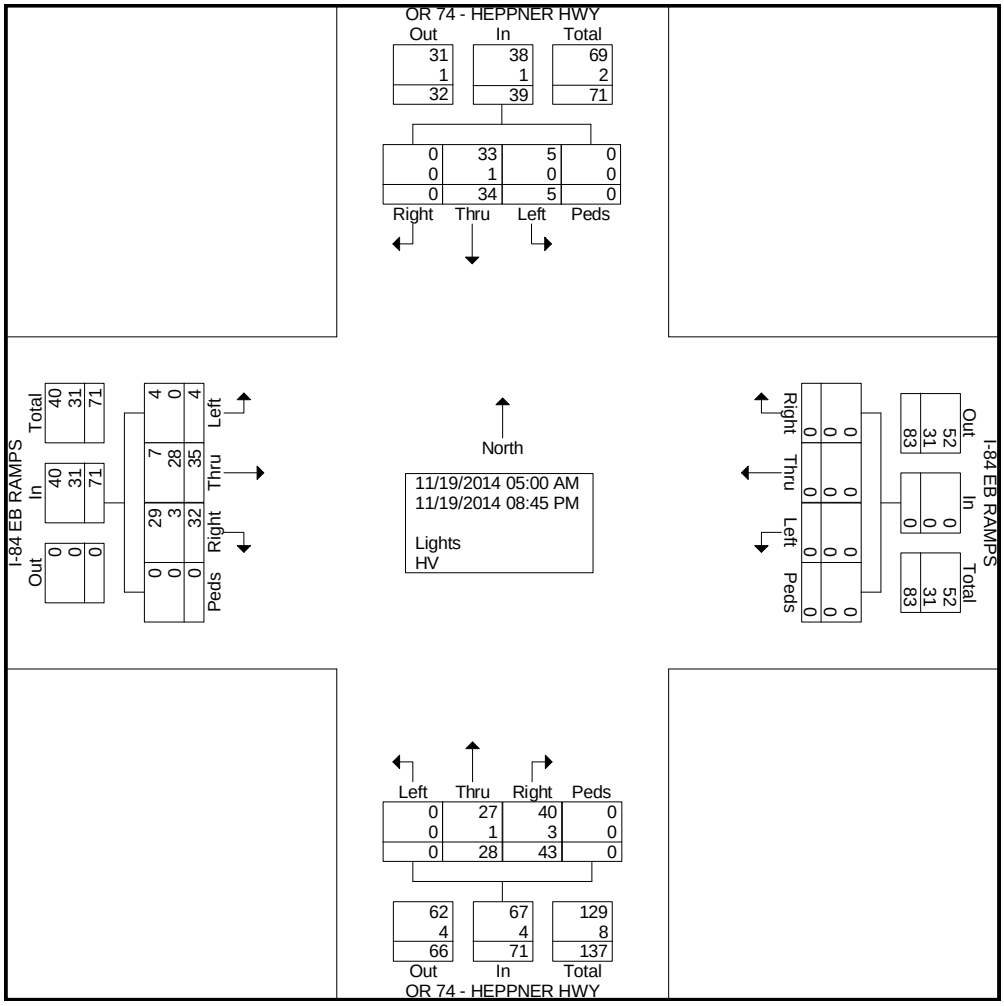
File Name : #5 OR74&I84
Site Code :
Start Date : 11/19/2014
Page No : 2

Groups Printed- Lights - HV

	OR 74 - HEPPNER HWY Southbound				I-84 EB RAMPS Westbound				OR 74 - HEPPNER HWY Northbound				I-84 EB RAMPS Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
01:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	4
Total	0	4	1	0	0	0	0	0	2	3	0	0	3	4	1	0	18
02:00 PM	0	2	0	0	0	0	0	0	1	3	0	0	0	0	0	0	6
02:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3
02:30 PM	0	1	0	0	0	0	0	0	2	0	0	0	1	0	0	0	4
02:45 PM	0	1	0	0	0	0	0	0	3	1	0	0	1	0	0	0	6
Total	0	5	0	0	0	0	0	0	7	4	0	0	3	0	0	0	19
03:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	4
03:15 PM	0	1	1	0	0	0	0	0	1	1	0	0	1	0	0	0	5
03:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
03:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	1	1	0	0	5
Total	0	3	1	0	0	0	0	0	5	2	0	0	4	1	0	0	16
04:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3
04:30 PM	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	4
04:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3
Total	0	2	0	0	0	0	0	0	4	2	0	0	3	1	1	0	13
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	2	2	0	0	6
05:30 PM	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	3
05:45 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	2	0	0	4
Total	0	1	0	0	0	0	0	0	4	3	0	0	2	5	0	0	15
06:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
06:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
Total	0	2	0	0	0	0	0	0	0	1	0	0	0	4	2	0	9
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
08:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	4
Grand Total	0	34	5	0	0	0	0	0	43	28	0	0	32	35	4	0	181
Apprch %	0	87.2	12.8	0	0	0	0	0	60.6	39.4	0	0	45.1	49.3	5.6	0	
Total %	0	18.8	2.8	0	0	0	0	0	23.8	15.5	0	0	17.7	19.3	2.2	0	
Lights	0	33	5	0	0	0	0	0	40	27	0	0	29	7	4	0	145
% Lights	0	97.1	100	0	0	0	0	0	93	96.4	0	0	90.6	20	100	0	80.1
HV	0	1	0	0	0	0	0	0	3	1	0	0	3	28	0	0	36
% HV	0	2.9	0	0	0	0	0	0	7	3.6	0	0	9.4	80	0	0	19.9

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
303-216-2439

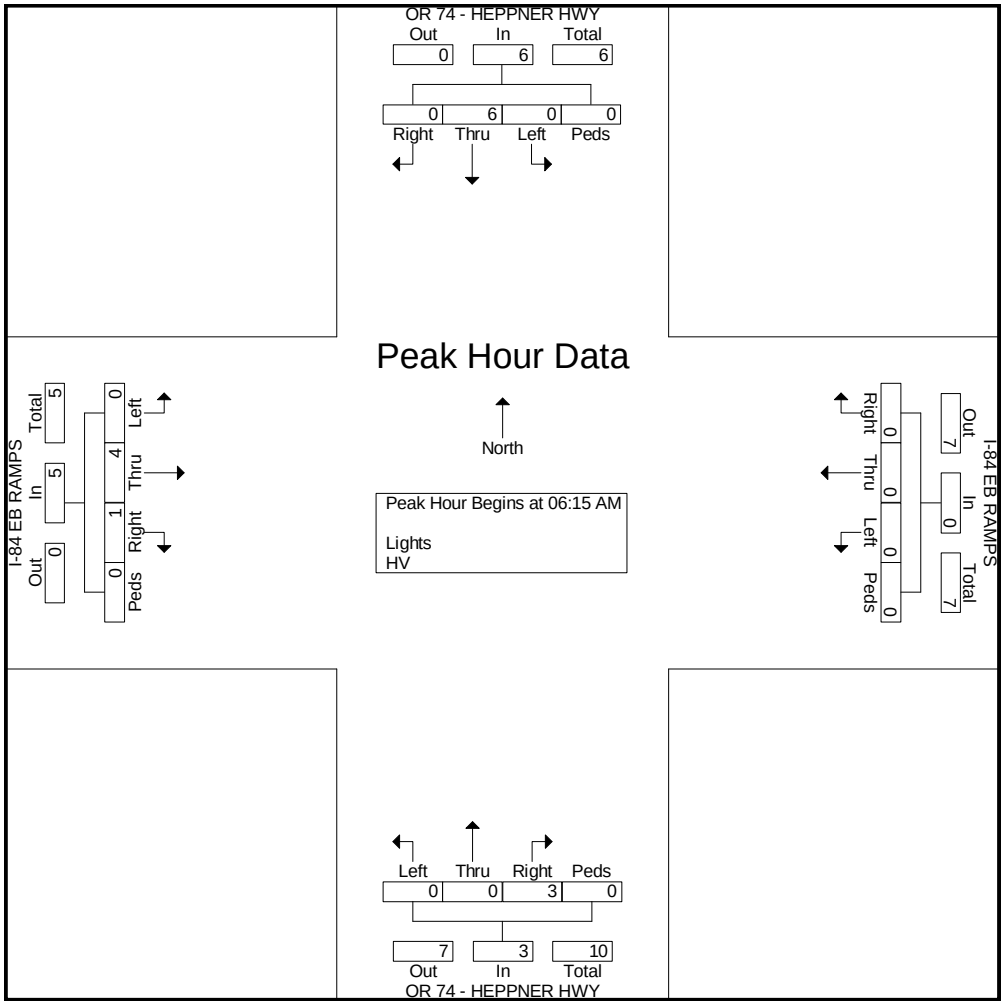
File Name : #5 OR74&I84
Site Code :
Start Date : 11/19/2014
Page No : 3



	OR 74 - HEPPNER HWY Southbound					I-84 EB RAMPS Westbound					OR 74 - HEPPNER HWY Northbound					I-84 EB RAMPS Eastbound					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:15 AM																					
06:15 AM	0	**2**	0	0	**2**	0	0	0	0	0	**1**	0	0	0	**1**	0	0	0	0	0	3
06:30 AM	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	**4**
06:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**	**2**	0	0	**3**	4
07:00 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	3
Total Volume	0	6	0	0	6	0	0	0	0	0	3	0	0	0	3	1	4	0	0	5	14
% App. Total	0	100	0	0		0	0	0	0		100	0	0	0		20	80	0	0		
PHF	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.750	.000	.000	.000	.750	.250	.500	.000	.000	.417	.875

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
303-216-2439

File Name : #5 OR74&I84
Site Code :
Start Date : 11/19/2014
Page No : 4

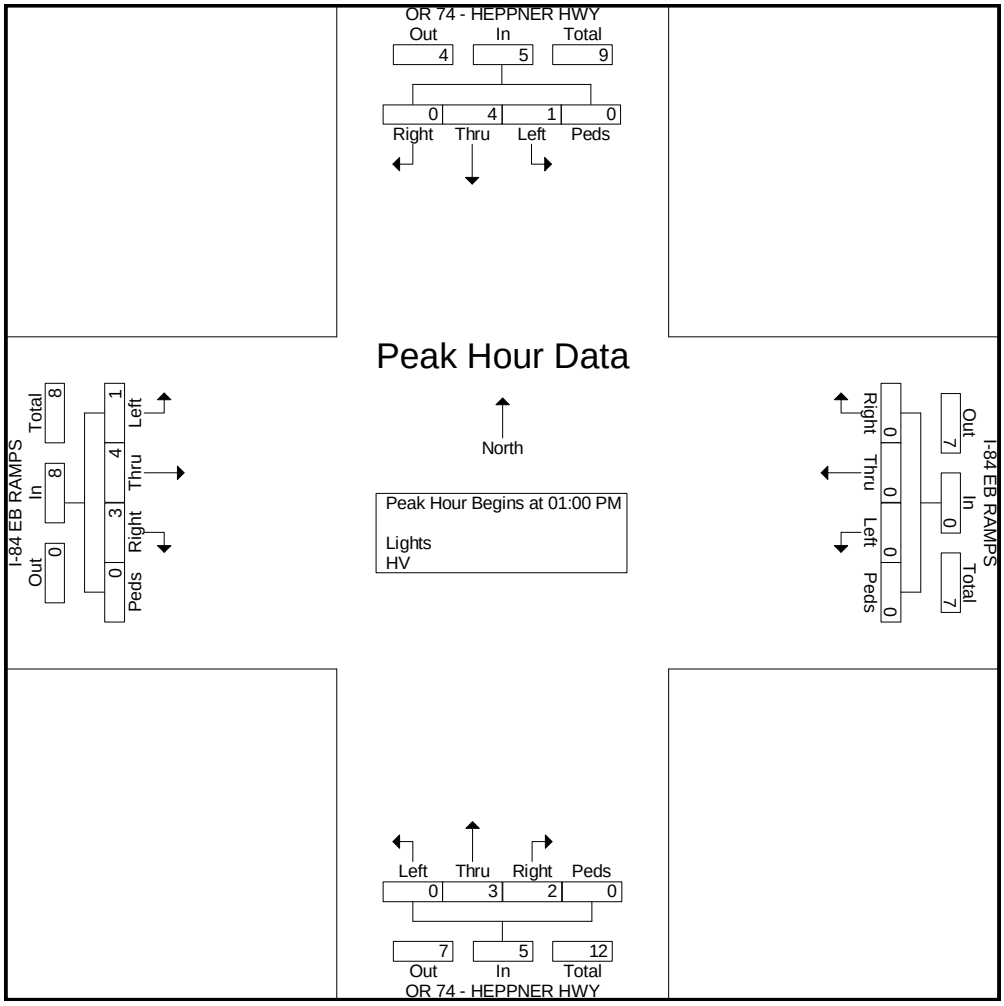


Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	0	**2**	**1**	0	**3**	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	**5**
01:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**	0	**1**	0	**3**	5
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	**2**	0	0	2	4
01:45 PM	0	0	0	0	0	0	0	0	0	0	**2**	0	0	0	2	1	1	0	0	2	4
Total Volume	0	4	1	0	5	0	0	0	0	0	2	3	0	0	5	3	4	1	0	8	18
% App. Total	0	80	20	0		0	0	0	0		40	60	0	0		37.5	50	12.5	0		
PHF	.000	.500	.250	.000	.417	.000	.000	.000	.000	.000	.250	.375	.000	.000	.625	.375	.500	.250	.000	.667	.900

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
303-216-2439

File Name : #5 OR74&I84
Site Code :
Start Date : 11/19/2014
Page No : 5

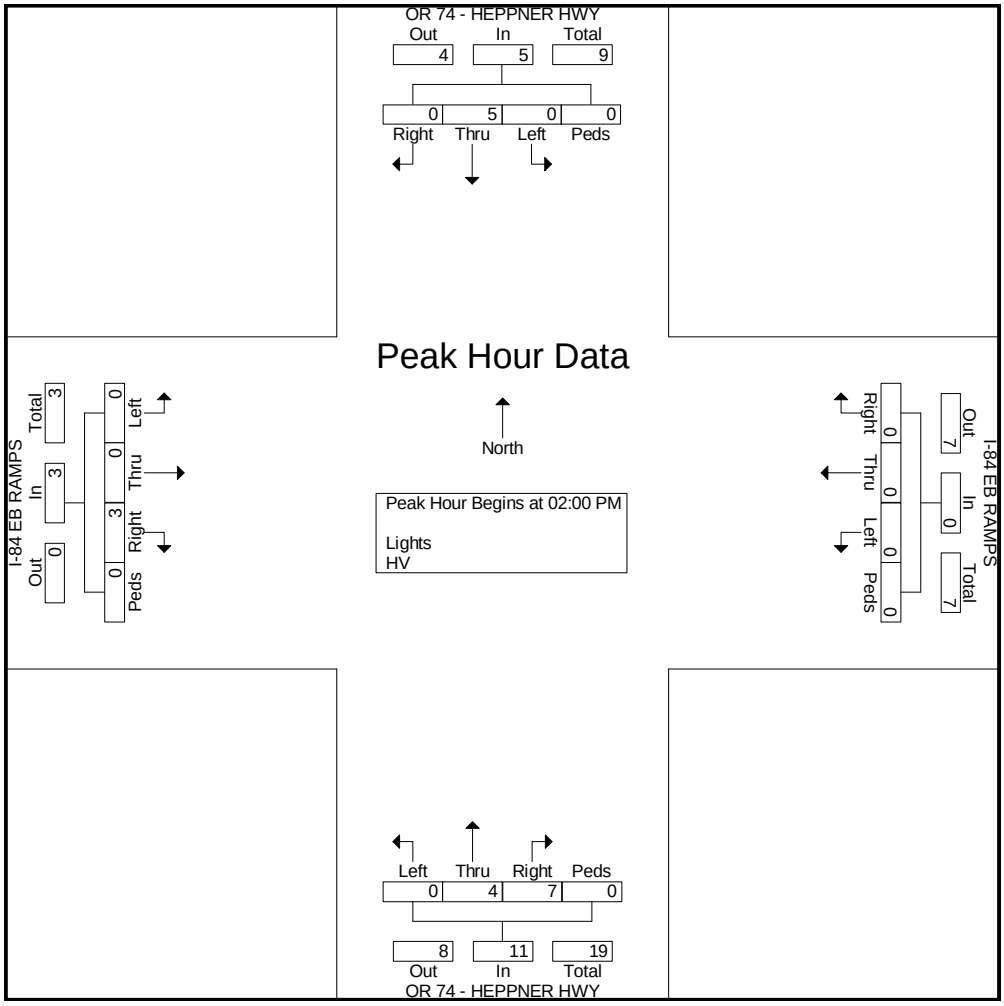


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	**2**	0	0	**2**	0	0	0	0	0	1	**3**	0	0	**4**	0	0	0	0	0	**6**
02:15 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	**1**	0	0	0	**1**	3
02:30 PM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	4
02:45 PM	0	1	0	0	1	0	0	0	0	0	**3**	1	0	0	4	1	0	0	0	1	6
Total Volume	0	5	0	0	5	0	0	0	0	0	7	4	0	0	11	3	0	0	0	3	19
% App. Total	0	100	0	0		0	0	0	0		63.6	36.4	0	0		100	0	0	0		
PHF	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.583	.333	.000	.000	.688	.750	.000	.000	.000	.750	.792

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
303-216-2439

File Name : #5 OR74&I84
Site Code :
Start Date : 11/19/2014
Page No : 6



All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #6 OR19&CEDAR
Site Code :
Start Date : 11/19/2014
Page No : 1

Groups Printed- Lights - HV

	OR 19 - JOHN DAY HWY Southbound				CEDAR SPRINGS LN Westbound				OR 19 - JOHN DAY HWY Northbound				CEDAR SPRINGS LN Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
05:00 AM	2	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	6
05:15 AM	10	0	0	0	0	0	0	0	0	0	3	0	1	0	2	0	16
05:30 AM	18	0	0	0	0	0	0	0	0	1	5	0	1	0	1	0	26
05:45 AM	10	2	0	0	0	0	0	0	0	2	2	0	0	0	4	0	20
Total	40	3	0	0	0	0	0	0	0	3	12	0	2	0	8	0	68
06:00 AM	3	1	0	0	0	0	0	0	0	0	0	0	2	0	3	0	9
06:15 AM	2	0	0	0	0	0	0	0	0	1	1	0	0	0	3	0	7
06:30 AM	5	1	0	0	0	0	0	0	0	2	1	0	0	0	1	0	10
06:45 AM	5	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	8
Total	15	2	0	0	0	0	0	0	0	5	2	0	3	0	7	0	34
07:00 AM	3	1	0	1	0	0	0	0	0	2	0	0	0	0	3	0	10
07:15 AM	6	1	0	0	0	0	0	0	0	3	0	0	0	0	6	0	16
07:30 AM	4	0	0	0	0	0	0	0	0	3	1	0	0	0	2	0	10
07:45 AM	3	3	0	0	0	0	0	0	0	1	2	0	0	0	2	0	11
Total	16	5	0	1	0	0	0	0	0	9	3	0	0	0	13	0	47
08:00 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	8
08:15 AM	4	3	0	0	0	0	0	0	0	3	0	0	1	0	1	0	12
08:30 AM	2	2	0	0	0	0	0	0	0	3	1	0	3	0	4	0	15
08:45 AM	5	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	8
Total	12	6	0	0	0	0	0	0	0	7	1	0	4	0	13	0	43
09:00 AM	5	0	0	0	0	0	0	0	0	4	0	0	1	0	2	0	12
09:15 AM	4	1	0	0	0	0	0	0	0	2	0	0	0	0	1	0	8
09:30 AM	3	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	13
09:45 AM	12	2	0	0	0	0	0	0	0	5	0	0	0	0	3	0	22
Total	24	8	0	0	0	0	0	0	0	11	0	0	1	0	11	0	55
10:00 AM	5	2	0	0	0	0	0	0	0	2	1	0	0	0	3	0	13
10:15 AM	5	2	0	0	0	0	0	0	0	1	0	0	0	0	4	0	12
10:30 AM	3	6	0	0	0	0	0	0	0	5	0	0	2	0	4	0	20
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3
Total	13	10	0	0	0	0	0	0	0	8	1	0	3	0	13	0	48
11:00 AM	1	2	0	0	0	0	0	0	0	0	1	0	0	0	2	0	6
11:15 AM	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5
11:30 AM	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	7	3	0	0	0	0	0	0	0	1	1	0	0	0	4	0	16
12:00 PM	5	1	0	1	0	0	0	0	0	1	0	0	0	0	4	0	12
12:15 PM	4	3	0	0	0	0	0	0	0	1	1	0	1	0	6	0	16
12:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	6
12:45 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	5
Total	11	6	0	1	0	0	0	0	0	2	1	0	1	0	17	0	39
01:00 PM	5	1	0	1	0	0	0	0	0	0	0	0	0	0	4	0	11
01:15 PM	1	3	0	0	0	0	0	0	0	1	0	0	0	0	2	0	7
01:30 PM	0	2	0	0	0	0	0	0	0	4	0	0	1	0	4	0	11
01:45 PM	5	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	9
Total	11	8	0	1	0	0	0	0	0	5	0	0	1	0	12	0	38

All Traffic Data Services, Inc
www.alltrafficdata.net
303-216-2439

File Name : #6 OR19&CEDAR
Site Code :
Start Date : 11/19/2014
Page No : 2

Groups Printed- Lights - HV

	OR 19 - JOHN DAY HWY Southbound				CEDAR SPRINGS LN Westbound				OR 19 - JOHN DAY HWY Northbound				CEDAR SPRINGS LN Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
02:00 PM	2	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	5
02:15 PM	0	2	0	0	0	0	0	0	0	4	2	0	0	0	2	0	10
02:30 PM	2	4	0	0	0	0	0	0	0	0	0	0	2	0	7	0	15
02:45 PM	6	2	0	0	0	0	0	0	0	1	0	0	1	0	1	0	11
Total	10	9	0	1	0	0	0	0	0	5	2	0	3	0	11	0	41
03:00 PM	2	1	0	1	0	0	0	0	0	0	0	0	0	0	5	0	9
03:15 PM	0	2	0	0	0	0	0	0	0	1	1	0	1	0	0	0	5
03:30 PM	2	2	0	0	0	0	0	0	0	2	0	0	1	0	1	0	8
03:45 PM	1	4	0	0	0	0	0	0	0	3	0	0	3	0	8	0	19
Total	5	9	0	1	0	0	0	0	0	6	1	0	5	0	14	0	41
04:00 PM	4	1	0	0	0	0	0	0	0	1	1	0	0	0	7	0	14
04:15 PM	1	5	0	0	0	0	0	0	0	0	0	0	2	0	12	0	20
04:30 PM	1	3	0	0	0	0	0	0	0	3	0	0	0	0	13	0	20
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	6	9	0	0	0	0	0	0	0	4	1	0	2	0	32	0	54
05:00 PM	3	2	0	0	0	0	0	0	0	3	1	0	0	0	3	0	12
05:15 PM	2	3	0	0	0	0	0	0	0	2	0	0	1	0	5	0	13
05:30 PM	2	1	0	0	0	0	0	0	0	2	1	0	2	0	7	0	15
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	7	6	0	0	0	0	0	0	0	7	2	0	3	0	15	0	40
06:00 PM	3	1	0	0	0	0	0	0	0	0	0	1	0	0	4	0	9
06:15 PM	2	1	0	0	0	0	0	0	0	1	1	0	0	0	3	0	8
06:30 PM	6	3	0	0	0	0	0	0	0	0	1	0	3	0	0	0	13
06:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
Total	13	5	0	0	0	0	0	0	0	1	2	1	3	0	8	0	33
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	5
07:15 PM	2	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	5
07:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	3
07:45 PM	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4
Total	2	3	0	0	0	0	0	0	0	4	0	1	0	0	7	0	17
08:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
08:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 PM	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
Total	1	4	0	0	0	0	0	0	0	2	0	0	0	0	1	0	8
Grand Total	193	96	0	5	0	0	0	0	0	80	29	2	31	0	186	0	622
Apprch %	65.6	32.7	0	1.7	0	0	0	0	0	72.1	26.1	1.8	14.3	0	85.7	0	
Total %	31	15.4	0	0.8	0	0	0	0	0	12.9	4.7	0.3	5	0	29.9	0	
Lights	122	90	0	5	0	0	0	0	0	72	27	2	30	0	103	0	451
% Lights	63.2	93.8	0	100	0	0	0	0	0	90	93.1	100	96.8	0	55.4	0	72.5
HV	71	6	0	0	0	0	0	0	0	8	2	0	1	0	83	0	171
% HV	36.8	6.2	0	0	0	0	0	0	0	10	6.9	0	3.2	0	44.6	0	27.5

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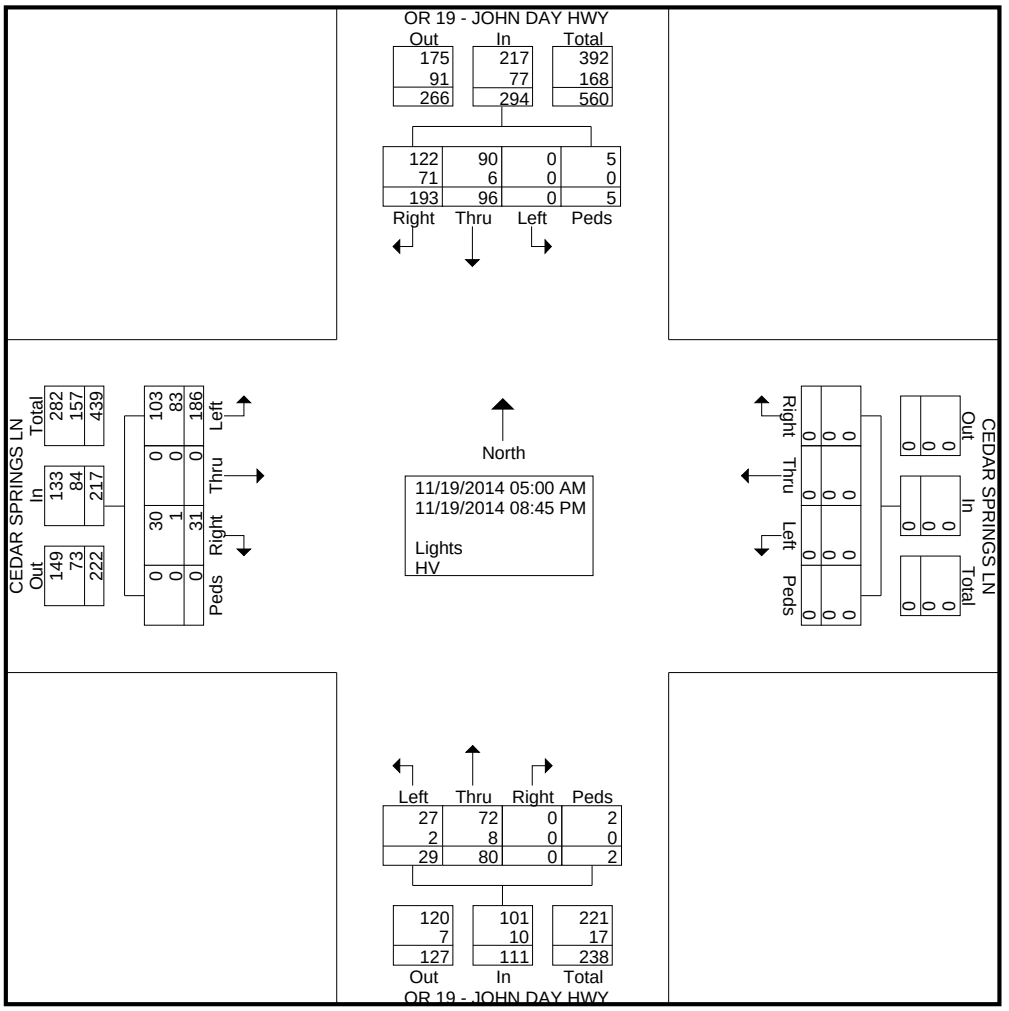
File Name : #6 OR19&CEDAR
Site Code :
Start Date : 11/19/2014
Page No : 3



	OR 19 - JOHN DAY HWY Southbound					CEDAR SPRINGS LN Westbound					OR 19 - JOHN DAY HWY Northbound					CEDAR SPRINGS LN Eastbound					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 AM																					
05:15 AM	10	0	0	0	10	0	0	0	0	0	0	0	3	0	3	1	0	2	0	3	16
05:30 AM	**18**	0	0	0	**18**	0	0	0	0	0	0	1	**5**	0	**6**	1	0	1	0	2	**26**
05:45 AM	10	**2**	0	0	12	0	0	0	0	0	0	**2**	2	0	4	0	0	**4**	0	4	20
06:00 AM	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	**2**	0	3	0	**5**	9
Total Volume	41	3	0	0	44	0	0	0	0	0	0	3	10	0	13	4	0	10	0	14	71
% App. Total	93.2	6.8	0	0		0	0	0	0		0	23.1	76.9	0		28.6	0	71.4	0		
PHF	.569	.375	.000	.000	.611	.000	.000	.000	.000	.000	.000	.375	.500	.000	.542	.500	.000	.625	.000	.700	.683

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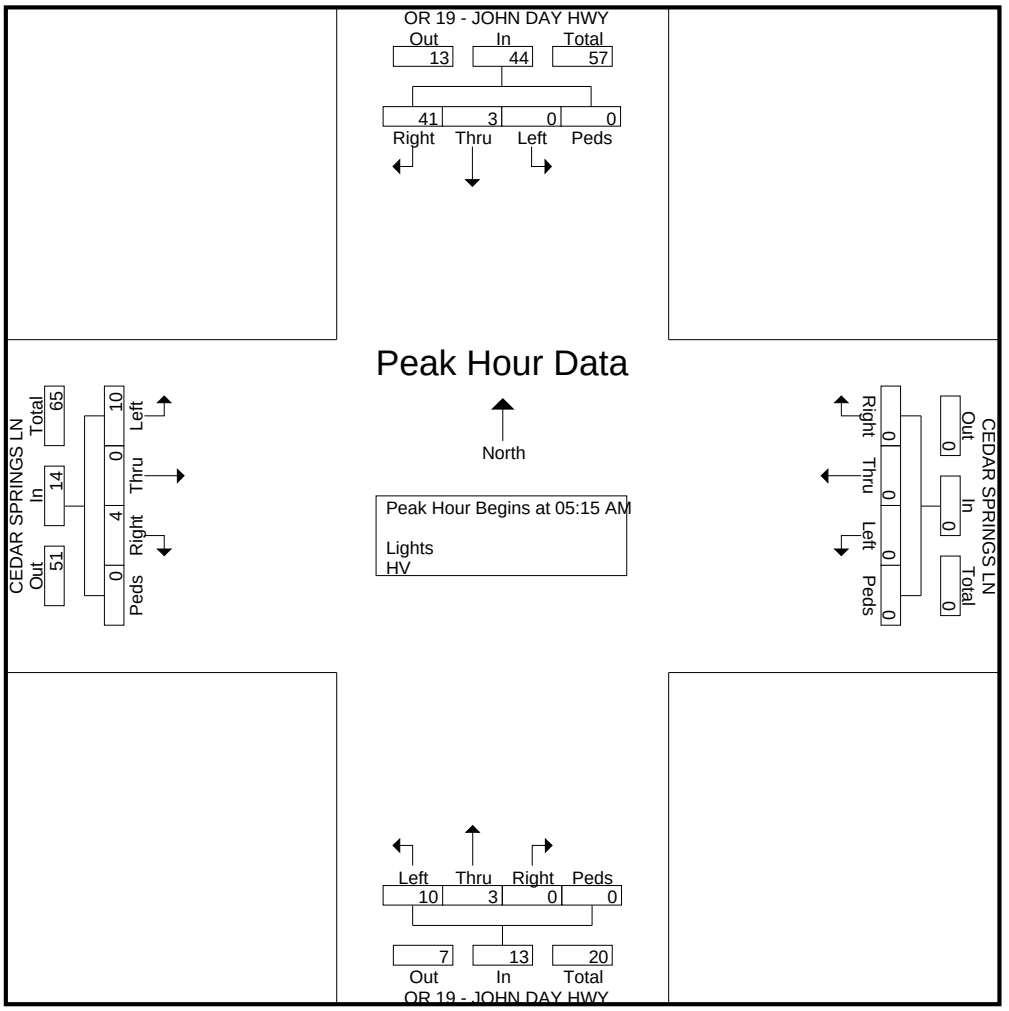
Site Code :
Start Date : 11/19/2014
Page No : 4



Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 10:00 AM

10:00 AM	**5**	2	0	0	7	0	0	0	0	0	0	2	**1**	0	3	0	0	3	0	3	13
10:15 AM	5	2	0	0	7	0	0	0	0	0	0	1	0	0	1	0	0	**4**	0	4	12
10:30 AM	3	**6**	0	0	**9**	0	0	0	0	0	0	**5**	0	0	**5**	**2**	0	4	0	**6**	**20**
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	3
Total Volume	13	10	0	0	23	0	0	0	0	0	0	8	1	0	9	3	0	13	0	16	48
% App. Total	56.5	43.5	0	0		0	0	0	0		0	88.9	11.1	0		18.8	0	81.2	0		
PHF	.650	.417	.000	.000	.639	.000	.000	.000	.000	.000	.000	.400	.250	.000	.450	.375	.000	.813	.000	.667	.600

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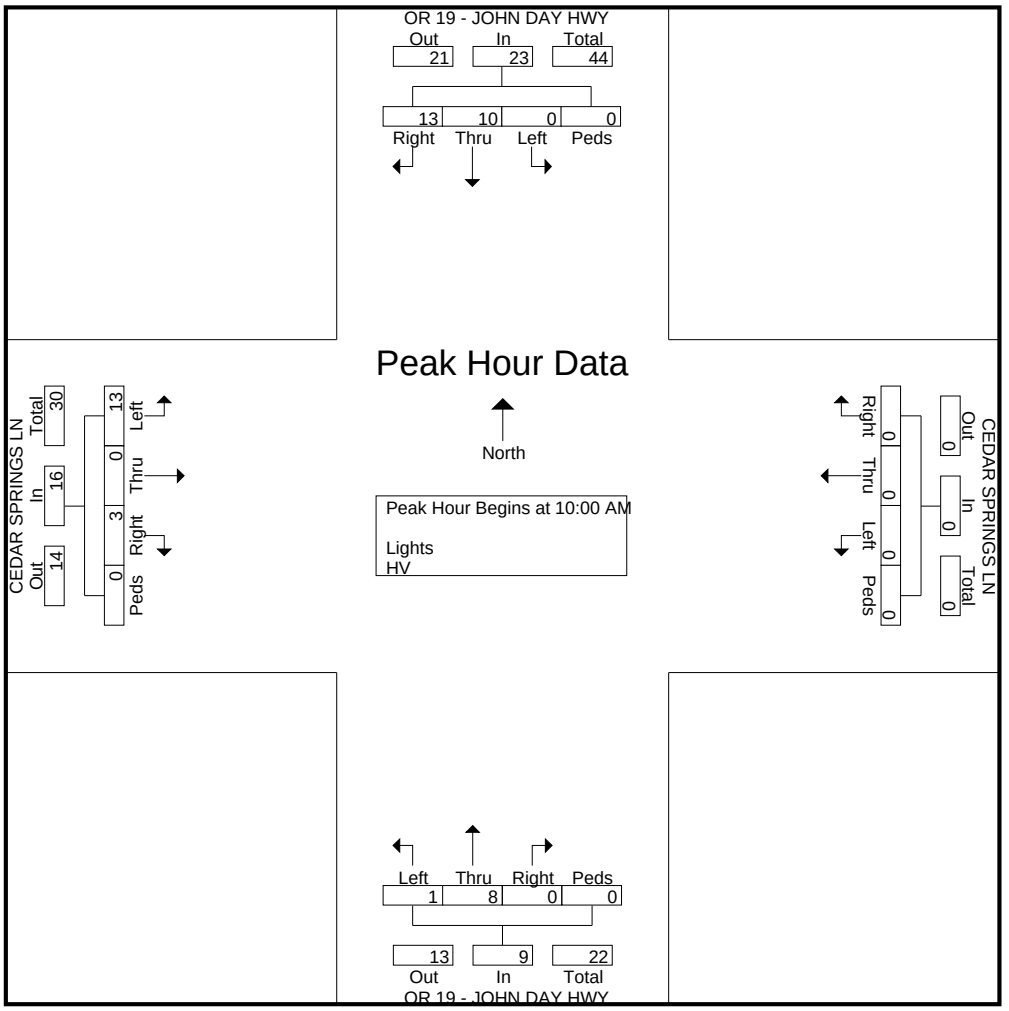
File Name : #6 OR19&CEDAR
Site Code :
Start Date : 11/19/2014
Page No : 5



Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:45 PM

03:45 PM	1	4	0	0	5	0	0	0	0	0	0	**3**	0	0	**3**	**3**	0	8	0	11	19
04:00 PM	**4**	1	0	0	5	0	0	0	0	0	0	1	**1**	0	2	0	0	7	0	7	14
04:15 PM	1	**5**	0	0	**6**	0	0	0	0	0	0	0	0	0	0	2	0	12	0	**14**	**20**
04:30 PM	1	3	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	**13**	0	13	20
Total Volume	7	13	0	0	20	0	0	0	0	0	0	7	1	0	8	5	0	40	0	45	73
% App. Total	35	65	0	0		0	0	0	0		0	87.5	12.5	0		11.1	0	88.9	0		
PHF	.438	.650	.000	.000	.833	.000	.000	.000	.000	.000	.000	.583	.250	.000	.667	.417	.000	.769	.000	.804	.913

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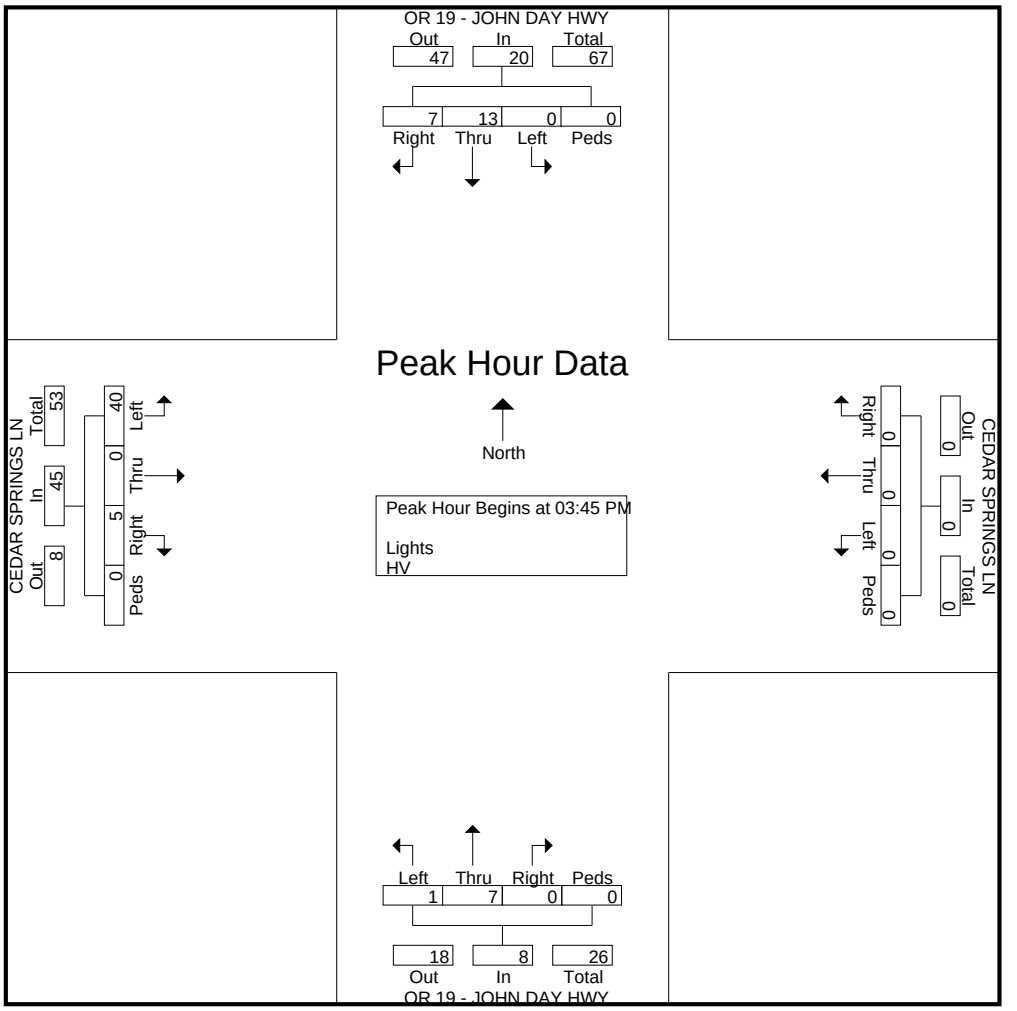
Site Code :
Start Date : 11/19/2014
Page No : 6



Appendix 3 Methodology Memorandum

Appendix 4 Roadway Segment Traffic Volume Profiles

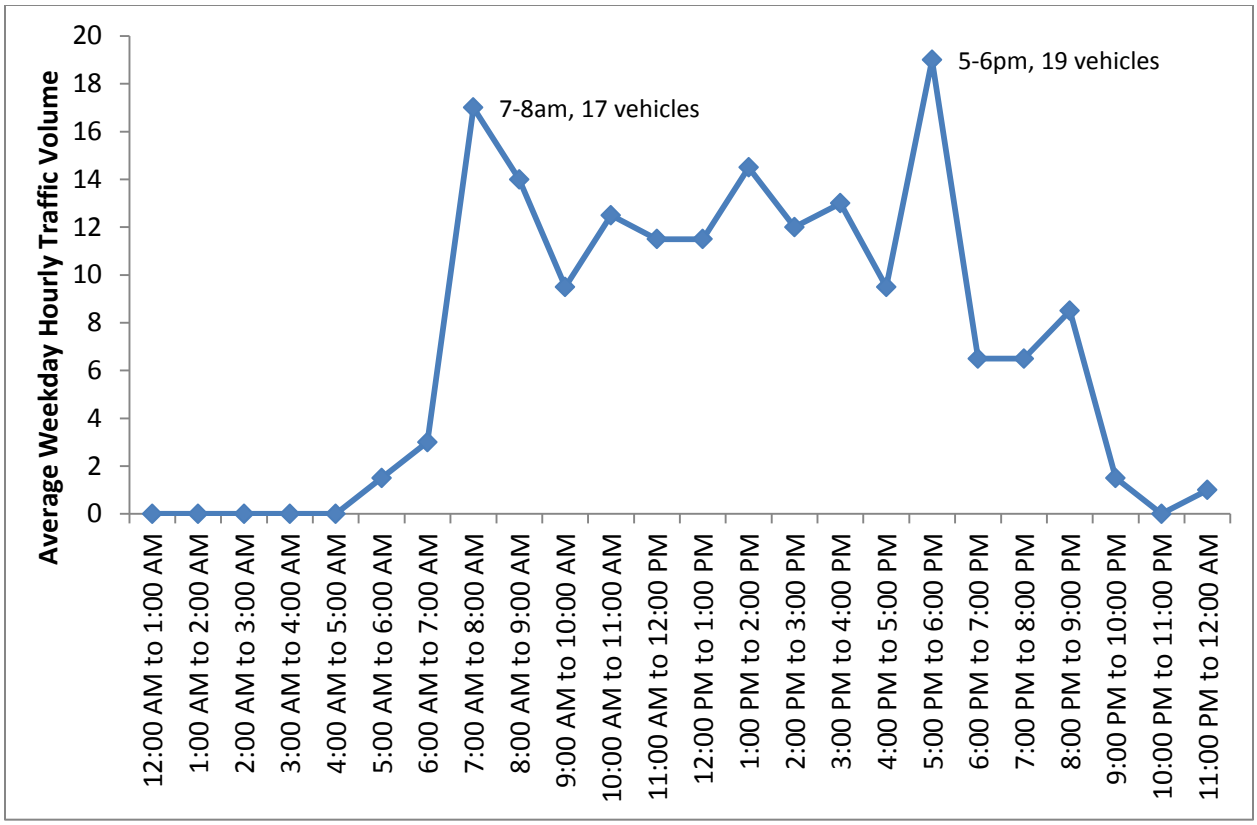


Figure 4-1. Lonerock Road (south of OR 19) Average Weekday Hourly Traffic Profile (Both Directions)

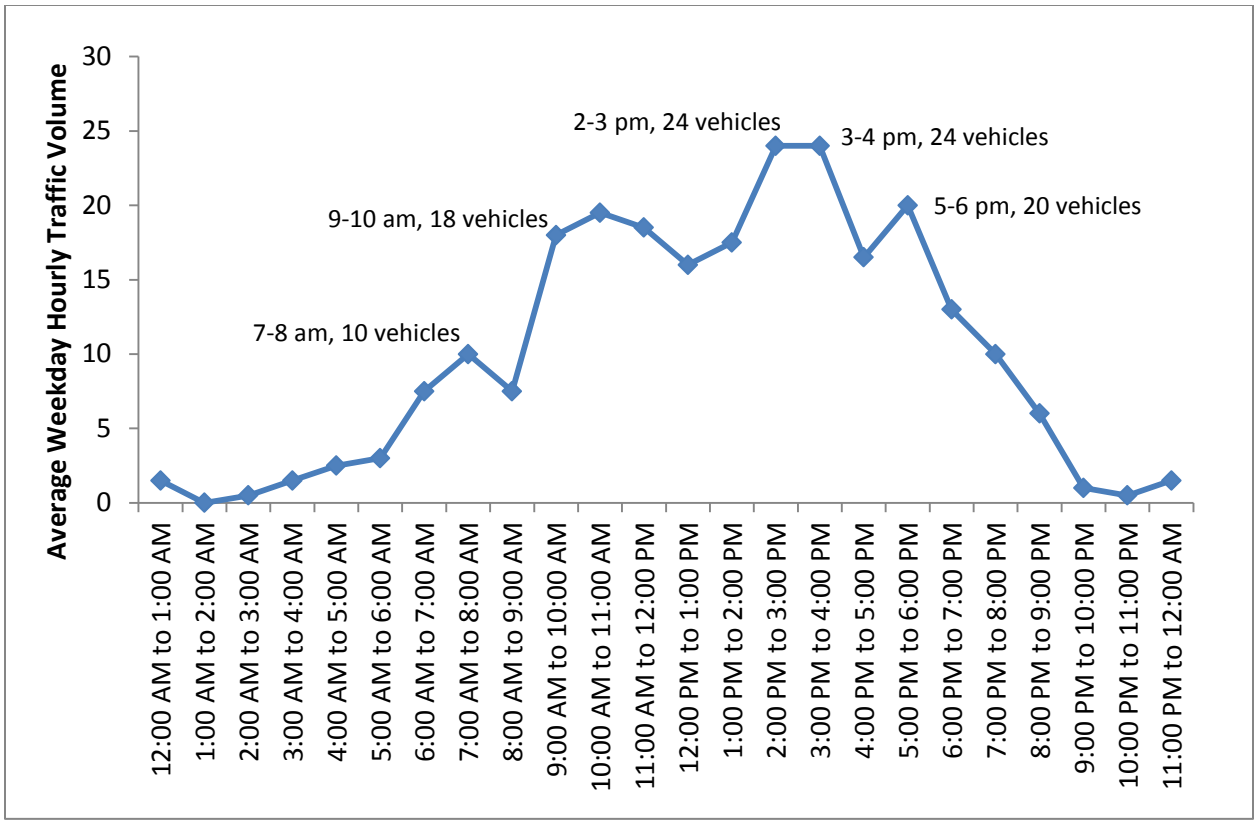


Figure 4-2. Baseline Road (East of OR 19) Average Weekday Hourly Traffic Profile (Both Directions)

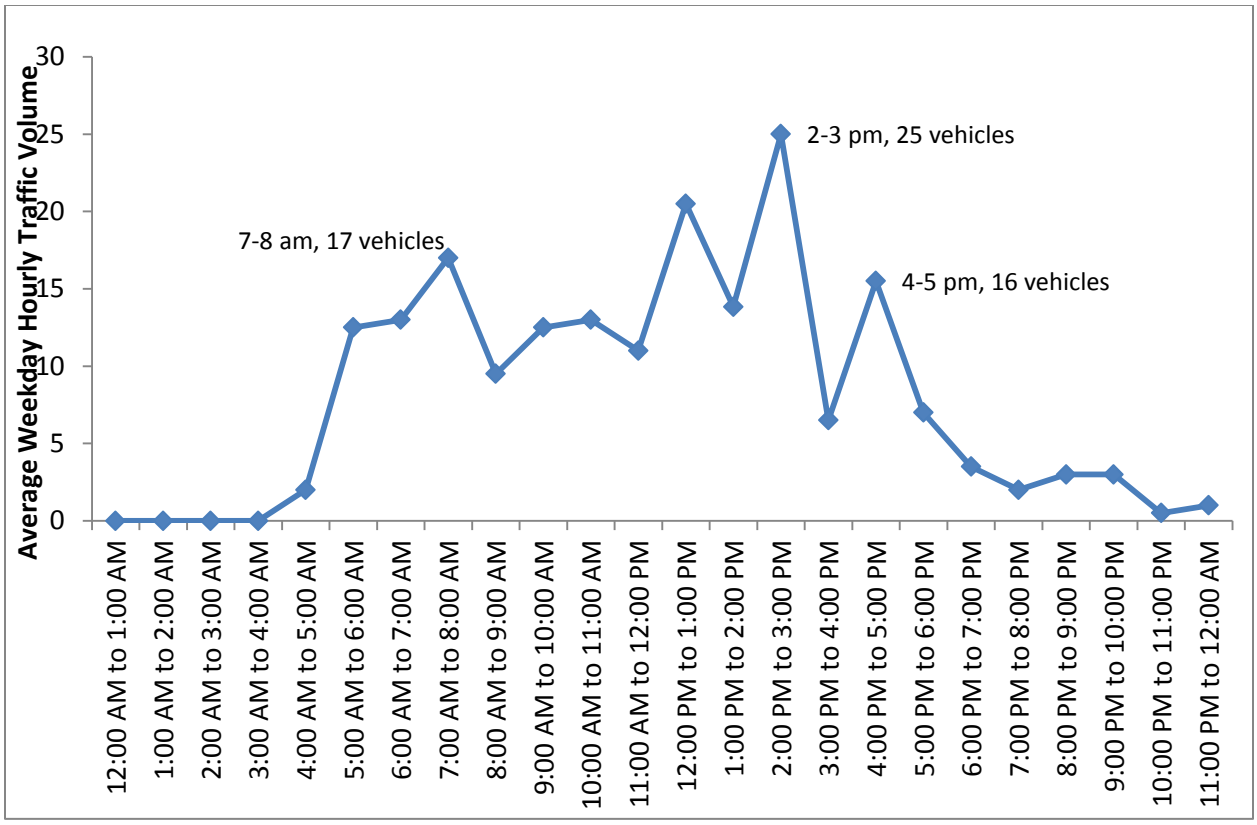


Figure 4-3. Fourmile Road (SE of OR 19) Average Weekday Hourly Traffic Profile (Both Directions)

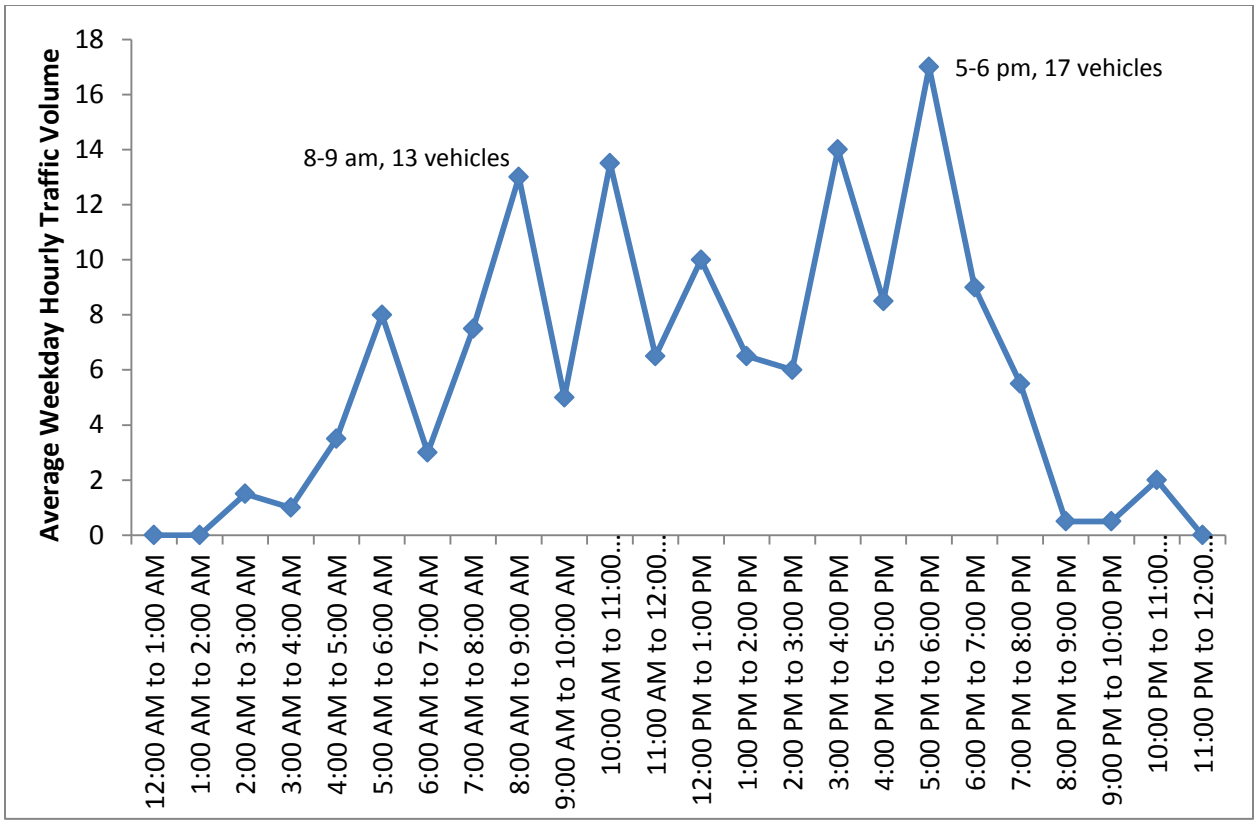


Figure 4-4. Blalock Canyon Road (South of I-84) Average Weekday Hourly Traffic Profile (Both Directions)

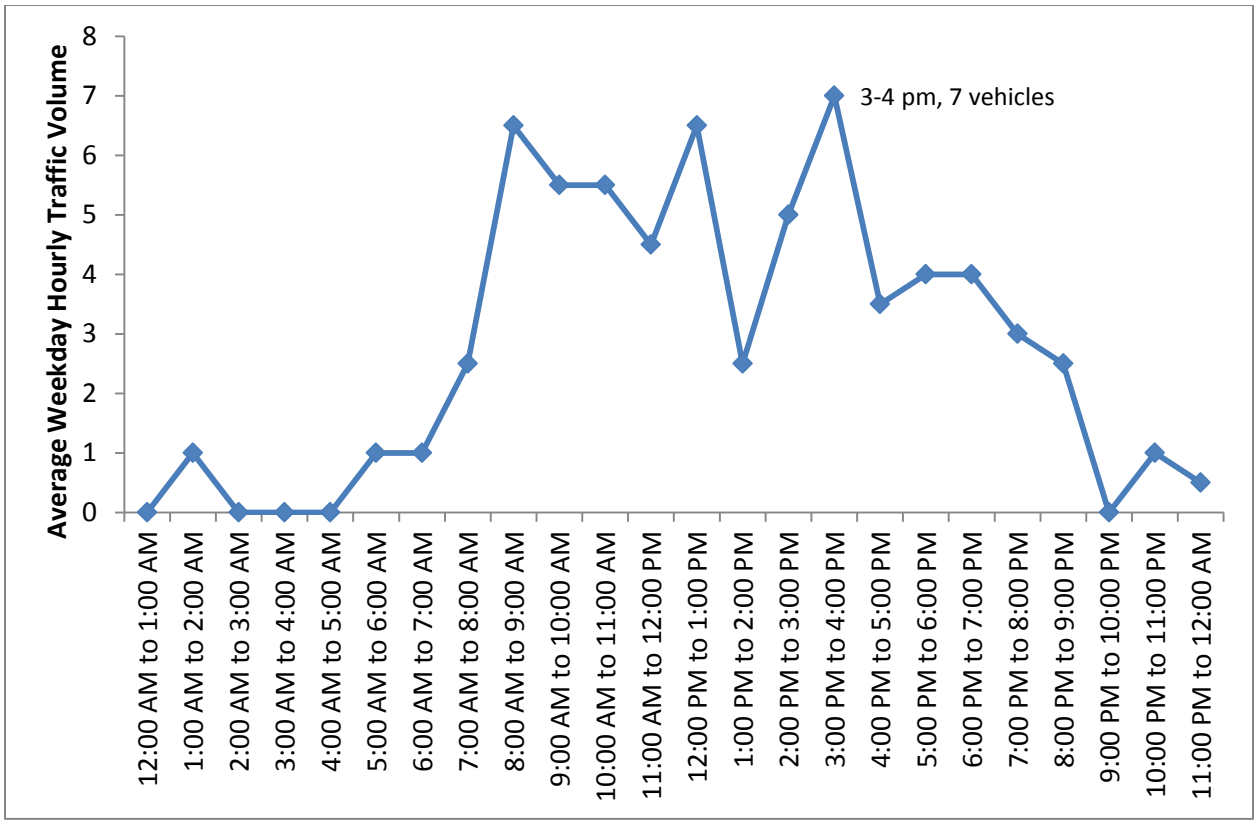


Figure 4-5. Quinton Canyon Road (South of I-84) Average Weekday Hourly Traffic Profile (Both Directions)

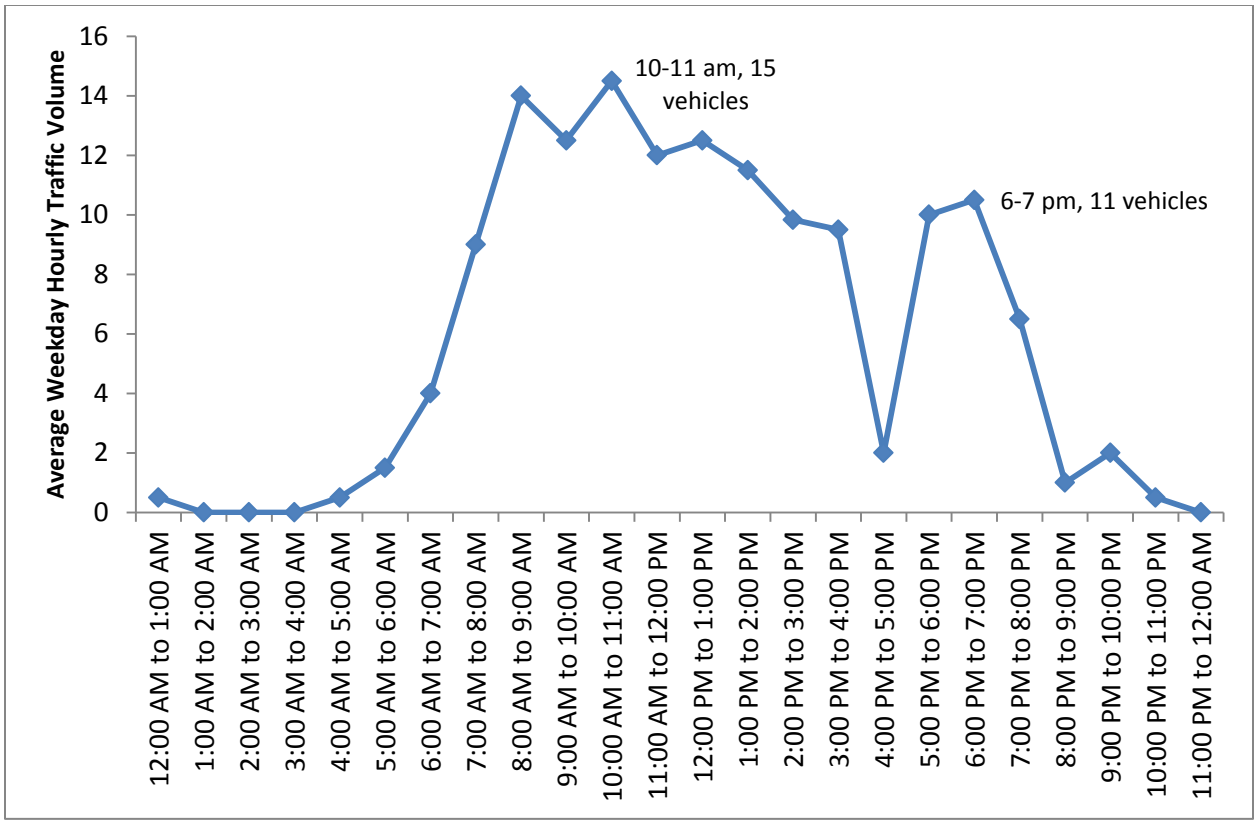


Figure 4-6. Mikkalo Lane (West of OR 19) Average Weekday Hourly Traffic Profile (Both Directions)

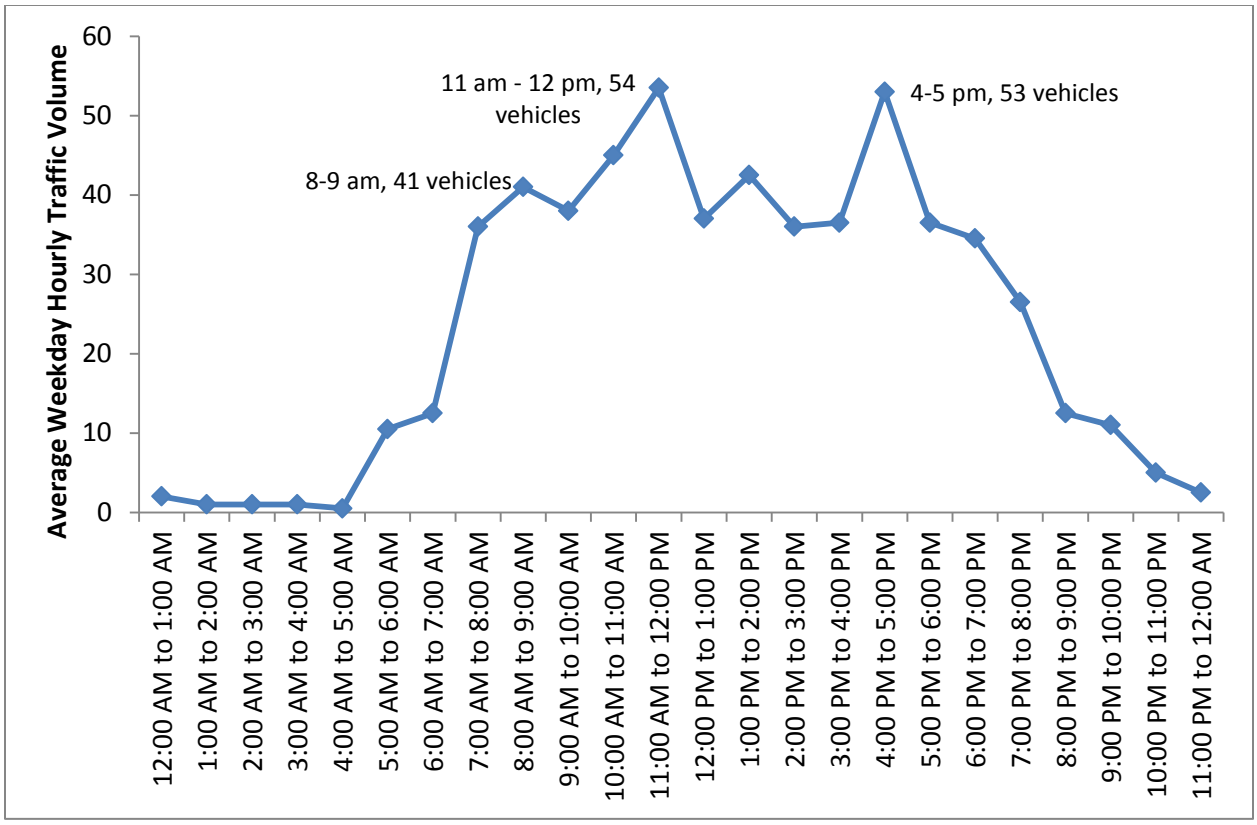


Figure 4-7. E Bayard Street (at Condon High School) Average Weekday Hourly Traffic Profile (Both Directions)

Appendix 5 Existing Conditions Traffic Operations Analysis Worksheets & Queue Length Calculations

MOVEMENT SUMMARY

Site: Main St/E Walnut St

Gilliam County
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: S Main Street											
3	L2	30	4.0	0.086	1.2	LOS A	0.3	8.9	0.25	0.12	33.2
8	T1	46	2.0	0.086	1.2	LOS A	0.3	8.9	0.25	0.12	33.4
18	R2	35	6.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.00	34.7
Approach		111	3.8	0.086	0.8	LOS A	0.3	8.9	0.17	0.08	33.7
East: E Walnut Street											
1	L2	32	10.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	35.4
6	T1	18	1.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	37.2
16	R2	15	4.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	35.7
Approach		65	6.1	0.038	0.0	NA	0.0	0.0	0.00	0.00	36.0
North: N Main Street											
7	L2	5	3.0	0.044	0.8	LOS A	0.2	4.2	0.15	0.07	33.3
4	T1	27	4.0	0.044	0.8	LOS A	0.2	4.2	0.15	0.07	33.3
14	R2	6	19.0	0.044	0.8	LOS A	0.2	4.2	0.15	0.07	32.9
Approach		38	6.4	0.044	0.8	LOS A	0.2	4.2	0.15	0.07	33.3
West: W Walnut Street											
5	L2	6	26.0	0.089	9.5	LOS A	0.4	9.3	0.21	0.10	28.7
2	T1	35	8.0	0.089	9.5	LOS A	0.4	9.3	0.21	0.10	29.4
12	R2	37	2.0	0.089	9.5	LOS A	0.4	9.3	0.21	0.10	29.6
Approach		78	6.6	0.089	9.5	LOS A	0.4	9.3	0.21	0.10	29.4
All Vehicles		292	5.4	0.089	2.9	NA	0.4	9.3	0.14	0.07	32.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Gilliam County TSP

Vistro File: H:\...\existing conditions.vistro Scenario: Base Scenario
Report File: H:\...\existingconditions_report.pdf 11/25/2014

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Main Street/E Bayard Street	Two-way stop	HCM2010	EBL	0.026	4.2	A
3	Cottonwood Street / Beech Street	Two-way stop	HCM2010	SBT	0.018	4.8	A
4	I-84 Ramps / Beech Street	Two-way stop	HCM2010	EBT	0.001	3.0	A
5	OR 74 / I-84 Eastbound Ramps	Two-way stop	HCM2010	WBL	0.000	2.1	A
6	OR 19 / Cedar Springs Lane	Two-way stop	HCM2010	EBL	0.058	5.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
#2: Main Street/E Bayard Street

Control Type:	Two-way stop	Delay (sec / veh):	4.2
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Main Street			Main Street			E Bayard Street			Access		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1
Speed	25.00			25.00			30.00			30.00		
Grade	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name	Main Street			Main Street			E Bayard Street			Access		
Base Volume Input [veh/h]	2	26	5	23	26	11	16	1	3	1	1	19
Base Volume Adjustment Factor	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.
Heavy Vehicles Percentage [%]	6			7			12			5		
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	26	5	23	26	11	16	1	3	1	1	19
Peak Hour Factor	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.
Other Adjustment Factor	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.
Total 15-Minute Volume [vehicles]	1	8	2	7	8	3	5	0	1	0	0	6
Total Analysis Volume [veh/h]	3	33	6	29	33	14	20	1	4	1	1	24
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s / veh]	7.35	0.00	0.00	7.38	0.00	0.00	9.71	9.71	9.71	8.69	8.69	8.69
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s / veh]	0.52			2.82			9.71			8.69		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s / veh]	4.17											
Intersection LOS	A											

Intersection Level Of Service Report
#3: Cottonwood Street / Beech Street

Control Type:	Two-way stop	Delay (sec / veh):	4.8
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Cottonwood Street			Arlington Port Road			Beech Street			I-84 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1
Speed	25.00			25.00			25.00			45.00		
Grade	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name	Cottonwood Street			Arlington Port Road			Beech Street			I-84 Ramps		
Base Volume Input [veh/h]	9	2	15	1	9	11	7	23	17	9	11	3
Base Volume Adjustment Factor	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.
Heavy Vehicles Percentage [%]	22			18			11			16		
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	2	15	1	9	11	7	23	17	9	11	3
Peak Hour Factor	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.	0.6900/0.
Other Adjustment Factor	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.
Total 15-Minute Volume [vehicles]	3	1	5	0	3	4	3	8	6	3	4	1
Total Analysis Volume [veh/h]	13	3	22	1	13	16	10	33	25	13	16	4
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.00	0.02	0.02	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s / veh]	9.32	9.32	9.32	9.34	9.34	9.34	7.35	0.00	0.00	7.49	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s / veh]	9.32			9.34			1.08			2.95		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s / veh]	4.76											
Intersection LOS	A											

Intersection Level Of Service Report
#4: I-84 Ramps / Beech Street

Control Type:	Two-way stop	Delay (sec / veh):	3.0
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Locust Street			I-84 Ramps			Access			Beech Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1
Speed	25.00			45.00			20.00			25.00		
Grade	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name	Locust Street			I-84 Ramps			Access			Beech Street		
Base Volume Input [veh/h]	1	41	11	9	30	1	1	1	1	14	1	14
Base Volume Adjustment Factor	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.
Heavy Vehicles Percentage [%]	27			26			6			13		
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	41	11	9	30	1	1	1	1	14	1	14
Peak Hour Factor	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.	0.8000/0.
Other Adjustment Factor	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.
Total 15-Minute Volume [vehicles]	0	13	3	3	9	0	0	0	0	4	0	4
Total Analysis Volume [veh/h]	1	51	14	11	38	1	1	1	1	18	1	18
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02
d_M, Delay for Movement [s / veh]	7.53	0.00	0.00	7.60	0.00	0.00	9.27	9.27	9.27	9.23	9.23	9.23
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s / veh]	0.11			1.67			9.27			9.23		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s / veh]	2.95											
Intersection LOS	A											

Intersection Level Of Service Report
#5: OR 74 / I-84 Eastbound Ramps

Control Type:	Two-way stop	Delay (sec / veh):	2.1
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	OR 74			OR 74			I-84 Exit Ramp			I-84 Entrance Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1	100.00/1
Speed	55.00			55.00			45.00			45.00		
Grade	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name	OR 74			OR 74			I-84 Exit Ramp			I-84 Entrance Ramp		
Base Volume Input [veh/h]	0	5	9	1	6	0	1	1	4	0	0	0
Base Volume Adjustment Factor	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.
Heavy Vehicles Percentage [%]	6			2			22			2		
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	9	1	6	0	1	1	4	0	0	0
Peak Hour Factor	1.0000/1.	0.7900/0.	0.7900/0.	0.7900/0.	0.7900/0.	1.0000/1.	0.7900/0.	0.7900/0.	0.7900/0.	0.7900/0.	0.7900/0.	0.7900/0.
Other Adjustment Factor	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.	1.0000/1.
Total 15-Minute Volume [vehicles]	0	2	3	0	2	0	0	0	1	0	0	0
Total Analysis Volume [veh/h]	0	6	11	1	8	0	1	1	5	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s / veh]	0.00	0.00	0.00	7.25	0.00	0.00	8.72	8.72	8.72	8.72	8.72	8.72
Movement LOS		A	A	A	A		A	A	A	A	A	A
d_A, Approach Delay [s / veh]	0.00			0.81			8.72			8.72		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s / veh]	2.07											
Intersection LOS	A											

Intersection Level Of Service Report
#6: OR 19 / Cedar Springs Lane

Control Type:	Two-way stop	Delay (sec / veh):	5.9
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.058

Intersection Setup

Name	OR 19		OR 19		Cedar Springs Lane	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0
Pocket Length	100.00	100.00	100.00	175.00	100.00	100.00
Speed	55.00		55.00		45.00	
Grade	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name	OR 19		OR 19		Cedar Springs Lane	
Base Volume Input [veh/h]	1	8	15	8	47	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10		17		40	
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	8	15	8	47	6
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [vehicles]	0	2	4	2	13	2
Total Analysis Volume [veh/h]	1	9	16	9	52	7
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.06	0.01
d_M, Delay for Movement [s / veh]	7.34	0.00	0.00	0.00	9.25	9.25
Movement LOS	A	A	A	A	A	A
d_A, Approach Delay [s / veh]	0.73		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s / veh]	5.88					
Intersection LOS	A					

Gilliam County TSP

Vistro File: H:\...\existing conditions.vistro Scenario: Base Scenario
Report File: H:\...\existingconditions_report.pdf 11/25/2014

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Main Street/E Bayard Street	2	26	5	23	26	11	16	1	3	1	1	19	134

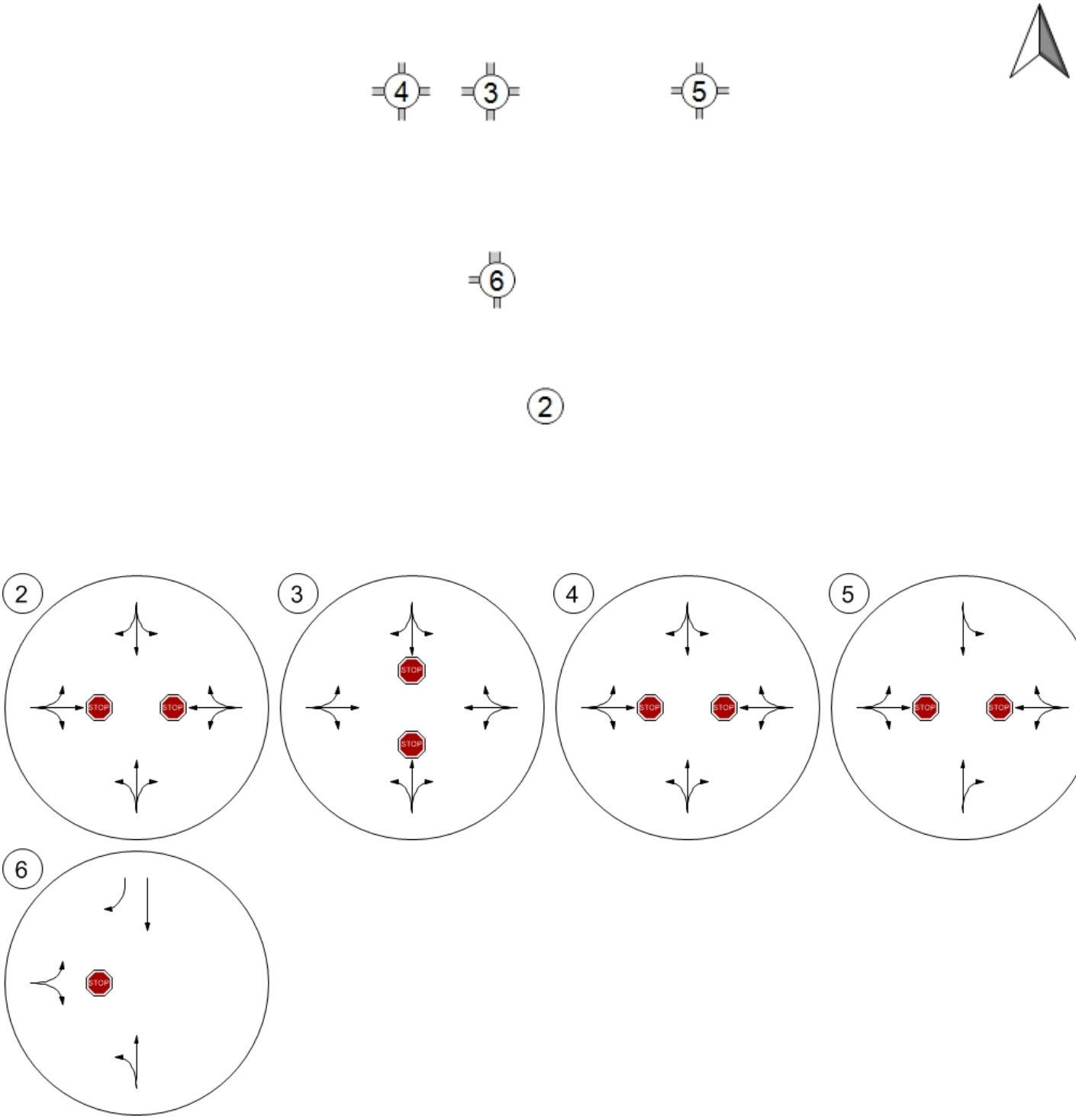
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Cottonwood Street / Beech Street	9	2	15	1	9	11	7	23	17	9	11	3	117

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	I-84 Ramps / Beech Street	1	41	11	9	30	1	1	1	1	14	1	14	125

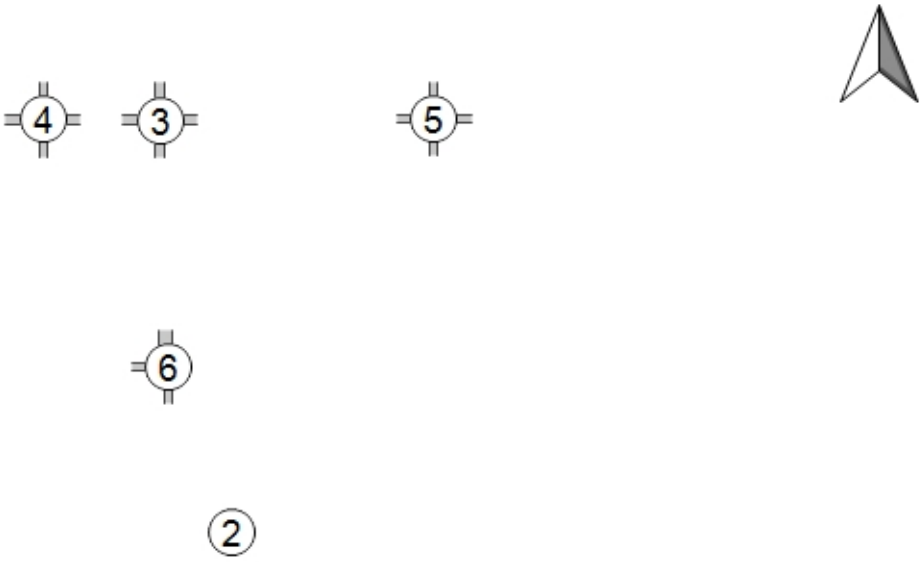
ID	Intersection Name	Northbound		Southbound		Eastbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
5	OR 74 / I-84 Eastbound Ramps	5	9	1	6	1	1	4	0	0	0	27

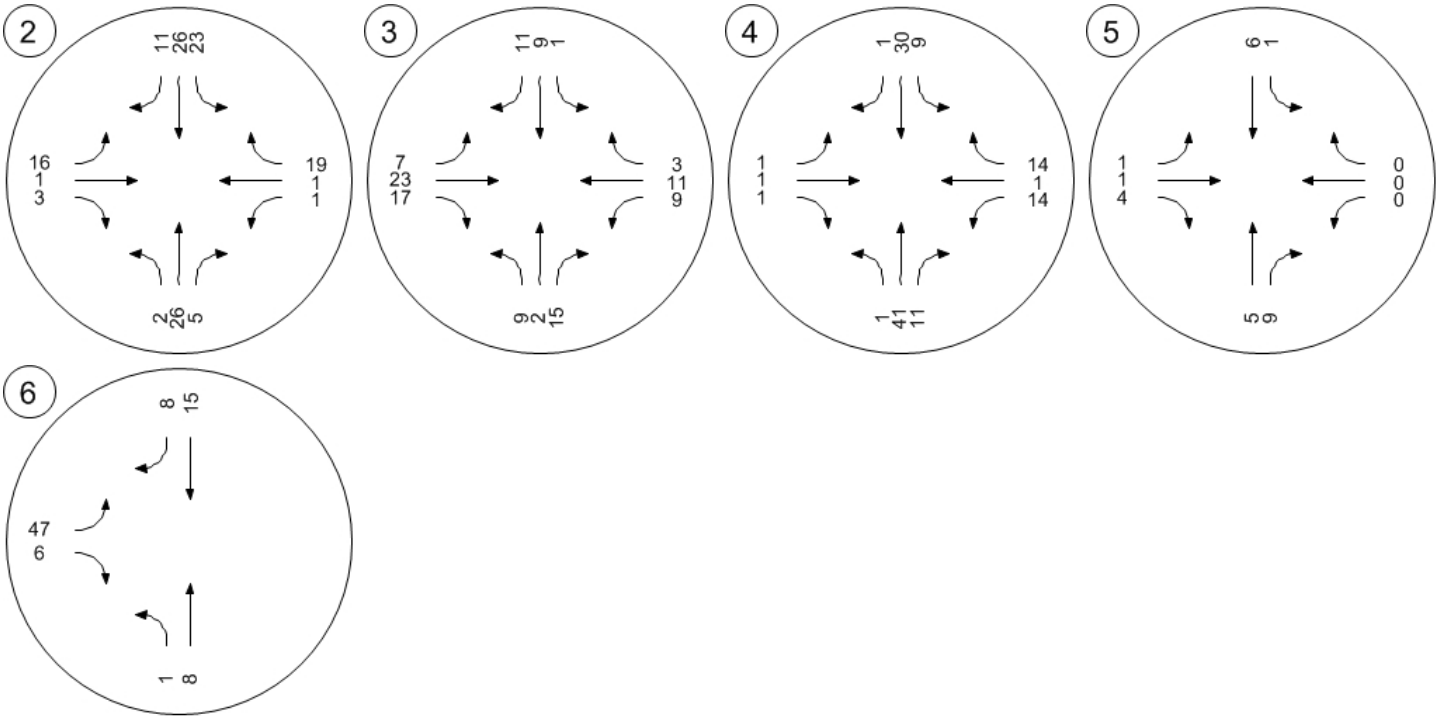
ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
6	OR 19 / Cedar Springs Lane	1	8	15	8	47	6	85

Lane Configuration and Traffic Control

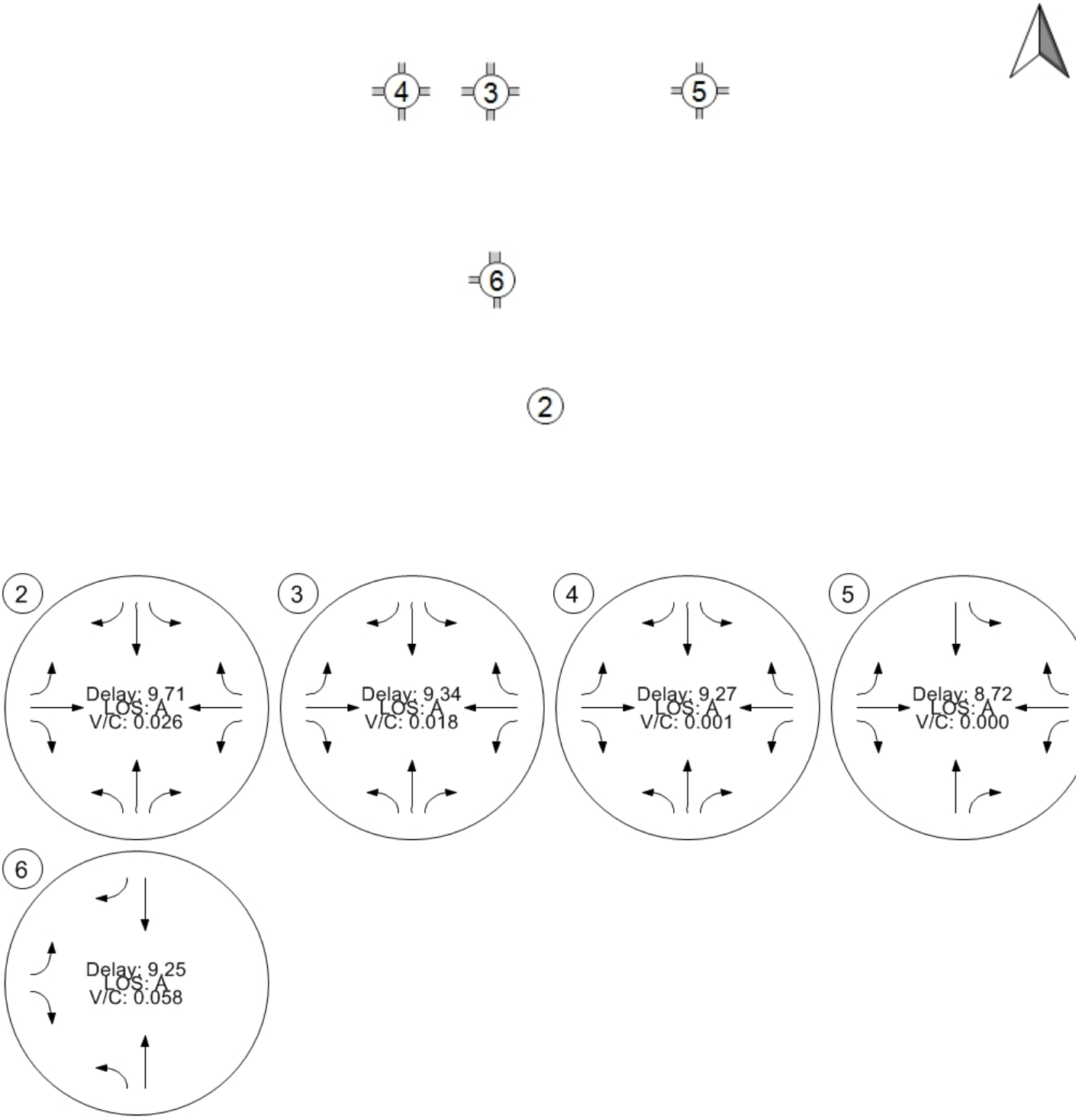


Traffic Volume - Base Volume





Traffic Conditions



Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Gilliam County	Project ID:	17679
Date Performed:	11/25/2014	Analysis Year:	2014
Analysis Time Period:	12:00 - 1:00 p.m.		
Intersection:	2		
East/West Street:	E Bayard Street		
North/South Street:	Main Street		

Input							**Results**
Approach	Lane Group, Code	Volume, veh/hr	% Heavy Vehicles	Conflicting Volume,veh/hr	Signal (0 or 1)	Left Turn Lane (0 or 1)	Queue Length Feet
EB	MNLTR	21	5.0%	93	0	0	**18**
WB	MNLTR	20	12.0%	93	0	0	**19**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Gilliam County	Project ID:	17679
Date Performed:	11/25/2014	Analysis Year:	2014
Analysis Time Period:	12:00 - 1:00 p.m.		
Intersection:	3		
East/West Street:	I-84 Ramps/Beech Street		
North/South Street:	Cottonwood Street/Arlington Port Road		

Input							**Results**
Approach	Lane Group, Code	Volume, veh/hr	% Heavy Vehicles	Conflicting Volume,veh/hr	Signal (0 or 1)	Left Turn Lane (0 or 1)	Queue Length Feet
NB	MNLTR	27	22.0%	70	0	0	**21**
SB	MNLTR	21	18.0%	70	0	0	**19**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Gilliam County	Project ID:	17679
Date Performed:	11/25/2014	Analysis Year:	2014
Analysis Time Period:	12:00 - 1:00 p.m.		
Intersection:	4		
East/West Street:	Beech Street		
North/South Street:	I-84 Ramps/Locust Street		

Input							**Results**
Approach	Lane Group, Code	Volume, veh/hr	% Heavy Vehicles	Conflicting Volume,veh/hr	Signal (0 or 1)	Left Turn Lane (0 or 1)	Queue Length Feet
EB	MNLTR	29	13.0%	93	0	0	**22**
WB	MNLTR	3	20.0%	93	0	0	**15**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Gilliam County	Project ID:	17679
Date Performed:	11/25/2014	Analysis Year:	2014
Analysis Time Period:	12:00 - 1:00 p.m.		
Intersection:	5		
East/West Street:	I-84 Eastbound Ramps		
North/South Street:	OR 74		

Input							**Results**
Approach	Lane Group, Code	Volume, veh/hr	% Heavy Vehicles	Conflicting Volume,veh/hr	Signal (0 or 1)	Left Turn Lane (0 or 1)	Queue Length Feet
EB	MNLTR	7	22.0%	21	0	0	**15**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Gilliam County	Project ID:	17679
Date Performed:	11/25/2014	Analysis Year:	2014
Analysis Time Period:	12:00 - 1:00 p.m.		
Intersection:	6		
East/West Street:	Cedar Springs Lane		
North/South Street:	OR 19		

Input							**Results**
Approach	Lane Group, Code	Volume, veh/hr	% Heavy Vehicles	Conflicting Volume,veh/hr	Signal (0 or 1)	Left Turn Lane (0 or 1)	Queue Length Feet
EB	MNLTR	53	40.0%	33	0	0	**32**

Appendix 6 ODOT Crash Data

General Crash Information: Reported Crashes within Gilliam County (2009-2013) (Additional Information Available Upon Request)

Crash ID	Crash Month	Crash Day	Crash Year	Week Day Code	Crash Hour (Hour Starting)	County	City	Functional Class Code	Highway Number	Milepoint	Posted Speed Limit	Road Character	Crash Type	Collision Type	Crash Severity	Weather Condition	Road Surface Condition	Light Condition	Traffic Control Device (TCD)	Crash Level Event 1 Code	Crash Level Event 2 Code	Crash Level Cause 1 Code	Work Zone Indicator	Alcohol-Involved Flag	Drugs Involved Flag	Excessive Speed Involved Flag
1315658	January	16	2009	Friday	6:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	114.74	65	Bridge structure (overpass and underpass included)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Darkness – no street lights	Median barrier	Median barrier (raised or metal)	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315659	January	25	2009	Sunday	9:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	115.33	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Darkness – no street lights	Median barrier	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315662	January	26	2009	Monday	3:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	116.5	65	Straight roadway	Pedestrian	Pedestrian	Non-fatal injury crash	Clear	Ice	Daylight	Median barrier	Sliding or swerving due to wet, icy, slippery or loose surface		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315664	January	26	2009	Monday	3:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	116.63	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Ice	Daylight	Median barrier	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315668	January	4	2009	Sunday	5:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	121.1	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Wet	Darkness – no street lights	Median barrier	Median barrier (raised or metal)	Vehicle forced by impact into another vehicle, cyclist or pedestrian	Driving in excess of posted speed	No	No	No	Yes
1315669	January	25	2009	Sunday	4:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129.7	65	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Ice	Dusk (Twilight)	Median barrier	Guard rail (not metal median barrier)		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315671	January	18	2009	Sunday	9:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	133.1	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Sleet	Ice	Daylight	One way street	Chuckhole in road, low or high shoulder at pavement edge	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315672	January	25	2009	Sunday	1:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	132	65	Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Cloudy	Snow	Daylight	One way street			Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315675	January	25	2009	Sunday	10:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	135.56	65	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Daylight	One way street	Guard rail (not metal median barrier)		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315676	January	1	2009	Thursday	8:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	137.31	65	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Fog	Ice	Darkness – no street lights	Median barrier	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315678	January	25	2009	Sunday	8:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	148	65	Straight roadway	From same direction – both going straight	Rear-End	Property damage only crash (PDO)	Snow	Ice	Daylight	One way street			Followed too closely	No	No	No	No
1315679	January	19	2009	Monday	9:00 AM	Gilliam		Rural Major Collector		0.9	40	roadway and considered "located"	Overturned	Non-collision	Property damage only crash (PDO)	Cloudy	Ice	Daylight	Unknown or not defined	Sliding or swerving due to wet, icy, slippery or loose surface		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1315685	January	17	2009	Saturday	9:00 PM	Gilliam		Rural Minor Arterial	Wasco-Heppner	34.23		Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Fog	Ice	Darkness – no street lights	Unknown or not defined	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1316249	January	19	2009	Monday	3:00 PM	Gilliam		Rural Local Street or Road		999.99		Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Daylight	Unknown or not defined	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1318243	March	6	2009	Friday	Unknown Ti	Gilliam		Rural Minor Collector		6	55	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Fatal crash	Unknown	Unknown	Unknown	No control (as stated on Police Report)	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	Yes	No	Yes
1320099	February	3	2009	Tuesday	10:00 AM	Gilliam		Rural Minor Arterial	Wasco-Heppner	24.5	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Ice	Daylight	No control (as stated on Police Report)	Delineator or marker (reflector posts)	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1320101	February	10	2009	Tuesday	6:00 PM	Gilliam	Condon	Rural Major Collector	Wasco-Heppner	41.07	20	roadway and considered "located"	From opposite direction – both going straight	Head-On	Non-fatal injury crash	Snow	Snow	Darkness – no street lights	No control (as stated on Police Report)	Sliding or swerving due to wet, icy, slippery or loose surface		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1320102	March	6	2009	Friday	5:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	118.13	65	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Darkness – no street lights	Median barrier	Guard rail (not metal median barrier)	Median barrier (raised or metal)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1320103	March	6	2009	Friday	8:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129.41	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Ice	Daylight	Median barrier	Median barrier (raised or metal)	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1320108	March	14	2009	Saturday	9:00 AM	Gilliam		Rural Major Collector		10.38		roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined	Cut slope or ditch embankment		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1322674	April	21	2009	Tuesday	12:00 PM	Gilliam		Rural Minor Collector		10.05		Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined	Deer or elk, wapiti		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1322677	May	15	2009	Friday	7:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	124.45		Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Non-fatal injury crash	Clear	Dry	Daylight	Median barrier			Improper change of traffic lanes		No	No	No
1322680	June	19	2009	Friday	4:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	137.46	65	Grade (vertical curve)	Other object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier	Struck by other moving or flying object	Temporary sign or barricade in road, etc.	Other (not improper driving)	Yes	No	No	No
1322684	June	28	2009	Sunday	4:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	141.18	65	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	One way street	Slides, rocks off or on road, falling rocks	Guard rail (not metal median barrier)	Driver drowsy / fatigued / sleepy	No	No	No	No
1322686	April	19	2009	Sunday	4:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	149		Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	One way street	Wild animal, game (includes birds; not deer or elk)		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1335885	June	8	2009	Monday	8:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	121.48	55	Straight roadway	Other non-collision	Non-collision	Property damage only crash (PDO)	Clear	Dry	Dusk (Twilight)	Median barrier	Foreign obstruction / debris in road (not gravel)		Other (not improper driving)	No	No	No	No
1335886	July	9	2009	Thursday	3:00 PM	Gilliam	Arlington	Rural Local Street or Road		25		Street/road or highway intersection	Entering at angle – all others	Turning Movement	Property damage only crash (PDO)	Clear	Dry	Daylight	Stop sign	Vegetation obscured view		Did not yield right-of-way	No	No	No	No
1335890	July	27	2009	Monday	12:00 AM	Gilliam		Rural Major Collector		6.19	55	Straight roadway	Animal	Miscellaneous	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	No control (as stated on Police Report)	Stock: cow, calf, bull, steer, sheep, etc.		Other (not improper driving)	No	No	No	No
1335893	July	13	2009	Monday	3:00 PM	Gilliam		Rural Minor Arterial	John Day	4.07		Straight roadway	From same direction – one turn, one straight	Turning Movement	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined			Made improper turn		No	No	No
1335895	July	5	2009	Sunday	3:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	133.56	65	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	One way street	Cut slope or ditch embankment	Overturned after first harmful event	Followed too closely	No	No	No	No
1335953	June	15	2009	Monday	6:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	147.79		Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	One way street	Unknown type of fixed object		Driver drowsy / fatigued / sleepy		No	No	No
1342531	November	14	2009	Saturday	8:00 PM	Gilliam		Rural Local Street or Road		1.01	55	Grade (vertical curve)	Overturned	Non-collision	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	Unknown or not defined			Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1342533	September	27	2009	Sunday	9:00 AM	Gilliam		Rural Major Collector		9.21	55	roadway and considered "located"	Other object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Slides, rocks off or on road, falling rocks	Overturned after first harmful event	Other (not improper driving)	No	No	No	No
1342534	August	3	2009	Monday	3:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	125.56		Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier			Improper change of traffic lanes		No	No	No
1342535	August	1	2009	Saturday	8:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	127.56	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier	Guard rail (not metal median barrier)	Tire failure	Tire failure	No	No	No	No
1342536	August	3	2009	Monday	10:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	133.5	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	One way street	Guard rail (not metal median barrier)	Jackknife: trailer or towed vehicle struck towing vehicle	Other improper driving	No	No	No	No
1342537	September	17	2009	Thursday	3:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129.24	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	Median barrier	Median barrier (raised or metal)		Driver drowsy / fatigued / sleepy	No	No	No	No
1342538	September	3	2009	Thursday	4:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	144.42	55	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	Median barrier	Guard rail (not metal median barrier)	Overturned after first harmful event	Driver drowsy / fatigued / sleepy	No	Yes	No	No
1342539	September	18	2009	Friday	10:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	136.55	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	One way street	Cut slope or ditch embankment	Overturned after first harmful event	Inattention	No	No	No	No
1342541	September	25	2009	Friday	1:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	147.71	65	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	One way street	Guard rail (not metal median barrier)	Tire failure	Tire failure	No	No	No	No
1342542	October	3	2009	Saturday	7:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	131.56	65	Grade (vertical curve)	From same direction – both going straight	Sideswipe-overtaking	Non-fatal injury crash	Rain	Wet	Daylight	Median barrier			Mechanical defect	No	No	No	No
1342543	December	30	2009	Wednesday	12:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	137		Straight roadway	From same direction – both going straight	Rear-End	Property damage only crash (PDO)	Clear	Ice	Daylight	Median barrier	Sliding or swerving due to wet, icy, slippery or loose surface		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1342601	August	10	2009	Monday	6:00 PM	Gilliam		Rural Minor Arterial	Wasco-Heppner	20.16		Driveway or alley access	From same direction – one turn, one straight	Turning Movement	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined			Improper overtaking		No	No	No
1342608	September	24	2009	Thursday	5:00 AM	Gilliam		Rural Minor Arterial	John Day	12.76	55	Grade (vertical curve)	Animal	Miscellaneous	Non-fatal injury crash	Clear	Dry	Dawn (Twilight)	Unknown or not defined	Deer or elk, wapiti	Cut slope or ditch embankment	Other (not improper driving)	No	No	No	No
1343465	December	4	2009	Friday	3:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	118	65	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Dry	Daylight	Median barrier	Median barrier (raised or metal)	Cut slope or ditch embankment	Driver drowsy / fatigued / sleepy	No	No	No	No
1343469	December	28	2009	Monday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	132.56		Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Snow	Ice	Daylight	One way street	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1343471	December	29	2009	Tuesday	10:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	126	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Darkness – no street lights	One way street	Snow bank	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1343473	December	30	2009	Wednesday	10:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	126.56	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Ice	Daylight	Median barrier	Delineator or marker (reflector posts)	Cut slope or ditch embankment	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1343489	December	27	2009	Sunday	8:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	122.56	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Snow	Ice	Darkness – no street lights	Median barrier	Retaining wall or tunnel wall	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1343492	December	30	2009	Wednesday	5:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	126.56	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Darkness – no street lights	Median barrier	Median barrier (raised or metal)	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1343493	December	30	2009	Wednesday	7:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	125.55	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Ice	Darkness – no street lights	Median barrier	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1343494	December	30	2009	Wednesday	11:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	127.22	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Darkness – no street lights	Median barrier	Guard rail (not metal median barrier)	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1343495	December	30	2009	Wednesday	12:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	136.59	65	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Ice	Daylight	One way street	Delineator or marker (reflector posts)	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1352317	December	31	2009	Thursday	5:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	122	65	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Snow	Ice	Darkness – no street lights	One way street	Median barrier (raised or metal)	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1356259	January	30	2010	Saturday	9:00 PM	Gilliam	Condon	Rural Local Street or Road				Street/road or highway intersection	Entering at angle – all others	Turning Movement	Property damage only crash (PDO)	Rain	Wet	Darkness – with street lights	No control (as stated on Police Report)			Made improper turn	No	No	No	No
1358128	January	31	2010	Sunday	9:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	135.4	65	Straight roadway	Other object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Rain	Wet	Daylight	No control (as stated on Police Report)	Slides, rocks off or on road, falling rocks		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1358139	January	13	2010	Wednesday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	133.8	65	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Wet	Daylight	Unknown or not defined	Cut slope or ditch embankment		Driver drowsy / fatigued / sleepy	No	No	No	No
1358188	February	28	2010	Sunday	12:00 AM	Gilliam		Rural Minor Arterial	Heppner	5.7	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	Unknown or not defined	Cut slope or ditch embankment		Driver drowsy / fatigued / sleepy	No	Yes	No	No
1358238	February	1	2010	Monday	6:00 PM	Gilliam		Rural Minor Arterial	Wasco-Heppner	33.5	55	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	No control (as stated on Police Report)	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1358239	February	2	2010	Tuesday	9:00 AM	Gilliam		Rural Minor Arterial	John Day	48.5	55	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Wet	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1359209	January	24	2010	Sunday	10:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	148.79		Bridge structure (overpass and underpass included)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Dry	Daylight	One way street	Bridge railing (on bridge and approach)	Foreign obstruction / debris in road (not gravel)	Other improper driving		No	No	No
1363895	April	2	2010	Friday	5:00 PM	Gilliam	Condon	Rural Local Street or Road				Driveway or alley access	From opposite direction – one stopped	Backing	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined			Did not yield right-of-way	No	No	No	No
1363902	April	5	2010	Monday	9:00 PM	Gilliam		Rural Local Street or Road		999.99		Straight roadway	Animal	Miscellaneous	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	Unknown or not defined	Stock: cow, calf, bull, steer, sheep, etc.		Other (not improper driving)		No	No	No
1363906	April	14	2010	Wednesday	11:00 AM	Gilliam		Rural Major Collector		999.99		roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1363908	April	16	2010	Friday	2:00 PM	Gilliam		Rural Minor Arterial	John Day	17.04	55	roadway and considered "located"	From opposite direction – both going straight	Sideswipe-meeting	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined			Drove left of center on two-way road	No	No	No	Yes
1363912	March	4	2010	Thursday	8:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	116	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Dusk (Twilight)	Unknown or not defined	Cut slope or ditch embankment		Driver drowsy / fatigued / sleepy	No	No	No	Yes
1364059	March	19	2010	Friday	2:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	137	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1364060	March	25	2010	Thursday	6:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	127	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Dawn (Twilight)	Unknown or not defined	Tire failure	Median barrier (raised or metal)	Tire failure	No	No	No	No
1374425	May	3	2010	Monday	2:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	148	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined	Cell phone (on PAR or driver in use)	Guard rail (not metal median barrier)	Inattention	No	No	No	No
1374428	May	31	2010	Monday	5:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	145	65	Grade (vertical curve)	Other object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined	Other or unknown object, not fixed	Lost load, load moved or shifted	Other (not improper driving)		No	No	No
1374430	May	8	2010	Saturday	8:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	140	65	Grade (vertical curve)	Animal	Miscellaneous	Property damage only crash (PDO)	Cloudy	Dry	Daylight	Unknown or not defined	Deer or elk, wapiti		Other (not improper driving)	No	No	No	No
1374432	June	24	2010	Thursday	5:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	139	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Dawn (Twilight)	Unknown or not defined	Cut slope or ditch embankment	Slides, rocks off or on road, falling rocks	Driver drowsy / fatigued / sleepy	No	No	No	No
1374435	June	6	2010	Sunday	1:00 PM	Gilliam		Rural Minor Arterial	Wasco-Heppner	17		Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Dry	Daylight	Unknown or not defined	Lost load, load moved or shifted	Cut slope or ditch embankment	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1374439	June	25	2010	Friday	1:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	130	65	Straight roadway	Animal	Miscellaneous	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	Unknown or not defined	Deer or elk, wapiti		Other (not improper driving)	No	No	No	No
1374479	June	7	2010	Monday	11:00 AM	Gilliam		Rural Minor Arterial	John Day	35.5		Driveway or alley access	Entering at angle – all others	Angle	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined			Did not yield right-of-way	No	No	No	No
1375708	July	26	2010	Monday	10:00 PM	Gilliam		Rural Minor Arterial	John Day	33	55	Grade (vertical curve)	Animal	Miscellaneous	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	Unknown or not defined	Deer or elk, wapiti		Other (not improper driving)	No	No	No	No
1375720	July	22	2010	Thursday	10:00 AM	Gilliam		Rural Minor Arterial	John Day	30		Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Driver drowsy / fatigued / sleepy		No	No	No
1375722	July	8	2010	Thursday	5:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	136	65	Straight roadway	Other non-collision	Miscellaneous	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Trailer or towed vehicle overturned	Overturned after first harmful event	Other improper driving	No	No	No	No
1377057	July	12	2010	Monday	9:00 AM	Gilliam	Arlington	Rural Minor Arterial	John Day	0.23		roadway and considered "located"	Overturned	Miscellaneous	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined			Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1378089	August	2	2010	Monday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	132	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Smoke	Dry	Daylight	Unknown or not defined	Vehicle forced by impact into another vehicle, cyclist or pedestrian		Followed too closely	No	No	No	No
1378097	August	16	2010	Monday	9:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	128.01	65	Straight roadway	Other object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	Unknown or not defined	Unknown type of fixed object		Other (not improper driving)	No	No	No	No
1379240	August	2	2010	Monday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	132	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Smoke	Dry	Daylight	Unknown or not defined			Followed too closely	No	No	No	No
1379453	August	2	2010	Monday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	132	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Smoke	Dry	Daylight	Unknown or not defined	Vehicle forced by impact into another vehicle, cyclist or pedestrian		Followed too closely	No	No	No	No
1381719	September	9	2010	Thursday	8:00 AM	Gilliam		Rural Local Street or Road		999.99		roadway and considered "located"	From opposite direction – both going straight	Head-On	Non-fatal injury crash	Cloudy	Dry	Daylight	No control (as stated on Police Report)			Drove left of center on two-way road	No	No	No	No
1381721	September	12	2010	Sunday	10:00 AM	Gilliam		Rural Minor Arterial	John Day	40.8		roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Deer or elk, wapiti	Drove left of center on two-way road	No	No	No	No
1381723	September	4	2010	Saturday	7:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	145	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Overturned after first harmful event	Reckless Driving	No	No	No	Yes
1381724	August	17	2010	Tuesday	2:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	147		Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Overturned after first harmful event	Improper overtaking		No	No	No
1383293	June	26	2010	Saturday	11:00 AM	Gilliam		Rural Local Street or Road		999.99		roadway and considered "located"	From opposite direction – both going straight	Head-On	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined	Cut slope or ditch embankment		Drove left of center on two-way road	No	No	No	No
1386025	October	27	2010	Wednesday	4:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	148	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined	Guard rail (not metal median barrier)	Median barrier (raised or metal)	Driver drowsy / fatigued / sleepy	No	No	No	No
1388476	September	4	2010	Saturday	7:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	145	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Reckless Driving	No	No	No	Yes
1388483	November	9	2010	Tuesday	2:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	142.6		Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Rain	Wet	Daylight	Unknown or not defined	Wheel came off	Cut slope or ditch embankment	Tire failure	No	No	No	No
1388487	November	22	2010	Monday	10:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	125	65	Straight roadway	From same direction – both going straight	Rear-End	Property damage only crash (PDO)	Snow	Snow	Darkness – no street lights	Unknown or not defined			Followed too closely	No	No	No	No
1388490	November	22	2010	Monday	8:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	142	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Darkness – no street lights	No control (as stated on Police Report)	Cut slope or ditch embankment	Jackknife: trailer or towed vehicle struck towing vehicle	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388504	November	23	2010	Tuesday	6:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	132		Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Cloudy	Snow	Dawn (Twilight)	Unknown or not defined			Did not yield right-of-way	No	No	No	No
1388506	November	23	2010	Tuesday	1:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	999.99	65	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Snow	Snow	Daylight	Unknown or not defined	Sliding or swerving due to wet, icy, slippery or loose surface		Other improper driving	No	No	No	No
1388514	November	24	2010	Wednesday	10:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	128	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Snow	Daylight	No control (as stated on Police Report)	Median barrier (raised or metal)	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388518	November	24	2010	Wednesday	10:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	128	65	Straight roadway	Parked motor vehicle	Sideswipe-meeting	Non-fatal injury crash	Snow	Snow	Daylight	No control (as stated on Police Report)			Improper overtaking	No	No	No	No
1388525	November	24	2010	Wednesday	12:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129	65	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Non-fatal injury crash	Cloudy	Ice	Daylight	Unknown or not defined	Median barrier (raised or metal)		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388529	November	24	2010	Wednesday	12:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	148.8	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388555	November	24	2010	Wednesday	2:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388557	November	24	2010	Wednesday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	144.5	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Snow	Ice	Daylight	Unknown or not defined	Median barrier (raised or metal)		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388569	November	24	2010	Wednesday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129	65	Straight roadway	Parked motor vehicle	Sideswipe-meeting	Property damage only crash (PDO)	Snow	Snow	Daylight	Unknown or not defined	Sliding or swerving due to wet, icy, slippery or loose surface		Improper overtaking	No	No	No	No
1388573	November	24	2010	Wednesday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129	65	Straight roadway	From same direction – one stopped	Rear-End	Property damage only crash (PDO)	Fog	Ice	Daylight	Unknown or not defined	Sliding or swerving due to wet, icy, slippery or loose surface		Followed too closely	No	No	No	No
1388578	November	25	2010	Thursday	10:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	149.4	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Snow	Ice	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388579	November	25	2010	Thursday	11:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129		Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Ice	Daylight	Unknown or not defined	Median barrier (raised or metal)		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1388583	November	26	2010	Friday	11:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	128	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Ice	Darkness – no street lights	Unknown or not defined	Sliding or swerving due to wet, icy, slippery or loose surface	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388586	November	24	2010	Wednesday	10:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	123	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Ice	Daylight	Unknown or not defined	Median barrier (raised or metal)	Cut slope or ditch embankment	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1388590	November	24	2010	Wednesday	12:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	999.99	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Clear	Snow	Daylight	Unknown or not defined			Followed too closely	No	No	No	No
1390291	December	3	2010	Friday	8:00 PM	Gilliam		Rural Minor Arterial	Wasco-Heppner	34	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Snow	Ice	Darkness – with street lights	No control (as stated on Police Report)	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1390300	December	4	2010	Saturday	3:00 PM	Gilliam		Rural Minor Arterial	John Day	29	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Fog	Ice	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1390309	December	18	2010	Saturday	9:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	132	55	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Snow	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1390317	December	19	2010	Sunday	7:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Daylight	No control (as stated on Police Report)	Guard rail (not metal median barrier)		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1390988	December	19	2010	Sunday	8:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	120		Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Darkness – with street lights	No control (as stated on Police Report)	Guard rail (not metal median barrier)		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1390991	December	19	2010	Sunday	8:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	123	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Darkness – with street lights	No control (as stated on Police Report)	Sliding or swerving due to wet, icy, slippery or loose surface	Median barrier (raised or metal)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1391023	December	19	2010	Sunday	7:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	129	65	Bridge structure (overpass and underpass included)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Daylight	Unknown or not defined	Bridge railing (on bridge and approach)	Cut slope or ditch embankment	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1391026	November	24	2010	Wednesday	10:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	123	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Daylight	Unknown or not defined	Guard rail (not metal median barrier)	Median barrier (raised or metal)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1391029	December	24	2010	Friday	7:00 AM	Gilliam		Rural Minor Arterial	John Day	29	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Fog	Ice	Dawn (Twilight)	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1398060	December	10	2010	Friday	7:00 PM	Gilliam		Rural Local Street or Road		0		Street/road or highway intersection	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Rain	Wet	Darkness – no street lights	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1398065	October	10	2010	Sunday	3:00 AM	Gilliam		Rural Local Street or Road		9		roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Rain	Wet	Darkness – no street lights	No control (as stated on Police Report)	Tire failure	Cut slope or ditch embankment	Tire failure		No	No	Yes
1405391	January	10	2011	Monday	2:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	135	55	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Darkness – no street lights	Unknown or not defined	Jackknife: trailer or towed vehicle struck towing vehicle	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1405396	January	22	2011	Saturday	11:00 AM	Gilliam		Rural Minor Arterial	John Day	41	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Ice	Daylight	Unknown or not defined	Retaining wall or tunnel wall		Drove left of center on two-way road	No	No	No	Yes
1405397	January	22	2011	Saturday	7:00 PM	Gilliam		Rural Minor Arterial	John Day	34	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Dry	Darkness – no street lights	No control (as stated on Police Report)	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1406453	March	8	2011	Tuesday	8:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	146.01	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Dry	Dusk (Twilight)	Unknown or not defined	Cut slope or ditch embankment	Slides, rocks off or on road, falling rocks	Other improper driving	No	No	No	No
1406454	March	3	2011	Thursday	5:00 PM	Gilliam		Rural Minor Arterial	John Day	45	55	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Sleet	Snow	Daylight	No control (as stated on Police Report)	Sliding or swerving due to wet, icy, slippery or loose surface	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1406456	April	8	2011	Friday	4:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	149	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Tire failure	Cut slope or ditch embankment	Tire failure	No	No	No	No
1415595	April	21	2011	Thursday	3:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	135	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Clear	Dry	Daylight	One way street			Careless Driving	No	No	No	No
1415627	April	28	2011	Thursday	3:00 PM	Gilliam		Rural Minor Arterial	John Day	34	55	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Sleet	Ice	Daylight	No control (as stated on Police Report)	Sliding or swerving due to wet, icy, slippery or loose surface	Cut slope or ditch embankment	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1415636	May	5	2011	Thursday	5:00 AM	Gilliam		Rural Minor Arterial	Wasco-Heppner	31	55	Straight roadway	Animal	Miscellaneous	Property damage only crash (PDO)	Cloudy	Dry	Dawn (Twilight)	No control (as stated on Police Report)	Deer or elk, wapiti		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1415658	May	28	2011	Saturday	2:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	119	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	One way street	Wheel came off	Cut slope or ditch embankment	Tire failure	No	No	No	No
1415762	July	23	2011	Saturday	8:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	124		Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	One way street	Guard rail (not metal median barrier)		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1415767	July	31	2011	Sunday	2:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	148.5		Straight roadway	Other non-collision	Non-collision	Property damage only crash (PDO)	Clear	Dry	Daylight	One way street	Cut slope or ditch embankment	Other (phantom) non-contact vehicle (on PAR or report)	Followed too closely	No	No	No	No
1415773	May	29	2011	Sunday	10:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	133.59	65	Straight roadway	Animal	Miscellaneous	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	One way street	Deer or elk, wapiti			No	No	No	No
1415802	July	4	2011	Monday	6:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	137	65	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Non-fatal injury crash	Clear	Dry	Daylight	One way street	Cut slope or ditch embankment		Did not yield right-of-way	No	No	No	No
1424976	September	23	2011	Friday	3:00 PM	Gilliam		Rural Local Street or Road		1		roadway and considered "located"	Overturned	Non-collision	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined			Speed too fast for conditions (not exceeding limit)		No	No	Yes
1432019	December	10	2011	Saturday	11:00 AM	Gilliam		Rural Minor Arterial	John Day	15.41		Street/road or highway intersection	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Fog	Ice	Daylight	Unknown or not defined	Unknown type of fixed object	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1432020	December	4	2011	Sunday	3:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	141.82	65	Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Clear	Dry	Daylight	One way street			Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1432021	October	13	2011	Thursday	4:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	126.43	65	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Non-fatal injury crash	Cloudy	Dry	Daylight	Median barrier	Median barrier (raised or metal)	Vehicle towed or had been towing another vehicle	Driving in excess of posted speed	No	No	No	Yes
1432023	December	15	2011	Thursday	12:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	116.13	55	Grade (vertical curve)	Overturned	Non-collision	Property damage only crash (PDO)	Snow	Snow	Darkness – no street lights	Median barrier			Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1432024	December	15	2011	Thursday	6:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	114.7	55	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Snow	Ice	Darkness – no street lights	Median barrier	Vehicle forced by impact into another vehicle, cyclist or pedestrian	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1432026	September	9	2011	Friday	10:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	146.12	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	One way street	Cut slope or ditch embankment	Slides, rocks off or on road, falling rocks	Driver drowsy / fatigued / sleepy	No	No	No	No
1432027	August	1	2011	Monday	2:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	148.79	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Guard rail (not metal median barrier)	Occupant fell jumped, was ejected from moving vehicle	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1432028	August	19	2011	Friday	1:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	130.79	55	Grade (vertical curve)	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier			Inattention	No	No	No	No
1432030	August	27	2011	Saturday	9:00 PM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	127.43	65	Straight roadway	From same direction – both going straight	Rear-End	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	Median barrier			Driver drowsy / fatigued / sleepy	No	No	No	No
1432031	December	15	2011	Thursday	12:00 AM	Gilliam		Rural Principal Arterial – Interstate	Columbia River	134.36	55	Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Snow	Ice	Darkness – no street lights	One way street	Trailer or towed vehicle overturned	Lost load, load moved or shifted	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1432032	December	16	2011	Friday	8:00 AM	Gilliam		Rural Minor Arterial	Wasco-Heppner	19.35		roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Ice	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes

1432033	September	8	2011	Thursday	7:00 AM	Gilliam	Rural Minor Arterial	Wasco-Heppner	33.7	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1432034	August	17	2011	Wednesday	2:00 PM	Gilliam	Rural Minor Arterial	Heppner	2	55	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined	Guard rail (not metal median barrier)	Cut slope or ditch embankment	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1432036	August	27	2011	Saturday	11:00 PM	Gilliam	Rural Minor Arterial	Heppner	4.4	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	Unknown or not defined	Cut slope or ditch embankment	Fence or building, etc.	Driving in excess of posted speed	No	No	No	Yes
1432038	October	25	2011	Tuesday	1:00 PM	Gilliam	Rural Local Street or Road		3.44		roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Unknown	Daylight	Unknown or not defined	Slides, rocks off or on road, falling rocks		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1432043	December	22	2011	Thursday	3:00 PM	Gilliam	Rural Local Street or Road		8.55		roadway and considered "located"	From opposite direction – both going straight	Sideswipe-meeting	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined			Drove left of center on two-way road		No	No	No
1432050	December	8	2011	Thursday	5:00 PM	Gilliam	Rural Local Street or Road		5.75		Straight roadway	Animal	Miscellaneous	Property damage only crash (PDO)	Clear	Dry	Dusk (Twilight)	Unknown or not defined	Deer or elk, wapiti		Other (not improper driving)		No	No	No
1432055	September	27	2011	Tuesday	1:00 PM	Gilliam	Rural Major Collector		7.31	55	roadway and considered "located"	&	Non-collision	Property damage only crash (PDO)	Clear	Dry	Daylight	Unknown or not defined	Lost load, load moved or shifted		Vehicle lost load or load shifted	No	No	No	Yes
1432058	September	25	2011	Sunday	1:00 AM	Gilliam	Rural Major Collector		9.24		Straight roadway	&	Non-collision	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	Unknown or not defined			Other improper driving		No	No	No
1433099	December	13	2011	Tuesday	6:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	125.09	55	Straight roadway	From same direction – one stopped	Rear-End	Non-fatal injury crash	Fog	Dry	Darkness – no street lights	Median barrier	Guard rail (not metal median barrier)		Driver drowsy / fatigued / sleepy	No	No	No	Yes
1439984	September	13	2011	Tuesday	9:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	147.9	65	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	One way street	Delineator or marker (reflector posts)		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1451903	February	6	2012	Monday	6:00 AM	Gilliam	Rural Major Collector		6.09	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Fog	Ice	Darkness – no street lights	No control (as stated on Police Report)	Cut slope or ditch embankment		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1451905	January	18	2012	Wednesday	6:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	126.09	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Darkness – no street lights	Median barrier	Guard rail (not metal median barrier)		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1451907	January	19	2012	Thursday	4:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	116	55	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Cloudy	Ice	Darkness – no street lights	Median barrier	Sliding or swerving due to wet, icy, slippery or loose surface	Crash related to another separate crash	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1451908	January	19	2012	Thursday	4:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	116.4	55	Straight roadway	Parked motor vehicle	Sideswipe-overtaking	Property damage only crash (PDO)	Cloudy	Ice	Darkness – no street lights	Median barrier	Vehicle forced by impact into another vehicle, cyclist or pedestrian	Crash related to another separate crash	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1451909	January	18	2012	Wednesday	7:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	122.41	55	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Snow	Ice	Daylight	Median barrier	Guard rail (not metal median barrier)	Median barrier (raised or metal)	Careless Driving	No	No	No	Yes
1451910	January	21	2012	Saturday	10:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	149.35	65	Grade (vertical curve)	Overturned	Non-collision	Non-fatal injury crash	Clear	Ice	Daylight	One way street	Sliding or swerving due to wet, icy, slippery or loose surface		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1451911	January	23	2012	Monday	6:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	123.57	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Snow	Ice	Darkness – no street lights	Median barrier	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1451912	January	23	2012	Monday	4:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	133.56	65	Grade (vertical curve)	Overturned	Non-collision	Property damage only crash (PDO)	Rain	Ice	Darkness – no street lights	One way street	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1451914	January	29	2012	Sunday	6:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	146.79	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	One way street	Guard rail (not metal median barrier)		Careless Driving	No	No	No	Yes
1451916	March	29	2012	Thursday	7:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	122.2	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Dry	Daylight	Median barrier	Median barrier (raised or metal)	Guard rail (not metal median barrier)	Driving in excess of posted speed	No	No	No	No
1451918	April	15	2012	Sunday	9:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	130.43	65	Grade (vertical curve)	Overturned	Non-collision	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	Median barrier	Trailer connection broke	Trailer or towed vehicle overturned	Other improper driving	No	No	No	Yes
1451921	April	18	2012	Wednesday	7:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	133.87	65	Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Clear	Dry	Daylight	One way street			Speed too fast for conditions (not exceeding limit)	No	Yes	No	Yes
1451922	February	10	2012	Friday	1:00 PM	Gilliam	Rural Minor Arterial	John Day	6.07		Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined			Careless Driving		No	No	No
1451923	February	14	2012	Tuesday	7:00 AM	Gilliam	Rural Minor Arterial	John Day	26.43	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Ice	Daylight	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1451924	March	22	2012	Thursday	6:00 AM	Gilliam	Rural Minor Arterial	John Day	13.36	55	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Snow	Darkness – no street lights	Unknown or not defined	Cut slope or ditch embankment	Overturned after first harmful event	Driving in excess of posted speed	No	No	No	Yes
1451929	March	31	2012	Saturday	7:00 PM	Gilliam	Rural Minor Arterial	Wasco-Heppner	35.18	55	Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Rain	Wet	Dusk (Twilight)	No control (as stated on Police Report)			Driving in excess of posted speed	No	No	No	Yes
1452231	April	7	2012	Saturday	12:00 PM	Gilliam	Rural Minor Arterial	John Day	23.21	45	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined	Delineator or marker (reflector posts)	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	Yes	No	Yes
1461610	May	28	2012	Monday	11:00 AM	Gilliam	Condon	Rural Minor Arterial	John Day	37.5	55	Street/road or highway intersection	Entering at angle – all others	Angle	Clear	Dry	Daylight	Stop sign	Vegetation obscured view		Did not yield right-of-way		No	No	No
1461611	July	3	2012	Tuesday	9:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	124.43	65	Straight roadway	From same direction – both going straight	Rear-End	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier			Inattention		No	No	No
1461613	June	15	2012	Friday	8:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	125.48	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Wet	Daylight	Median barrier	Median barrier (raised or metal)		Other (not improper driving)		No	No	No
1461615	June	21	2012	Thursday	5:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	127.56	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Darkness – with street lights	Median barrier	Median barrier (raised or metal)	Guard rail (not metal median barrier)	Driving in excess of posted speed	No	No	No	No
1461616	May	5	2012	Saturday	7:00 AM	Gilliam	Rural Major Collector		1.1	55	Grade (vertical curve)	Overturned	Non-collision	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Deer or elk, wapiti		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1464825	July	13	2012	Friday	7:00 PM	Gilliam	Rural Local Street or Road		0.06	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Overturned after first harmful event	Phantom / non-contact vehicle	No	No	No	No
1482906	August	16	2012	Thursday	1:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	115.26	65	roadway and considered "located"	From same direction – both going straight	Rear-End	Non-fatal injury crash	Clear	Dry	Daylight	Median barrier			Followed too closely	Yes	No	No	No
1482909	July	19	2012	Thursday	9:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	124.93	55	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier			Improper overtaking		No	No	No
1482911	December	16	2012	Sunday	12:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	123.56	55	roadway and considered "located"	Parked motor vehicle	Angle	Property damage only crash (PDO)	Cloudy	Ice	Darkness – no street lights	Median barrier	Guard rail (not metal median barrier)		Vehicle improperly parked	No	No	No	No
1482912	December	30	2012	Sunday	6:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	124.45	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Cloudy	Ice	Dawn (Twilight)	Median barrier	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1482913	September	21	2012	Friday	5:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	126.93	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier	Median barrier (raised or metal)	Guard rail (not metal median barrier)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1482915	October	26	2012	Friday	7:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	132	65	Straight roadway	Animal	Miscellaneous	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	One way street	Deer or elk, wapiti		Other (not improper driving)		No	No	No
1482917	November	9	2012	Friday	7:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	133.56	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Cloudy	Dry	Darkness – no street lights	One way street			Driving in excess of posted speed	No	No	No	Yes
1482919	November	5	2012	Monday	7:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	138.82	65	Grade (vertical curve)	From same direction – both going straight	Rear-End	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier			Careless Driving	No	No	No	Yes
1482921	August	1	2012	Wednesday	6:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	141.59	65	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	One way street	Delineator or marker (reflector posts)		Inattention	No	No	No	No
1482922	December	26	2012	Wednesday	2:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	142.82	65	Straight roadway	Overturned	Non-collision	Non-fatal injury crash	Clear	Wet	Daylight	One way street			Reckless Driving	No	No	No	No
1482923	November	24	2012	Saturday	10:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	146.35	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Dry	Darkness – no street lights	One way street	Guard rail (not metal median barrier)	Deer or elk, wapiti	Other (not improper driving)	No	No	No	No
1482926	November	29	2012	Thursday	7:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	148.85	55	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Rain	Wet	Darkness – no street lights	One way street	Guard rail (not metal median barrier)	Guard rail (not metal median barrier)	Inattention	No	No	No	No
1482929	August	9	2012	Thursday	12:00 PM	Gilliam	Rural Minor Arterial	John Day	41.64	55	roadway and considered "located"	Other non-collision	Non-collision	Non-fatal injury crash	Clear	Dry	Daylight	Unknown or not defined	Tire failure	Occupant fell jumped, was ejected from moving vehicle	Tire failure	No	No	No	No
1482930	August	24	2012	Friday	4:00 PM	Gilliam	Rural Minor Arterial	John Day	45.29	55	Street/road or highway intersection	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Daylight	Stop sign	Cut slope or ditch embankment	Berm (earthen or gravel mound)	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1482931	August	10	2012	Friday	2:00 PM	Gilliam	Rural Minor Arterial	Wasco-Heppner	23.12	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Other sign, including street signs	Inattention	No	No	No	No
1482933	December	15	2012	Saturday	8:00 AM	Gilliam	Rural Minor Arterial	Wasco-Heppner	18.9	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Cloudy	Ice	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Sliding or swerving due to wet, icy, slippery or loose surface	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1482935	September	1	2012	Saturday	1:00 PM	Gilliam	Rural Local Street or Road		0.09	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1482938	November	5	2012	Monday	12:00 PM	Gilliam	Rural Major Collector		7.6	55	roadway and considered "located"	&	Non-collision	Property damage only crash (PDO)	Clear	Dry	Daylight	No control (as stated on Police Report)			Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1482951	July	13	2012	Friday	5:00 PM	Gilliam	Rural Local Street or Road		10	55	roadway and considered "located"	&	Non-collision	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)			Phantom / non-contact vehicle	No	No	No	No
1503685	March	17	2013	Sunday	4:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	122.93	65	Straight roadway	Other non-collision	Non-collision	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier	Wheel came off	Fire or Explosion	Tire failure		No	No	No
1503688	January	5	2013	Saturday	7:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	136	65	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Snow	Ice	Darkness – no street lights	One way street	Guard rail (not metal median barrier)	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)		No	No	Yes
1503689	March	29	2013	Friday	3:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	136.3	65	Grade (vertical curve)	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Clear	Dry	Daylight	One way street			Driving in excess of posted speed	No	No	No	No
1503690	February	25	2013	Monday	2:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	146.35	65	Grade (vertical curve)	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	One way street	Cut slope or ditch embankment	Wind gust	Driving in excess of posted speed	No	No	No	Yes
1503691	March	29	2013	Friday	7:00 AM	Gilliam	Rural Minor Arterial	Heppner	5.45	55	Grade (vertical curve)	Animal	Miscellaneous	Property damage only crash (PDO)	Cloudy	Dry	Daylight	Unknown or not defined	Deer or elk, wapiti		Other (not improper driving)	No	No	No	No
1504585	January	19	2013	Saturday	7:00 PM	Gilliam	Rural Major Collector		6.75		roadway and considered "located"	Overturned	Non-collision	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	No control (as stated on Police Report)	Fence or building, etc.		Speed too fast for conditions (not exceeding limit)		No	No	Yes
1508827	June	13	2013	Thursday	5:00 AM	Gilliam	Rural Minor Arterial	John Day	4.59	55	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Non-fatal injury crash	Clear	Dry	Dawn (Twilight)	Unknown or not defined	Overturned after first harmful event	Fence or building, etc.	Driving in excess of posted speed	No	No	No	Yes
1508828	May	13	2013	Monday	1:00 PM	Gilliam	Rural Minor Arterial	John Day	8.98	55	roadway and considered "located"	Overturned	Non-collision	Property damage only crash (PDO)	Rain	Wet	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Deer or elk, wapiti	Speed too fast for conditions (not exceeding limit)	No	No	No	No
1508829	May	9	2013	Thursday	10:00 PM	Gilliam	Rural Minor Arterial	Wasco-Heppner	39.09	55	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	Unknown or not defined			Inattention		No	No	No
1508834	June	20	2013	Thursday	6:00 AM	Gilliam	Rural Major Collector		4		roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	No control (as stated on Police Report)	Cut slope or ditch embankment	Overturned after first harmful event	Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1512711	August	2	2013	Friday	9:00 PM	Gilliam	Rural Major Collector		1	0	Straight roadway	Animal	Miscellaneous	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	No control (as stated on Police Report)	Deer or elk, wapiti		Other (not improper driving)	No	No	No	No
1512713	July	22	2013	Monday	10:00 PM	Gilliam	Rural Local Street or Road		0.8	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	No control (as stated on Police Report)	Cut slope or ditch embankment	Delineator or marker (reflector posts)	Reckless Driving	No	No	No	No
1512717	August	28	2013	Wednesday	1:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	114.91	65	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Clear	Dry	Daylight	Median barrier			Followed too closely		No	No	Yes
1512718	August	16	2013	Friday	10:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	121.48	65	Straight roadway	From opposite direction – both going straight	Head-On	Property damage only crash (PDO)	Cloudy	Dry	Darkness – no street lights	Median barrier			Reckless Driving		No	Yes	No
1512722	July	17	2013	Wednesday	11:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	134.56	65	Straight roadway	Other object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	One way street	Tire failure	Foreign obstruction / debris in road (not gravel)	Other (not improper driving)	No	No	No	No
1512723	August	11	2013	Sunday	3:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	148.23	65	Bridge structure (overpass and underpass included)	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Dry	Darkness – with street lights	One way street	Guard rail (not metal median barrier)	Bridge pillar or column (even if struck protective guard rail first)	Driver drowsy / fatigued / sleepy	No	No	No	No
1524128	November	26	2013	Tuesday	3:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	115.03	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	Median barrier	Median barrier (raised or metal)	Cut slope or ditch embankment	Other (not improper driving)	No	No	No	No
1524129	September	26	2013	Thursday	11:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	116.1	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Cloudy	Dry	Darkness – no street lights	Median barrier	Jackknife: trailer or towed vehicle struck towing vehicle	Lost load, load moved or shifted	Driving in excess of posted speed	No	No	No	Yes
1524131	November	16	2013	Saturday	2:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	120.09	65	Straight roadway	From same direction – both going straight	Rear-End	Property damage only crash (PDO)	Cloudy	Dry	Daylight	Median barrier			Driver drowsy / fatigued / sleepy	No	No	No	No
1524132	September	17	2013	Tuesday	7:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	139.82	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Dusk (Twilight)	One way street	Cut slope or ditch embankment	Overturned after first harmful event	Driving in excess of posted speed	No	No	No	No
1524133	November	2	2013	Saturday	8:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	147.85	65	Grade (vertical curve)	Animal	Miscellaneous	Non-fatal injury crash	Rain	Wet	Dawn (Twilight)	One way street	Deer or elk, wapiti		Other (not improper driving)	No	No	No	No
1524137	October	29	2013	Tuesday	2:00 PM	Gilliam	Condon	Rural Minor Arterial	John Day	38.07	20	Street/road or highway intersection	Entering at angle – all others	Angle	Clear	Dry	Daylight	Stop sign			Did not yield right-of-way		No	No	No
1524138	November	23	2013	Saturday	12:00 AM	Gilliam	Rural Minor Arterial	John Day	40.14	55	roadway and considered "located"	Overturned	Non-collision	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	No control (as stated on Police Report)	Occupant fell jumped, was ejected from moving vehicle		Reckless Driving	No	Yes	No	No
1527106	November	1	2013	Friday	11:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	148.44	65	Straight roadway	From same direction – both going straight	Sideswipe-overtaking	Property damage only crash (PDO)	Clear	Dry	Darkness – no street lights	One way street			Driver drowsy / fatigued / sleepy		No	No	No
1534462	February	8	2013	Friday	3:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	136.8	0	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Darkness – no street lights	One way street	Slides, rocks off or on road, falling rocks	Pet: cat, dog and similar	Careless Driving	No	No	No	No
1534463	March	20	2013	Wednesday	4:00 PM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	136.5	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Dry	Daylight	One way street	Other sign, including street signs	Fence or building, etc.	Driver drowsy / fatigued / sleepy	No	Yes	No	No
1534507	December	20	2013	Friday	5:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	119	65	Straight roadway	From same direction – both going straight	Rear-End	Non-fatal injury crash	Snow	Wet	Darkness – no street lights	Median barrier			Followed too closely		No	No	No
1534509	December	17	2013	Tuesday	1:00 AM	Gilliam	Rural Principal Arterial – Interstate	Columbia River	134.19	65	Straight roadway	Fixed object	Fixed-Object or Other-Object	Non-fatal injury crash	Clear	Ice	Darkness – no street lights	One way street	Cut slope or ditch embankment		Driver drowsy / fatigued / sleepy	No	No	No	Yes
1534510	December	9	2013	Monday	8:00 PM	Gilliam	Rural Minor Arterial	John Day	17.59	55	roadway and considered "located"	Fixed object	Fixed-Object or Other-Object	Property damage only crash (PDO)	Clear	Ice	Darkness – no street lights	No control (as stated on Police Report)	Cut slope or ditch embankment	Overturned after first harmful event	Driving in excess of posted speed	No	No	No	Yes
1534515	December	24	2013	Tuesday	8:00 PM	Gilliam	Rural Minor Arterial	Wasco-Heppner	37.63	55	Straight roadway	Parked motor vehicle	Rear-End	Non-fatal injury crash	Cloudy	Dry	Darkness – no street lights	Unknown or not defined	Crash related to another separate crash		Speed too fast for conditions (not exceeding limit)	No	No	No	Yes
1534517	December	24	2013	Tuesday	8:00 PM	Gilliam	Rural Minor Arterial	Wasco-Heppner	37.63	55	Grade (vertical curve)	Animal	&	Non-fatal injury crash	Cloudy	Dry	Darkness – no street lights	Unknown or not defined	Horse, mule, or donkey	Crash related to another separate crash	Other (not improper driving)	No	No	No	Yes

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TECHNICAL MEMORANDUM #4

Gilliam County Transportation System Plan Update

Future Conditions Analysis

Date: April 6, 2015 Project #: 17679
To: Michael Duncan, ODOT
Michelle Colby, Gilliam County

From: Casey Bergh, PE, Ashleigh Griffin, and Marc Butorac, PE
cc: Project Advisory Committee

This memorandum estimates year 2035 future transportation system conditions and identifies transportation system needs based on projected population and employment demographics of Gilliam County. Transportation needs were also identified for multi-modal elements of the transportation system.

DEVELOPMENT OF YEAR 2035 TRAFFIC FORECASTS

Population and Employment Projections

Existing and forecast year 2035 population estimates were developed and summarized in Technical Memorandum #3: Existing Conditions Inventory and Analysis. In summary, County population is forecast to grow, but employment declined in 2013. It will be important for the TSP to identify transportation improvements that can support economic development and help reverse the employment trends.

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. 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.

Traffic Forecast Projections

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 (Reference 1). No historic volume data was available for County roadways. Therefore, the same growth rate was used on state and county roadways.

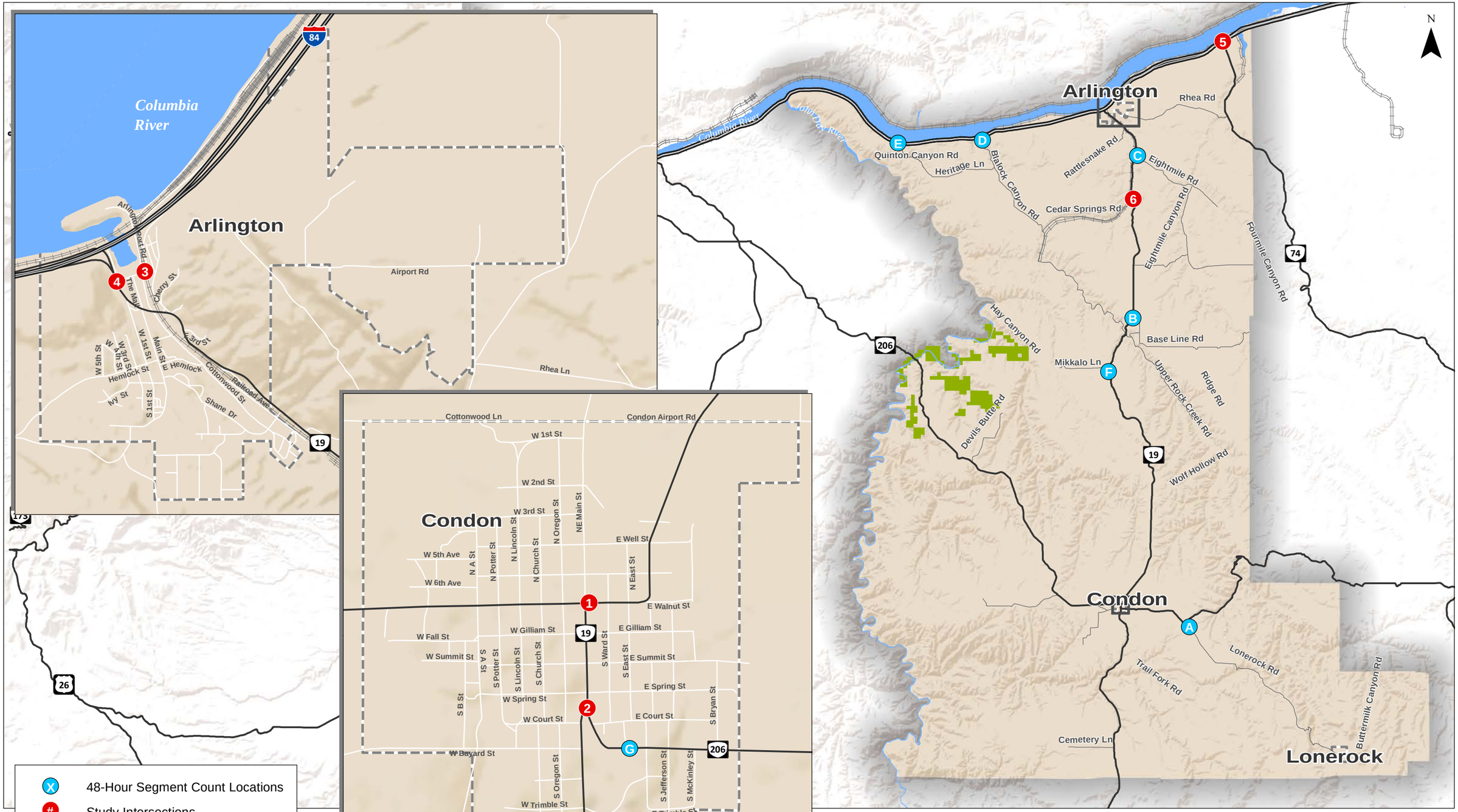
Appendix A provides the traffic volumes and projections for the locations that were used to develop the growth rate.

FUTURE TRAFFIC CONDITIONS AND NEEDS

The forecast 2035 traffic operations are summarized in the following sections. The technical analysis of the forecast 2035 transportation system is based on ADT for roadway segments and 30th highest hour traffic volume forecasts for intersections. Figure 4-1 shows the locations of the study intersections and study segments.

Year 2035 Forecast Traffic Volumes

The projected 1.25 percent annual growth rate was applied to existing 2014 volumes to estimate forecast year 2035 traffic volumes. Figure 4-2 shows the added traffic at the study intersections and segments.



Study Intersections and Segment Count Locations
Gilliam County, Oregon

Figure **4-1**

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Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

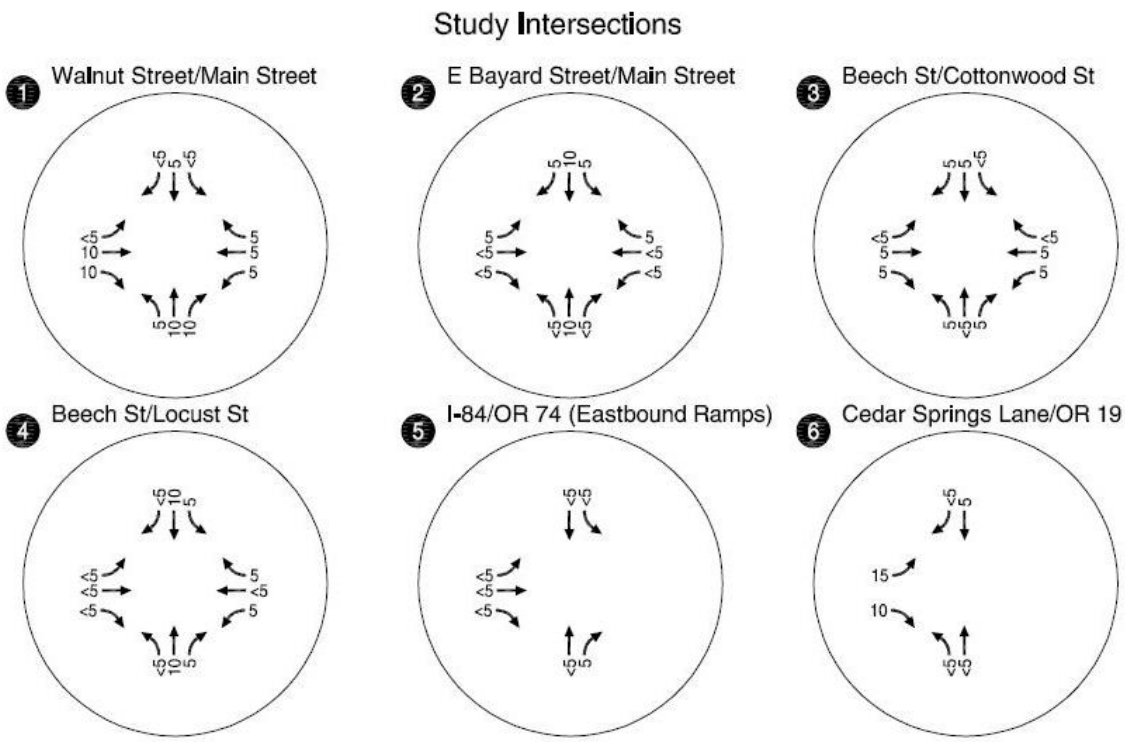


Figure 4-2. Forecasted 2014 – 2035 Study Intersection Volume Growth

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. Figure 4-3 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 (as summarized in Technical Memorandum #3) were incorporated in this analysis because there are no planned improvements at the intersections.

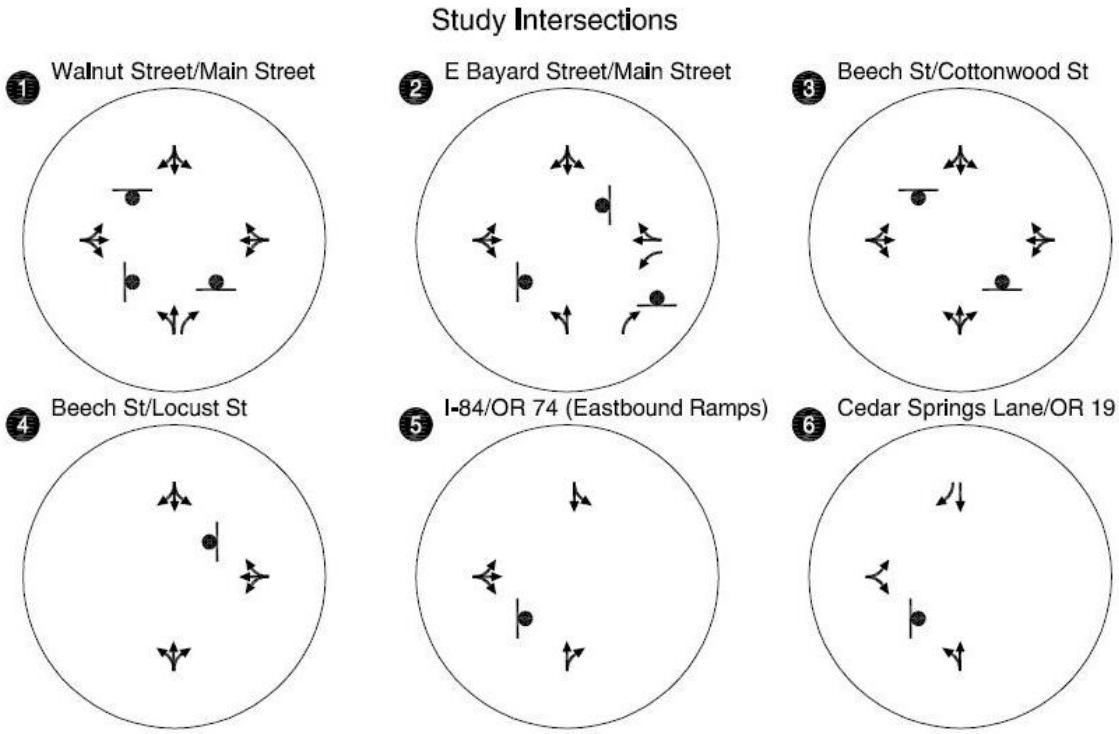


Figure 4-3. 2035 Study Intersection Lane Configurations

Figure 4-4 summarizes the 2035 30th 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 0.1 and level-of-service "B" or better. All intersections are expected to meet their performance standard in 2035. Performance standards for intersections were summarized in Technical Memorandum #3. *Appendix B includes the operational analysis worksheets for all study intersections*.

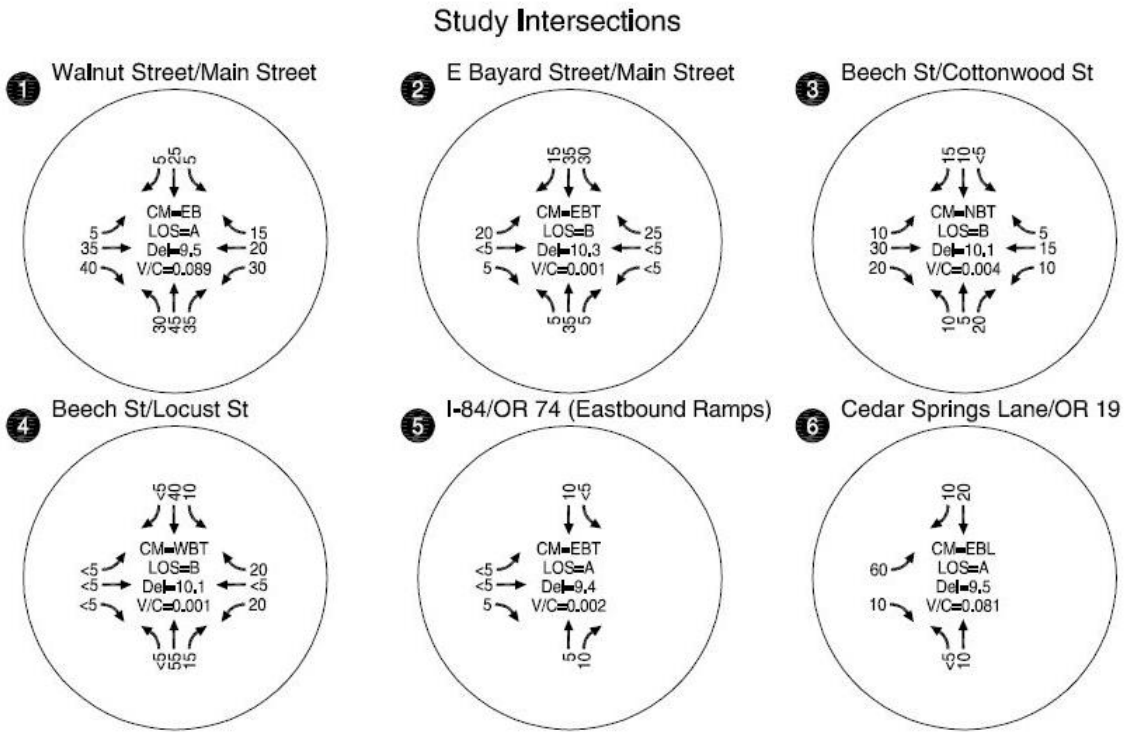


Figure 4-4. Forecasted 2035 Intersection Traffic Volumes and Operations

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 4-1 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 4-1. 2035 Roadway Segment Operations

ID	Roadway	ADT* for 2035	Peak Hour Time Period	Seasonally-Adjusted Peak Hour Count	PHF^	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

^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

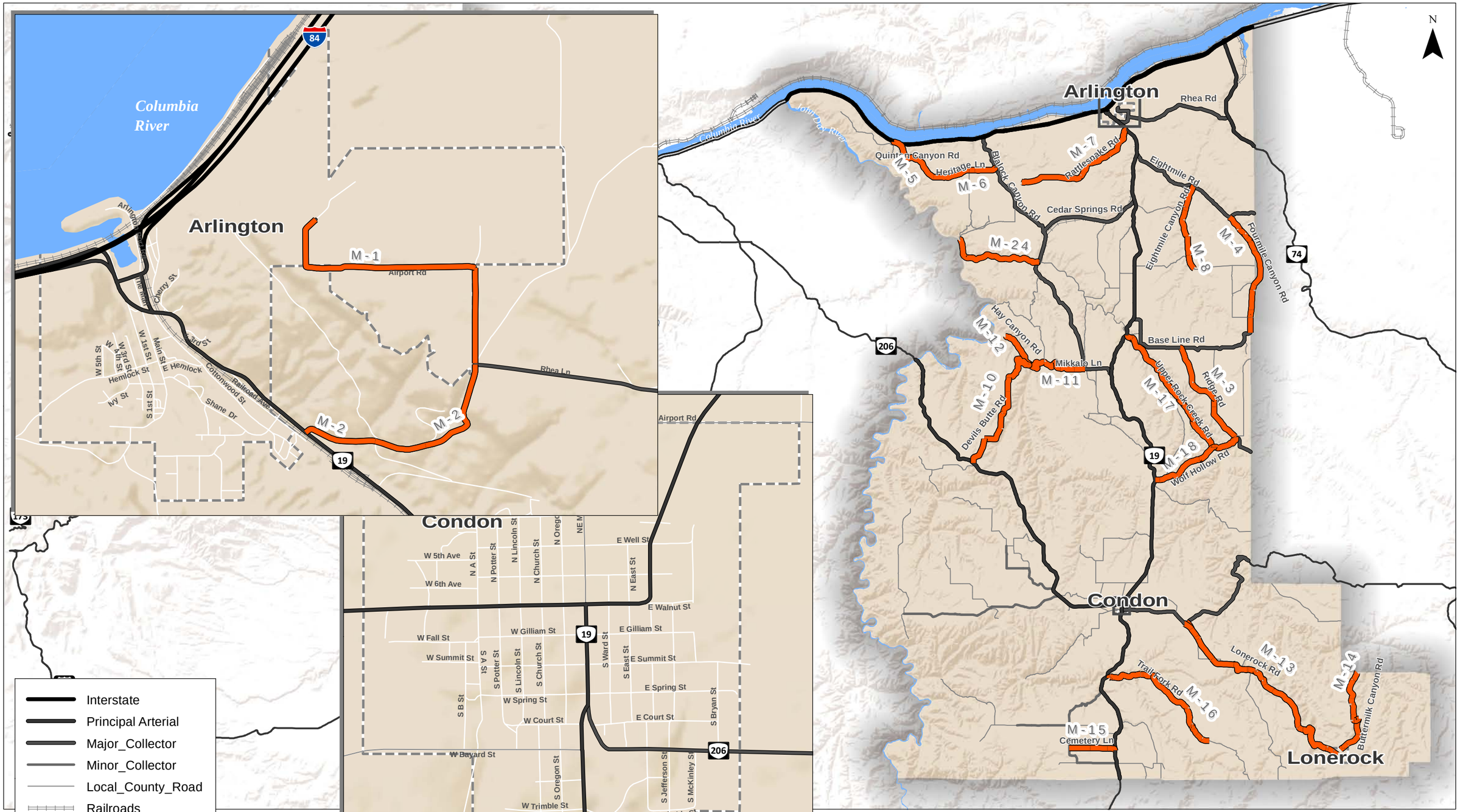
V/C = volume-to-capacity

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 as shown in Figure 4-5, include:

- Pave shoulders and strengthen roadbed on Airport Road (M-1 in the figure) in Arlington to accommodate larger trucks accessing Arlington Mesa Industrial Park;
- Improve Rhea Lane with shoulders to accommodate industrial truck traffic associated with Arlington Mesa Industrial Park (M-2);

- Reclassify Ridge Road (M-3) and Fourmile Road (M-4) to Major Collectors and upgrade roadway to match Major Collector design standards to accommodate agriculture truck traffic;
- Reclassify Quinton Canyon Road (M-5), Heritage Lane (M-6), Rattlesnake Road (M-7), Eightmile Canyon Road (M-8), and Cemetery Lane (M-15) from local streets to Minor Collectors and upgrade roadway to Minor Collector design standards to accommodate existing and forecast volume.
- Reclassify Lonerock Road (M-13) from a Minor Collector to a Major Collector to serve the traffic associated with the Lonerock community.
- Reclassify Upper Rock Creek Road (M-17) from a Major Collector to a Minor Collector due to the decrease in traffic using this road;
- Reclassify Devils Butte Road, Mikkalo Lane, and Hay Canyon Road (M-10, M-11, and M-12) to Minor Collectors and upgrade roadway to match Minor Collector design standards. These roads provide access to Cottonwood Canyon State Park;
- Improve Lower Road Creek Road (M-24) to serve the recreational traffic that uses this road to access the river;
- Reclassify Trail Fork Road (M-16), Buttermilk Canyon Road (M-14), and Wolf Hollow Road (M-18) from Minor or Major Collectors to Local Streets due to the change in land use activities the County has experienced and decrease in traffic using these roads.



Roadway Needs
Gilliam County, Oregon

Figure
4-5

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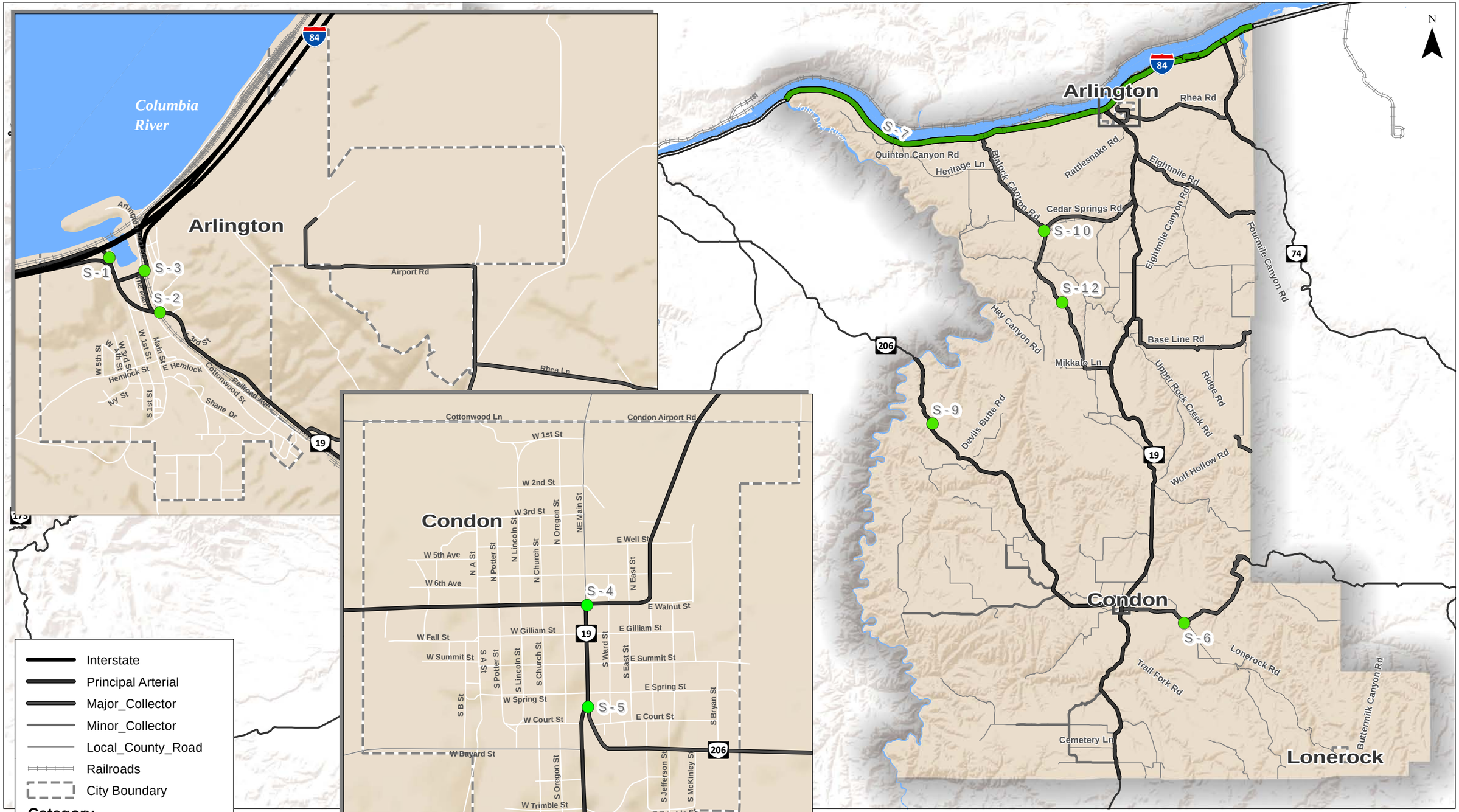
Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

Transportation Safety Needs

Although no locations with safety deficiencies were identified from the historical crash analysis documented in Technical Memorandum #3, there are several locations within the County where countermeasures could reduce crash potential. Additional analysis is needed to assess and identify countermeasures; input from the Project Advisory Committee identified the following needs, which are summarized in Figure 4-6:

- Weather-related Crashes:
  - A high percentage of crashes on I-84 were associated with adverse weather and roadway conditions (S-7 in the figure). Intelligent Transportation Systems (ITS) treatments will be considered as one potential countermeasure.
  - Observations from local residents indicate that snow drifts frequently occur on OR 206 near milepost 22 (S-9 in the figure). This location will be further reviewed to determine if treatments are available to minimize snow drifts and/or their impact to vehicles.
- 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 countermeasures such as rumble strips will be considered. Priority locations may include those identified in ODOT's Roadway Departure Plan and summarized in Technical Memorandum #3.
- Intersection Geometric/Traffic Control Deficiencies:
  - Safety concerns were identified at several intersections due to intersection design and traffic control (e.g., Walnut/Main Street (S-4); E Bayard Street/Main Street (S-5)) or sight distance (e.g., Lonerock Road at OR 206 (S-6); Cedar Springs Road/Blalock Canyon Road (S-10); and Barnett Road (S-12)). These intersections will be reviewed to determine if modifications in design may reduce safety risk.
- 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 will be considered (S-1).
- 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 (S-2 and S-3). This issue also occurs on Cedar Springs Lane at the railroad crossings. Strategies to allow emergency vehicle access during these times will be considered.



Safety Needs
Gilliam County, Oregon

Figure
4-6

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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Pedestrian Needs

Although the cities of Arlington and Condon have a limited network of connected sidewalks, both cities have gaps and deficiencies in their respective pedestrian systems. In Arlington, sidewalks exist around the commercial area formed by Beech Street, Cottonwood Street, and Locust Street. Sidewalks also connect this area to the school on Main Street. However, no sidewalks exist along Ivy Street, between W 3rd 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 1st Street, all of which lack sidewalks.

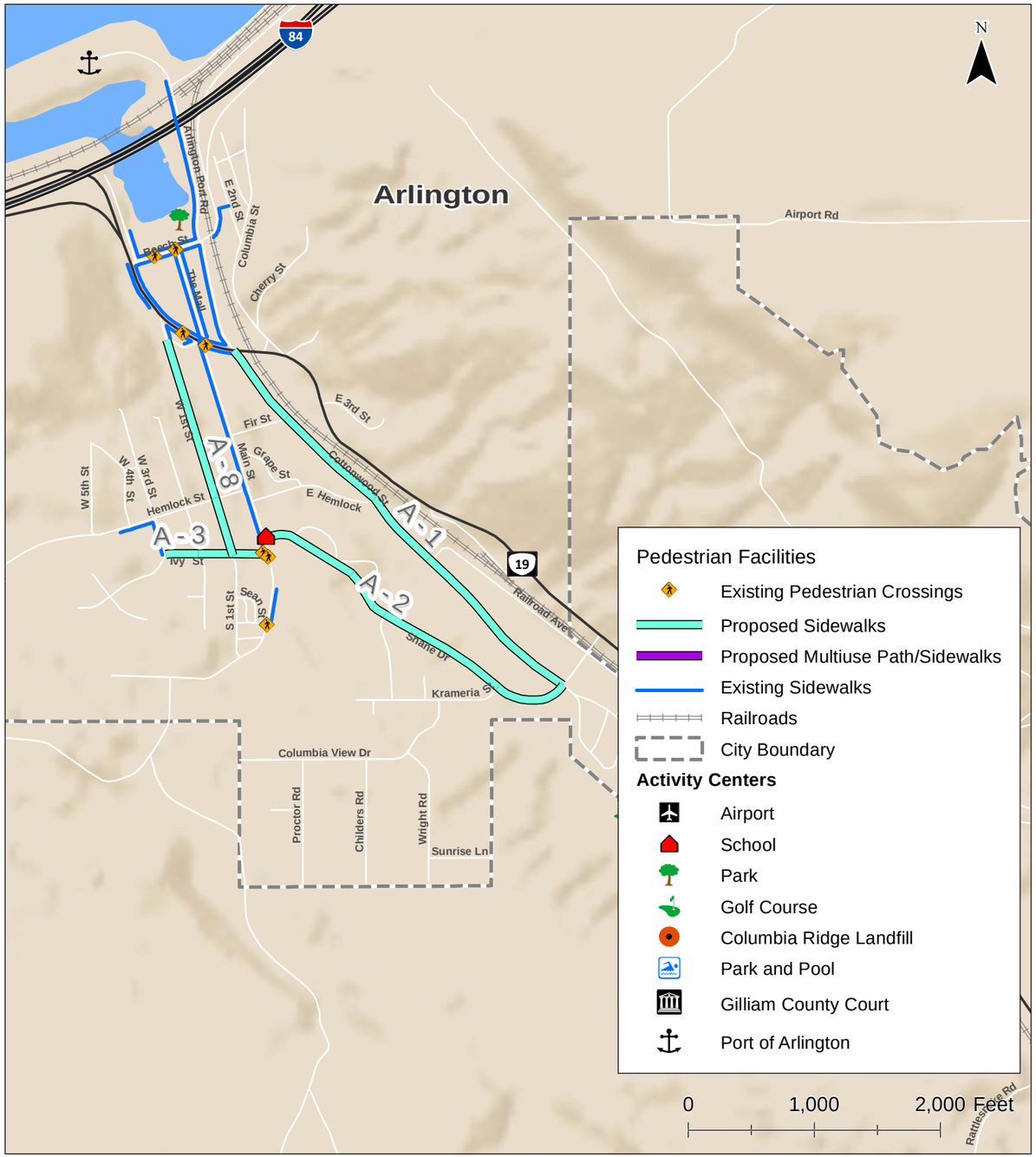
In Condon, sidewalks provide connections north and south along Main Street as well as to the two local schools. Residential areas in both cities are not connected to schools and commercial areas by continuous sidewalks. The sidewalks on the east side of Main Street between W 3rd Street and Walnut Street are in poor condition and need improvement. There are no sidewalk connections to the baseball fields on the corner of E Spring Street and Jefferson Street. Installing 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. In addition, OR 19 lacks complete sidewalks between Main Street and the Fairgrounds driveway.

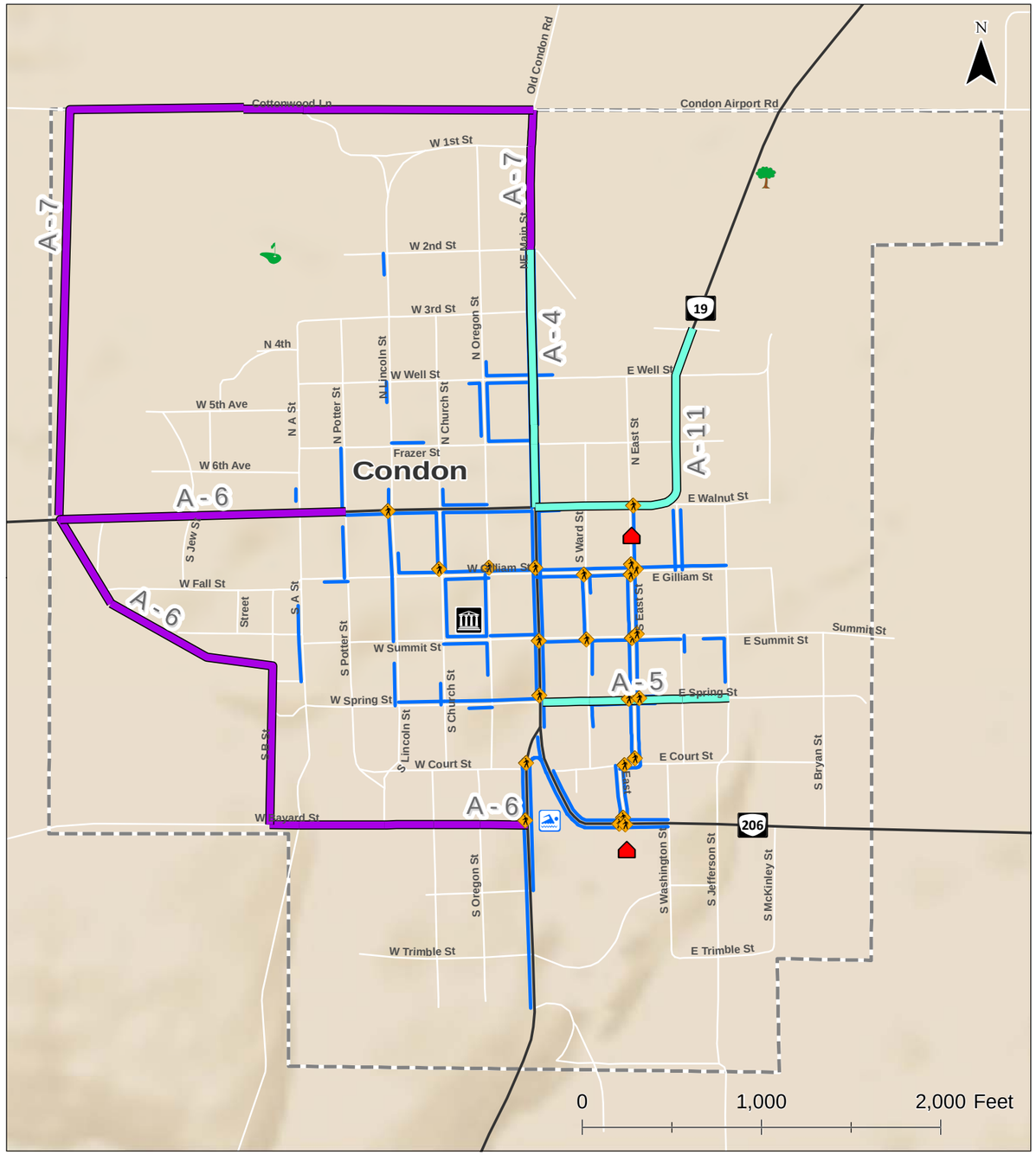
In Condon, residents have expressed a desire for more continuous sidewalk or paths for recreational purposes. Currently, residents use the school track to walk due to the limited sidewalks, but they would prefer a route around the City. One potential route (the inner loop) follows W Bayard Street west 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.

Figure 4-7 illustrates the existing pedestrian system and identifies priority connections identified to increase accessibility to key attractions. These connections are also summarized in Table 4-2. Prioritizing these pedestrian routes will inform funding decisions.

Table 4-2. Priority Pedestrian Needs

#	Location	Start Point	End Point	City	Description of Need
A-1	Cottonwood Street Sidewalks	Shane Dr	OR 19	Arlington	Lacking connected sidewalks
A-2	Shane Drive Sidewalks	Main St	Cottonwood St	Arlington	Lacking connected sidewalks
A-3	Ivy Street Sidewalks	W 3rd St	Main St	Arlington	Lacking connected sidewalks; Connects to the Columbia Hills Manor Independent Living Center
A-4	Sidewalks on East Side of Main Street	W 3rd St	OR 206/Walnut St	Condon	Sidewalks in poor condition
A-5	Sidewalks on E Spring Street	Main St	S Jefferson St	Condon	No sidewalks connecting to baseball field.
A-6	Inner Pedestrian Recreational Route West of Condon	W Bayard St/Potter Street	OR 206	Condon	Need for recreational walking route. Residents currently use track.
A-7	Outer Pedestrian Recreational Route West of Condon	W Bayard St/East of Condon	Cottonwood St/Main St	Condon	Need for recreational walking route. Residents currently use track.
A-8	W 1st Street	Cedar Street	Ivy Street	Arlington	Lack of connected sidewalks.
A-11	OR 19	Main Street	Fairgrounds Road	Condon	Lack of connected sidewalks.





Pedestrian System Needs
Gilliam County, Oregon

Figure
4-7

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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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 (Reference 2). County roads in Gilliam County currently carry less than 1,500 vehicles per day.

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.

Transit Needs

Gilliam County currently has a dial-a-ride system, operated by Gilliam County Special Transportation (GCST), as summarized in Technical Memorandum #3. The dial-a-ride system effectively serves as the County's transit system, and there is not expected to be enough growth to warrant a fixed route system within the TSP horizon. There are several needs including additional staff, vehicles, and funding to improve the dial-a-ride system in the future. 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

Parking in the downtown areas of Condon and Arlington is primarily on-street parking. Arlington does have off-street parking lots adjacent to Earl Snell Memorial Park and behind the commercial areas across the street from the Park. 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. Requiring traffic control and parking management plans for special events may assist with these 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;
- 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.

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. The Condon State Airport is expected to receive water service in the next few years. When this occurs, the airport may need improvements to serve additional air traffic and development.

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 Technical Memorandum #3, 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. Another County bridge, on Lonerock Road at Lonerock Creek, is posted with load restrictions.

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.

TRANSPORTATION PLANNED FUNDING SOURCES

Historic Funding Sources

Capital projects as well as operations and maintenance of roadways within Gilliam County are funded through the Gilliam County Transportation Budget, which relies on a variety of sources as summarized in the ten year budget history, summarized in Technical Memorandum #3. The total Transportation revenue budget for fiscal year (FY) 2014 was approximately $1.5 million.

Technical Memorandum #3 also summarizes the 10-year history of transportation expenditures for the County. The majority of the funds were spent on maintenance and snow/ice removal historically, with the total transportation expenditures in FY 2014 at approximately $1.46 million. Therefore, Gilliam County will need to look for additional revenue sources and funding partners to complete future transportation improvements beyond the traditional maintenance projects.

The 2014 County Road Needs Study, prepared by the Association of Oregon Counties, evaluated the funding needed to manage county road system for the next five years (2014-2018). The Study found that Counties prioritize maintaining existing roads, aware that the roads would cost more to rebuild if they failed to maintain them. However, the study found that anticipated revenue will not provide enough funding for roadway maintenance, projecting a 63 percent gap in funding for pavement maintenance and a 24 percent gap in funding for maintenance, repairs, and operations, resulting in a total funding need of $505 million for maintenance activities alone. An additional funding need of over $450 million is necessary to complete capital construction projects (Reference 3).

Potential Funding Sources

The majority of the County's current funding revenue comes from property taxes and the state highway fund. Potential new funding sources that could help close the gap between transportation revenue and the cost to maintain and improve infrastructure are summarized in Table 4-3 below.

Table 4-3. Potential Funding Sources

Funding Source	Description	Benefits
User Fee	Fees tacked onto a monthly utility bill or tied to the annual registration of a vehicle to pay for improvements, expansion, and maintenance to the street system. This may be a more equitable assessment given the varying fuel efficiency of vehicles. Regardless of fuel efficiency, passenger vehicles do equal damage to the street system. The cost of implementing such a system could be prohibitive given the need to track the number of vehicle miles traveled in every vehicle. Additionally, a user fee specific to a single jurisdiction does not account for the street use from vehicles registered in other jurisdictions.	Primarily Street Improvements
Street Utility Fees/Road Maintenance Fee	The fee is based on the number of trips a particular land use generates and is usually collected through a regular utility bill. For the communities in Oregon that have adopted this approach, it provides a stable source of revenue to pay for street maintenance allowing for safe and efficient movement of people, goods, and services.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails
Local Fuel Tax	A local tax assessed on fuel purchased within the jurisdiction that has assessed the tax. Some would argue that this tax is unfair given the increased fuel efficiency of today's vehicles. On the other hand, the tax could potentially generate revenue while encouraging fuel efficiency and lessening impacts to the environment.	Primarily Street Improvements
Systems Development Charges (SDCs)	SDCs are fees assessed on development for their impacts on public infrastructure. Funds must be used for capacity enhancing improvements as defined in ORS 223.304.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Stormwater SDCs, Grants, and Loans	SDCs, Grants, and Loans obtained for the purposes of making improvements to stormwater management facilities. Some jurisdictions in Oregon have used these tools to finance the construction and maintenance of Green Streets. Stormwater SDCs also need to fund capacity enhancing improvements as defined in ORS 223.304.	Primarily Street Improvements

Funding Source	Description	Benefits
Local Sales Tax	A tax assessed on the purchase of goods and services within a specific location. A sales tax could be assessed only on auto-related goods and services to generate revenue for transportation-related improvements.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Optional Tax	A tax that is paid at the option of the taxpayer to fund improvements. Usually not a legislative requirement to pay the tax and paid at the time other taxes are collected, optional taxes are usually less controversial and easily collected since they require the taxpayer to decide whether or not to pay the additional tax.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Sponsorship	Financial backing of a public-interest program or project by a firm, as a means of enhancing its corporate image. This has been used by local transit providers to help offset the cost of providing transit services and maintaining transit related improvements.	Transit Facilities
Public/Private Partnerships	Public/private partnerships are agreements between public and private partners that can benefit from the same improvements. They have been used in several places around the country to provide public transportation amenities within the public right-of-way in exchange for operational revenue from the facilities. These partnerships could be used to provide services such as charging stations, public parking lots, or bicycle lockers.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Tax Increment Financing (TIF)	A tool cities use to create special districts (tax increment areas) and to make public improvements within those districts that will generate private-sector development. During a defined period, the tax base is frozen at the predevelopment level. Property taxes for that period can be waived or continue to be paid, but taxes derived from increases in assessed values (the tax increment) resulting from new development either go into a special fund created to retire bonds issued to originate the development or leverage future improvements. A number of small-to-medium sized communities in Oregon have implemented, or are considering implementing, urban renewal districts that will result in a TIF revenue stream.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit

Table 4-3 is not an all-inclusive list of alternative funding sources. Each of these financing tools requires focused research to ensure that it is the right fit for the community, and can be closely match with achieving the objectives of the TSP update.

SUMMARY AND NEXT STEPS

The assessment of future land use and transportation system conditions identified the following:

- Annual growth rates were applied to existing 2014 volumes to estimate forecast 2035 traffic volumes. The annual growth rate of 1.25 percent was calculated using ODOT's historical volumes method.
- All study intersections were forecast to operate with v/c ratios of less than 0.1 and level-of-service "B" or better.
- The forecast v/c ratios on all two-lane state and county highways within Gilliam County are forecast to be less than 0.05.
- Several intersections or locations in the County were identified due to observed geometric and/or traffic control related safety concerns, including:
    - Main Street/Walnut Street in Condon;
    - Lonerock Road/OR 206;
    - E Bayard Street/Main Street in Condon;
    - Railroad Crossings in Arlington;
    - I-84 Ramps in Arlington.
- Several roadways carry higher traffic volumes and/or truck volumes than they have historically due to changes in land use around the County. These roadways should be reclassified and may need to be upgraded to meet County design standards. The roadways include:
    - Roadways connecting Gilliam County to Cottonwood Canyon State Park;
    - Ridge Road and Fourmile Canyon Road;
    - Airport Road in Arlington;
    - Quinton Canyon Road;
    - Heritage Lane;
    - Rattlesnake Road;
    - Fourmile Road;
    - Eightmile Canyon Road;
    - Cemetery Road;
    - Lonerock Road.
- There is not expected to be sufficient growth to warrant a fixed route transit system. However, some improvements in staffing, funding, and vehicles will improve the existing dial-a-ride transit system in the County.

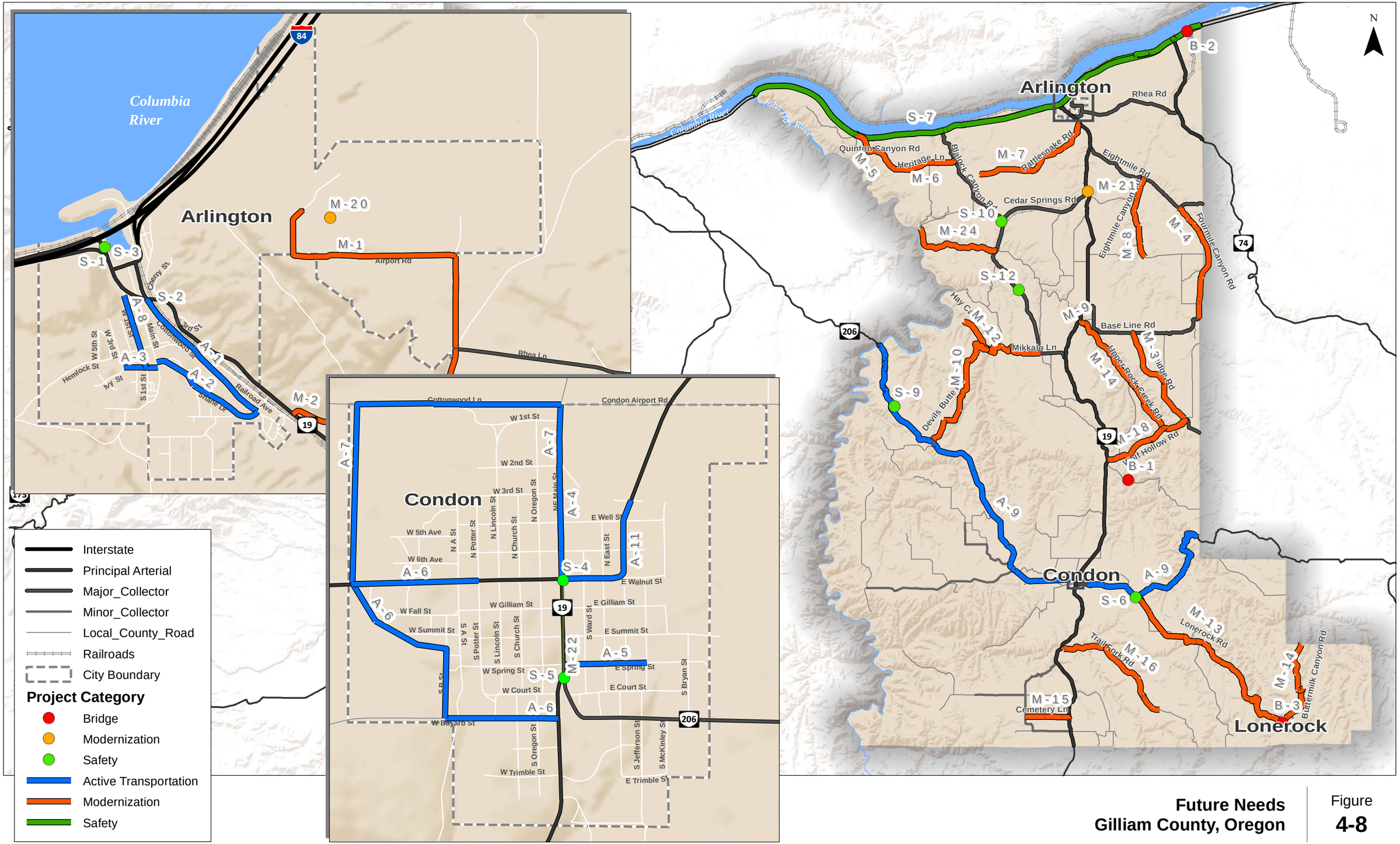
- Gilliam County will need to find additional funding sources to complete any projects beyond the traditional maintenance projects. Historically, the County has only funded general maintenance or safety projects as well as snow and ice removal.

Table 4-4 provides a description of each of the future needs identified in this memo, and Figure 4-8 illustrates the location of each of these needs throughout the County. These needs will be considered by the Project Management and Advisory Committees and will inform the development of Alternatives in Technical Memorandum #5.

Table 4-4. Summary of Future Needs

Number	Category	Location	Start Point	End Point	City	Description of Need
S-1	Safety	I-84 Ramps - Westbound On-Ramp	n/a	n/a	Arlington	Drivers are entering the WB on-ramps when they want to go EB
S-2	Safety	Railroad crossing of OR 19/Locust Street	n/a	n/a	Arlington	Emergency vehicle access concern when train on tracks
S-3	Safety	Railroad crossing of I-84 Ramps/Beech Street	n/a	n/a	Arlington	Emergency vehicle access concern when train on tracks
S-4	Safety	Main Street/Walnut Street	n/a	n/a	Condon	Safety concern due to sight distance and driver expectation
S-5	Safety	E Bayard Street/Main Street	n/a	n/a	Condon	Safety concern
S-6	Safety	Lonerock Road at OR 206	n/a	n/a	County	Restricted sight distance; intersection located on curve
S-7	Safety	I-84 throughout County	West CL	East CL	County	High percentage of weather related crashes.
S-8	Safety	Programmatic	n/a	n/a	County	High percentages of single-vehicle, run-off the road, and speed-related crashes.
S-9	Safety	OR 206, Near MP 22	n/a	n/a	County	Snow drifts frequently at this location
S-10	Safety	Cedar Springs Road/Blalock Canyon Road	n/a	n/a	County	Restricted sight distance due to hill.
S-11	Safety	Travel Speeds in Arlington	n/a	n/a	Arlington	Residents of Arlington feel travel speeds are high. There is also no posted speed limit sign for drivers who enter Arlington from the east off of I-84 along Beech Street.
S-12	Safety	Barnett Road Blind Corners	n/a	n/a	County	There is a blind corner on Barnett Road approximately half way between Mikkalo Lane and Lower Rock Creek Road.
S-13	Safety	Programmatic	n/a	n/a	County	Concern about crashes associated with aging drivers.
S-14	Safety	Programmatic	n/a	n/a	County	Lack of funding for driver education in schools.
B-1	Bridge	Cayuse Canyon Road Bridge	MP 4 / Rock Creek	n/a	County	Bridge sufficiency rating of 31.9; currently closed to all traffic
B-2	Bridge	I-84 EB Bridge	MP 148.6/Willow Creek	n/a	County	Bridge sufficiency rating of 33.3, due to outdated design
B-3	Bridge	Lonerock Road	Lonerock Creek	n/a	County	Bridge sufficiency rating of 57, currently posted for load
A-1	Active Transportation	Cottonwood Street Sidewalks	Shane Dr	OR 19	Arlington	Lacking connected sidewalks
A-2	Active Transportation	Shane Drive Sidewalks	Main St	Cottonwood St	Arlington	Lacking connected sidewalks
A-3	Active Transportation	Ivy Street Sidewalks	W 3rd St	Main St	Arlington	Lacking connected sidewalks; Connects to the Columbia Hills Manor Independent Living Center
A-4	Active Transportation	Sidewalks on East Side of Main Street	W 3rd St	OR 206/Walnut St	Condon	Sidewalks in poor condition
A-5	Active Transportation	Sidewalks on E Spring Street	Main St	S Jefferson St	Condon	No sidewalks connecting to baseball field.
A-6	Active Transportation	Inner Pedestrian Recreational Route West of Condon	W Bayard St/Potter Street	OR 206	Condon	Need for recreational walking route. Residents currently use track.
A-7	Active Transportation	Outer Pedestrian Recreational Route West of Condon	W Bayard St/East of Condon	Cottonwood St/Main St	Condon	Need for recreational walking route. Residents currently use track.
A-8	Active Transportation	W 1st Street	Cedar Street	Ivy Street	Arlington	Lack of connected sidewalks.
A-9	Active Transportation	OR 206	West County Limits (CL)	East CL	County	Popular cycing route with no rest area locations for cyclists
A-10	Active Transportation	Bicycle Parking	n/a	n/a	Cities	Lack of bicycle parking in downtown areas.
A-11	Active Transportation	OR 19 Sidewalks	Main Street	Fairgrounds Driveway	Condon	Lack of sidewalks.
M-1	Modernization	Airport Road	Rhea Road	End of Road	Arlington	Roadway serves truck traffic associated with Arlington Mesa Industrial Park. Roadway has little base rock and lacks shoulders.
M-2	Modernization	Rhea Lane	OR 19	Airport Road	Arlington	Roadway serves truck traffic associated with Arlington Mesa Industrial Park.
M-3	Modernization	Ridge Road	Baseline Rd/Ione Rd	Flett Rd	County	Roadway serves higher volume of agricultural truck traffic than intended based on classification.
M-4	Modernization	Fourmile Canyon Road	Fairview Ln	East CL	County	Roadway serves higher volume of agricultural truck traffic than intended based on classification. (Note: some of this section loops through Morrow County)
M-5	Modernization	Quinton Canyon Road/Heritage Lane	I-84	Heritage Lane	County	Roadway serves higher volume of truck traffic than intended based on classification.
M-6	Modernization	Heritage Lane	Quinton Canyon Road	Blalock Canyon Road	County	Roadway serves higher volume of truck traffic than intended based on classification.
M-7	Modernization	Rattlesnake Road	OR 19	End of Road (West)	County	Roadway serves higher volume of truck traffic than intended based on classification.
M-8	Modernization	Eightmile Canyon Road	Old Tree Ln	Fourmile Canyon Road	County	Roadway serves higher volume of agricultural truck traffic than intended based on classification.
M-9	Modernization	OR 19	Upper Rock Creek Rd	2-3 Miles South of Start	County	This is the only section of the roadway that cannot accommodate oversized freight in 1-lane.

Number	Category	Location	Start Point	End Point	City	Description of Need
M-10	Modernization	Devils Butte Rd	OR 206	Hay Canyon Road	County	Roadway was not intended to serve Cottonwood Canyon State Park traffic, but may in future.
M-11	Modernization	Mikkalo Ln	OR 19	Hay Canyon Road	County	Roadway was not intended to serve Cottonwood Canyon State Park traffic, but may in future.
M-12	Modernization	Hay Canyon Rd	Devils Butte Rd	John Day River	County	Roadway not intended to serve Cottonwood Canyon State Park traffic, but may in future.
M-13	Modernization	Lonerock Road	OR 206	City of Lonerock	County	Roadway serves high traffic volumes as it is the primary access to the Lonerock community; it should be upgraded in functional classification.
M-14	Modernization	Buttermilk Canyon Road	City of Lonerock	East County Limits	County	Road does not serve much traffic because it is only the back way into Lonerock from Morrow County; it should be downgraded in functional classification.
M-15	Modernization	Cemetery Lane	OR 19	Wherli Canyon Ln	County	Road serves agricultural traffic and should be upgraded in functional classification.
M-16	Modernization	Trail Fork Road	OR 19	End of Road	County	Road no longer serves agricultural lands and should be downgraded in functional classification.
M-17	Modernization	Upper Rock Creek Road	OR 19	Flett Road	County	This is an alternate route rather than a primary route and should be downgraded in functional classification.
M-18	Modernization	Wolf Hollow Road	OR 19	Ridge Road	County	This is an alternate route rather than a primary route and should be downgraded in functional classification.
M-19	Parking	Programmatic	n/a	n/a	Arlington	Parking overflow onto streets and downtown area during special summertime events
M-20	Modernization	Arlington Airport	n/a	n/a	Arlington	Currently has unpaved runway
M-21	Modernization	Shutler Station	n/a	n/a	County	Need for rail crossovers to make movements within the park easier.
M-22	Modernization	On-Street Parking on Spaces on Main Street	n/a	n/a	Condon	There are no on-street designated ADA spaces on Main Street.
M-23	Transit	Programmatic	n/a	n/a	County	Lack of funding for additional transit drivers, training, vehicle maintenance, and carports.
M-24	Modernization	Lower Rock Creek Road	End of road/John Day River	Barnett Road	County	Roadway is heavily traveled by rafters & river users but was not designed to carry river traffic.
M-25	Modernization	Condon State Airport	n/a	n/a	Condon	Airport needs upgrades once water service is provided.



Future Needs
Gilliam County, Oregon

Figure **4-8**

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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REFERENCES

1. ODOT Analysis and Procedures Manual
2. Oregon Bicycle and Pedestrian Design Guide
3. 2014 County Road Needs Study

APPENDICES

Appendix A ODOT Future Volume Tables

Appendix B 2035 Future Conditions Operational Analysis Worksheets

Appendix A ODOT Future Volume Tables & Growth Rate Calculations

ODOT FUTURE VOLUME TABLES & GROWTH RATE CALCULATIONS

Future (2035) traffic volumes were developed using Oregon Department of Transportation's (ODOT's) historical trends method, which relies on traffic volumes from previous years to develop a growth pattern for use in projecting future volumes. ODOT maintains Future Volumes Tables that summarize current and future year traffic volumes for state roadways throughout the State. To calculate the growth rate for Gilliam County, all Gilliam County locations were selected from the Future Volumes Tables. Based on guidance from ODOT's Analysis Procedure Manual (APM), data with a RSQ value of less than 0.75 was not used. The growth rates of the remaining locations were averaged to develop the 1.25 percent annual growth rate, which was used to project future traffic volumes at all study intersections and segments.

ODOT Future Volume Table (Gilliam County Locations with RSQ > 0.75)

MP	Description of Location	Traffic Volumes			RSQ*	Highway Location	Calculated Growth Rate
		2011	2012	2033			
146.16	8.34 miles east of Arlington Interchange	10400		13500	0.8093	I-84	1.35%
147.78	Heppner Jct. Automatic Traffic Recorder, Sta. 11-009, 0.43 mile east of Heppner Highway No. 52 (OR74)	10800		11700	0.8805	I-84	0.38%
39.54	0.02 mile south of Shannon Road		590	730	0.8013	OR 19 - Rural	1.13%
43.81	0.20 mile south of Trail Fork Road		570	710	0.7724	OR 19 - Rural	1.17%
45.39	0.10 mile south of Wehrli Canyon Loop		510	630	0.7551	OR 19 - Rural	1.12%
50.41	0.60 mile north of Carter Hill Road		510	670	0.9400	OR 19 - Rural	1.49%
41.74	Condon Automatic Traffic Recorder, Sta. 11-004, 0.86 mile east of John Day Highway No. 5 (OR19)		190	200	0.8635	OR 206 - Condon	0.25%

*RSQ = R-squared value, which describes the fit of the data to a line.

Calculations: (1.35% + 1.13% + 1.17% + 1.12% + 1.49%)/5 = 1.25%

Appendix B 2035 Future Conditions Operational Analysis Worksheets

MOVEMENT SUMMARY

Site: Main St/E Walnut St

Gilliam County
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: S Main Street											
3	L2	30	4.0	0.086	1.2	LOS A	0.3	8.9	0.25	0.12	33.2
8	T1	46	2.0	0.086	1.2	LOS A	0.3	8.9	0.25	0.12	33.4
18	R2	35	6.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.00	34.7
Approach		111	3.8	0.086	0.8	LOS A	0.3	8.9	0.17	0.08	33.7
East: E Walnut Street											
1	L2	32	10.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	35.4
6	T1	18	1.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	37.2
16	R2	15	4.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	35.7
Approach		65	6.1	0.038	0.0	NA	0.0	0.0	0.00	0.00	36.0
North: N Main Street											
7	L2	5	3.0	0.044	0.8	LOS A	0.2	4.2	0.15	0.07	33.3
4	T1	27	4.0	0.044	0.8	LOS A	0.2	4.2	0.15	0.07	33.3
14	R2	6	19.0	0.044	0.8	LOS A	0.2	4.2	0.15	0.07	32.9
Approach		38	6.4	0.044	0.8	LOS A	0.2	4.2	0.15	0.07	33.3
West: W Walnut Street											
5	L2	6	26.0	0.089	9.5	LOS A	0.4	9.3	0.21	0.10	28.7
2	T1	35	8.0	0.089	9.5	LOS A	0.4	9.3	0.21	0.10	29.4
12	R2	37	2.0	0.089	9.5	LOS A	0.4	9.3	0.21	0.10	29.6
Approach		78	6.6	0.089	9.5	LOS A	0.4	9.3	0.21	0.10	29.4
All Vehicles		292	5.4	0.089	2.9	NA	0.4	9.3	0.14	0.07	32.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Gilliam County TSP

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Report File: K:\...\futurenobuild_report.pdf 1/8/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Main Street/E Bayard Street	Two-way stop	HCM2010	EBT	0.001	10.3	B
3	Cottonwood Street / Beech Street	Two-way stop	HCM2010	NBT	0.004	10.1	B
4	I-84 Ramps / Beech Street	Two-way stop	HCM2010	WBT	0.001	10.1	B
5	OR 74 / I-84 Eastbound Ramps	Two-way stop	HCM2010	EBT	0.002	9.4	A
6	OR 19 / Cedar Springs Lane	Two-way stop	HCM2010	EBL	0.081	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
#2: Main Street/E Bayard Street

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Main Street			Main Street			E Bayard Street			Access		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name	Main Street			Main Street			E Bayard Street			Access		
Base Volume Input [veh/h]	3	34	6	29	34	15	21	1	4	2	2	24
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	6.00	6.00	6.00	7.00	7.00	7.00	12.00	12.00	12.00	5.00	5.00	5.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	34	6	29	34	15	21	1	4	2	2	24
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.850	0.850	0.850	0.850	0.850	0.850
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	1	9	2	8	9	4	6	0	1	1	1	7
Total Analysis Volume [veh/h]	3	36	6	31	36	16	25	1	5	2	2	28
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			no	no
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			no	no
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	7.36	0.00	0.00	7.39	0.00	0.00	10.06	10.31	8.80	9.70	10.19	8.64
Movement LOS	A	A	A	A	A	A	B	B	A	A	B	A
95th-Percentile Queue Length [veh]	0.09	0.09	0.09	0.17	0.17	0.17	0.13	0.13	0.13	0.10	0.10	0.10
95th-Percentile Queue Length [ft]	2.27	2.27	2.27	4.28	4.28	4.28	3.14	3.14	3.14	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.49			2.76			9.86			8.80		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.39											
Intersection LOS	B											

Intersection Level Of Service Report
#3: Cottonwood Street / Beech Street

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Cottonwood Street			Arlington Port Road			Beech Street			I-84 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	25.00			25.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name	Cottonwood Street			Arlington Port Road			Beech Street			I-84 Ramps		
Base Volume Input [veh/h]	12	3	19	2	12	14	9	30	21	12	14	4
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	22.00	22.00	22.00	18.00	18.00	18.00	11.00	11.00	11.00	16.00	16.00	16.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	3	19	2	12	14	9	30	21	12	14	4
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	3	1	5	1	3	4	2	8	6	3	4	1
Total Analysis Volume [veh/h]	13	3	20	2	13	15	9	32	22	13	15	4
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	no	no		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no	no		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.00	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	9.78	10.06	8.88	9.67	10.05	8.69	7.35	0.00	0.00	7.48	0.00	0.00
Movement LOS	A	B	A	A	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.13	0.13	0.13	0.11	0.11	0.11	0.13	0.13	0.13	0.07	0.07	0.07
95th-Percentile Queue Length [ft]	3.22	3.22	3.22	2.71	2.71	2.71	3.20	3.20	3.20	1.67	1.67	1.67
d_A, Approach Delay [s/veh]	9.30			9.34			1.05			3.04		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.84											
Intersection LOS	B											

Intersection Level Of Service Report
#4: I-84 Ramps / Beech Street

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Locust Street			I-84 Ramps			Access			Beech Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	25.00			45.00			20.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name	Locust Street			I-84 Ramps			Access			Beech Street		
Base Volume Input [veh/h]	2	53	14	12	39	2	2	1	2	18	1	18
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	27.00	27.00	27.00	26.00	26.00	26.00	6.00	6.00	6.00	13.00	13.00	13.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	53	14	12	39	2	2	1	2	18	1	18
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	1	14	4	3	10	1	1	0	1	5	0	5
Total Analysis Volume [veh/h]	2	56	15	13	41	2	2	1	2	19	1	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			no	no
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			no	no
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	7.61	0.00	0.00	9.58	9.94	8.56	9.69	10.15	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.16	0.16	0.16	0.13	0.13	0.13	0.02	0.02	0.02	0.14	0.14	0.14
95th-Percentile Queue Length [ft]	4.06	4.06	4.06	3.15	3.15	3.15	0.44	0.44	0.44	3.50	3.50	3.50
d_A, Approach Delay [s/veh]	0.21			1.77			9.24			9.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.03											
Intersection LOS	B											

Intersection Level Of Service Report
#5: OR 74 / I-84 Eastbound Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	OR 74			OR 74			I-84 Exit Ramp			I-84 Entrance Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	55.00			55.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name	OR 74			OR 74			I-84 Exit Ramp			I-84 Entrance Ramp		
Base Volume Input [veh/h]	0	6	12	2	8	0	2	2	5	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	6.00	6.00	6.00	2.00	2.00	2.00	22.00	22.00	22.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	12	2	8	0	2	2	5	0	0	0
Peak Hour Factor	1.000	0.950	0.950	0.950	0.950	1.000	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	2	3	1	2	0	1	1	1	0	0	0
Total Analysis Volume [veh/h]	0	6	13	2	8	0	2	2	5	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			no	no
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			no	no
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.26	0.00	0.00	8.88	9.41	8.57	8.70	9.15	8.37
Movement LOS		A	A	A	A		A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.02	0.02	0.00	0.03	0.03	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.47	0.47	0.00	0.72	0.72	0.72	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1.45			8.83			8.74		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.47											
Intersection LOS	A											

Intersection Level Of Service Report
#6: OR 19 / Cedar Springs Lane

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	OR 19		OR 19		Cedar Springs Lane	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	175.00	100.00	100.00
Speed [mph]	55.00		55.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name	OR 19		OR 19		Cedar Springs Lane	
Base Volume Input [veh/h]	2	11	20	11	61	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	17.00	17.00	40.00	40.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	11	20	11	61	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	5	3	18	2
Total Analysis Volume [veh/h]	2	12	21	12	72	9
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			no
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.08	0.01
d_M, Delay for Movement [s/veh]	7.36	0.00	0.00	0.00	9.47	9.16
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft]	0.69	0.69	0.00	0.00	7.46	7.46
d_A, Approach Delay [s/veh]	1.05		0.00		9.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.08					
Intersection LOS	A					

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TECHNICAL MEMORANDUM #5

Gilliam County Transportation System Plan Update

Alternatives Analysis

Date: April 15, 2015 Project #: 17679
To: Michael Duncan, ODOT
Michelle Colby, Gilliam County

From: Casey Bergh, PE; Ashleigh Griffin; and Marc Butorac, PE, PTOE
cc: Project Advisory Committee

This memorandum provides a framework for the implementation of future transportation improvements. The framework includes an updated functional classification system for Gilliam County and roadway design standards that will guide future improvement projects. Specific improvement projects are summarized, which include projects to address all needs identified in Memorandum #4 (Future Needs) as identified by the public, the Project Advisory Committee, Gilliam County staff, and ODOT staff. The memorandum is organized in three main sections based on these elements; proposed functional classification, roadway design standards, and transportation alternatives.

FUNCTIONAL CLASSIFICATION

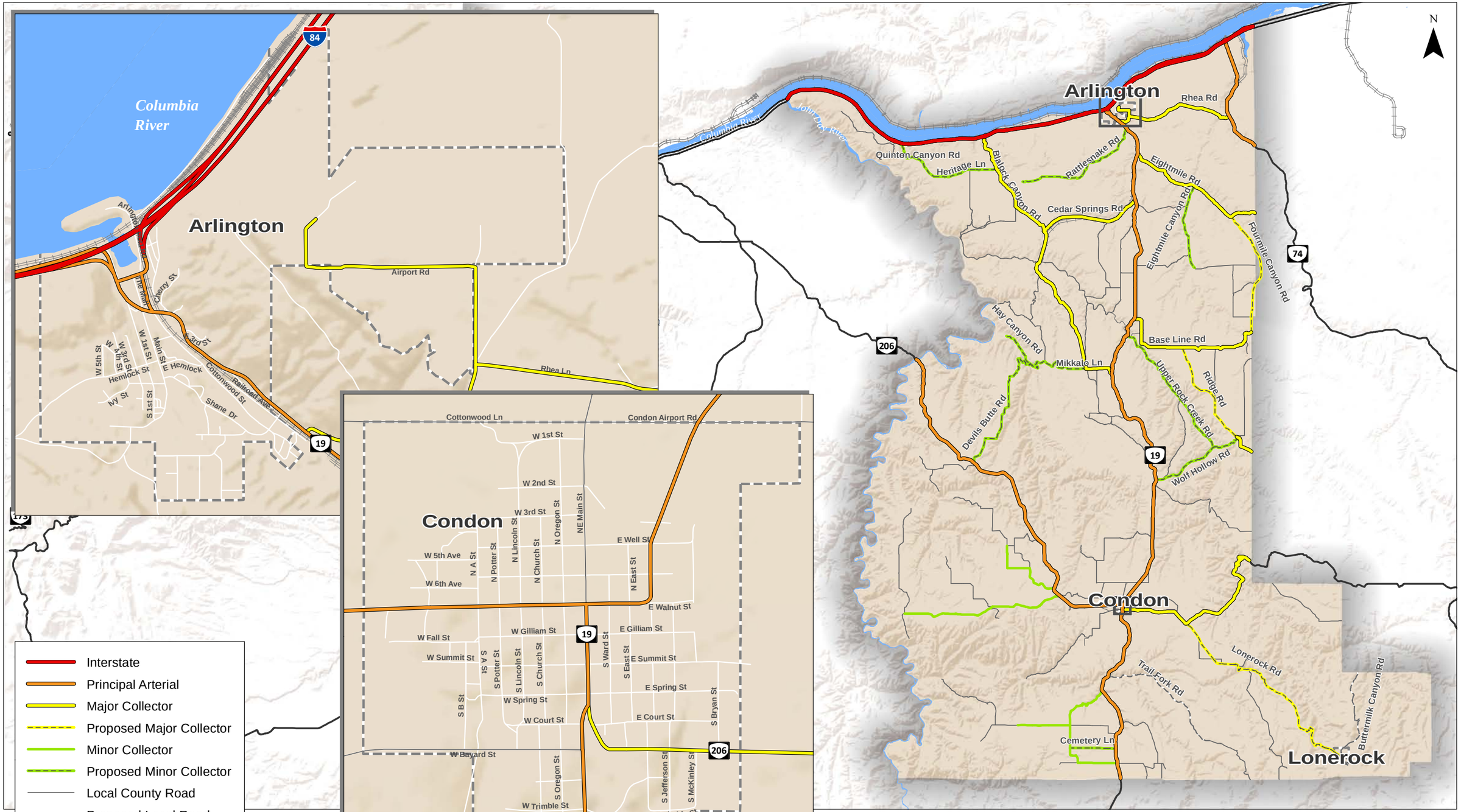
Functional classification of a roadway characterizes the intended purpose, amount and type of vehicular traffic it is expected to carry, provisions for non-auto travel, and the roadway's design standards. The classification considers the adjacent land uses and transportation modes that should be accommodated.

Proposed classifications identified for Gilliam County include: Interstate, Principal Arterial, Major Collector, Minor Collector, and Local Road. Table 5-1 provides a detailed description of each classification. Figure 5-1 presents the proposed functional classifications for all existing County roadways. The recommended functional classifications shown are based on the existing Federal Functional Classifications. The functional classifications apply in both urban and rural environments. The previous Technical Memorandum (Future Needs) documented the reason why roads were selected for upgrades from local County roads to Major or Minor Collectors. Generally, the reasons for these changes were an increase in traffic and heavy vehicles associated with industrial or agricultural land use and traffic patterns.

Table 5-1. Gilliam County Functional Classification Descriptions

Functional Classification	Description
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.
Principal 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	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. 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.
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.

Source: http://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section03.cfm#Toc336872980



Proposed Functional Classification
Gilliam County, Oregon

Figure
5-1

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

PROPOSED COUNTY ROADWAY DESIGN GUIDELINES

The proposed roadway design guidelines are based on discussions with County staff, former County and City guidelines, and guidance in the *American Association of State Highway Transportation Officials (AASHTO) Green Book*. The guidelines take into consideration roadway functional and operational characteristics, including traffic volume, capacity, operating speed, and safety. As the County road system develops, the guidelines will support safe and efficient movement of people and goods while also accommodating the orderly development of adjacent lands.

Separate design guidelines are presented for rural and urban roadways given the different purpose and function of each. Rural standards apply to roadways outside of City limits, and urban standards apply to facilities within City limits. The City of Lonerock has a rural character and has historically followed rural County guidelines.

Rural Roadway Design Guidelines

Exhibit 5-1 through Exhibit 5-3 summarize the proposed cross-sections for rural roadways. Table 5-2 presents the dimensions of the design guidelines. County arterial roadway surfaces should be paved, but other lower-order roadway surfaces could be gravel or paved, depending on the level of use of the roads and the ability of the local jurisdiction to maintain them. Major and minor collectors that serve industrial traffic should be paved when feasible.

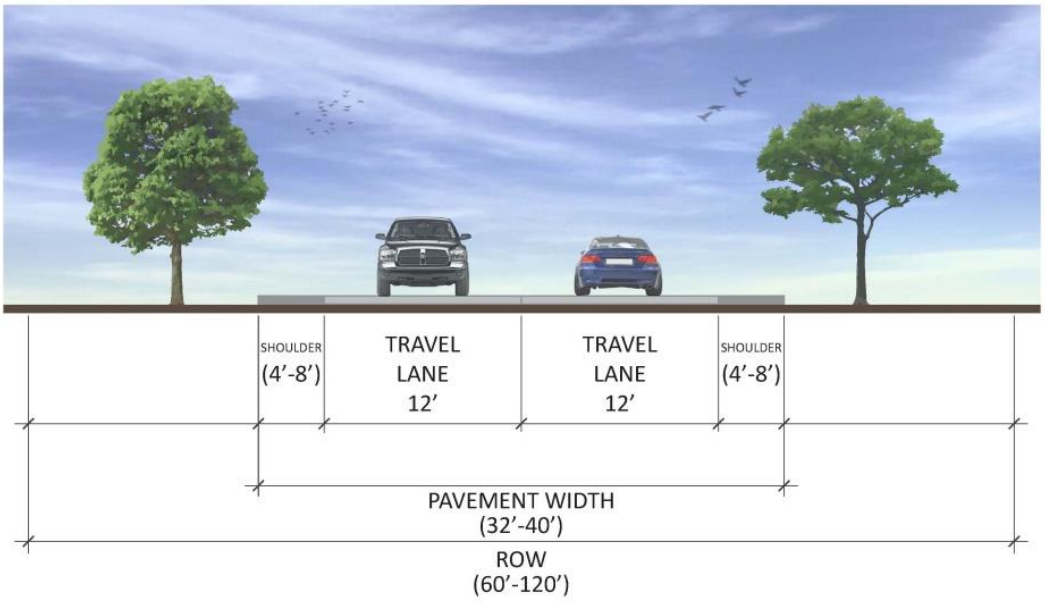


Exhibit 5-1. Proposed Rural Arterial Cross-Section

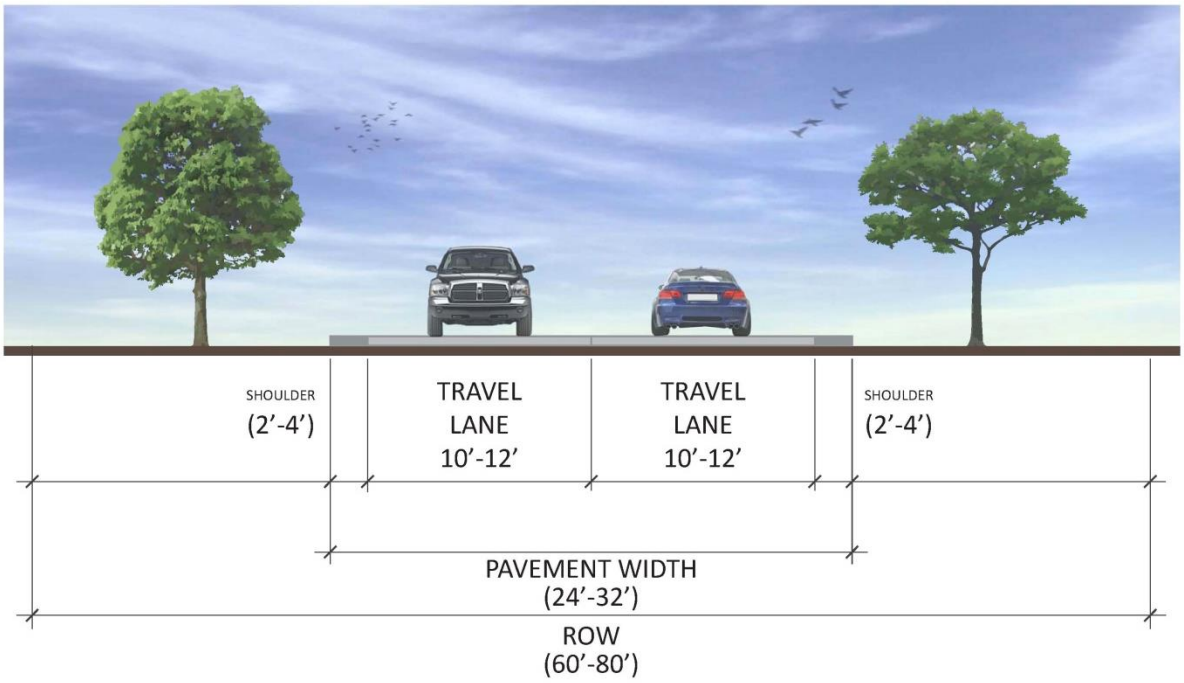


Exhibit 5-2. Proposed Rural Collector Cross-Section

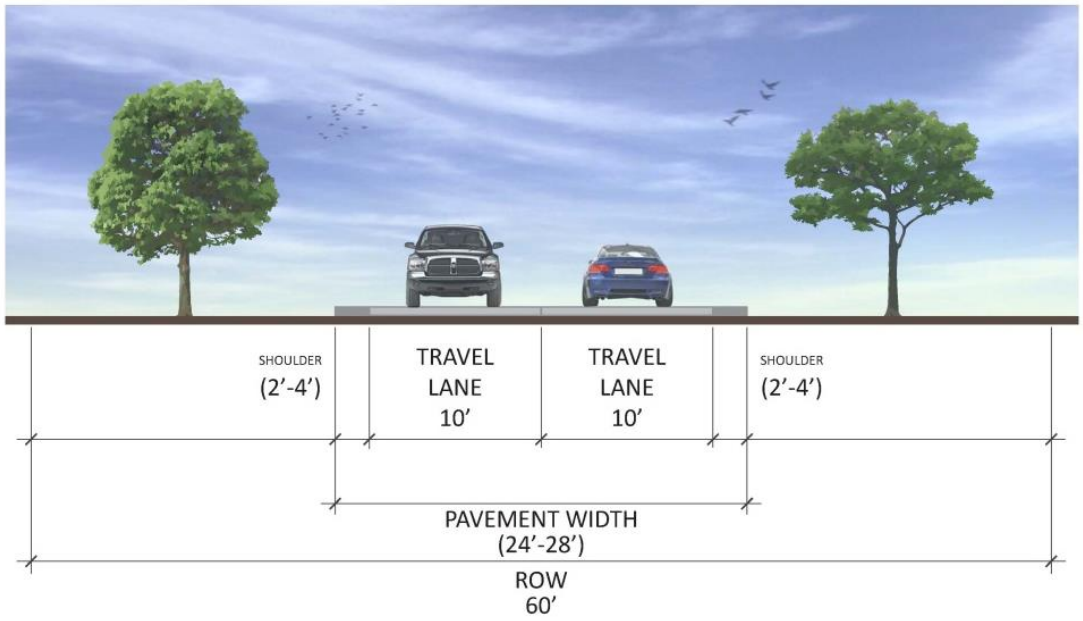


Exhibit 5-3. Recommended Rural Local Street Cross-Section

Table 5-2. Summary of Proposed Rural Design Guidelines by Functional Classification

Functional Classification	Right-of-Way Width (ft)	Roadway		Shoulder	
		Width (ft)	Surface	Width (ft)	Surface
Arterial Street	60-120	32-40	Paved	4-8	Paved
Major Collector Street	60-80	24-32	Paved/gravel	2-4	Paved/gravel
Minor 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	-	-	-

Urban Roadway Design Guidance

The cities of Condon and Arlington had individual street design guidelines in their respective 1999 TSPs. These guidelines were similar and have been consolidated to form one set of alternatives for urban design guidelines which will apply to all streets within City limits. Multiple cross-section options are presented for some urban roadway classifications. The options are intended to provide the County and Cities with flexibility to select roadway design guidelines that take into account environmental factors and the context of the roadways. A preferred alternative will be selected based on input from the public, County, and Cities.

Exhibit 5-4 through Exhibit 5-10 illustrate the alternatives for the proposed roadway design guidelines for urban areas. Table 5-3 summarizes the urban roadway design dimensions for the proposed alternatives.

Three alternatives are presented for urban arterial design guidelines. The first one, shown in Exhibit 5-4, includes two 12-foot travel lanes and bike lanes. The second option, shown in Exhibit 5-5, includes three travel lanes and bike lanes, . The third option, shown in Exhibit 5-6, includes two travel lanes, bike lanes, and on-street parking. Based on the existing roadways in the Cities, the first option shown in Exhibit 5-4 appears to be the most appropriate.

The proposed design guidance for urban collector roadways is shown in Exhibit 5-7. Only one option for urban collectors is presented based on the previous design guidelines. The urban collector includes two travel lanes, each 10’ in width, and on-street parking. Because these streets have lower speeds and lower volumes, it is assumed that bicycles will share the roadway.

The two alternatives for roadway design guidelines for urban local streets are shown in Exhibit 5-8 and Exhibit 5-9. The first one contains two 12’ travel lanes, and the second option contains two travel lanes in addition to on-street parking. Based on the existing local streets in the cities of Arlington and Condon, option 2, shown in Exhibit 5-9, appears to be the most appropriate.

Exhibit 5-10 shows the proposed design guidelines for urban alleys. These guidelines are the same as those from the 1999 TSP and include a total width of 20' to be used for two-way traffic.

Although many of the existing local roads do not include connected sidewalks, adopting design guidelines that match the local vision for the area is a tool that will help the City achieve goals such as connected sidewalks in the future. Developers will have the option to obtain an exception in situations where sidewalks are not appropriate.

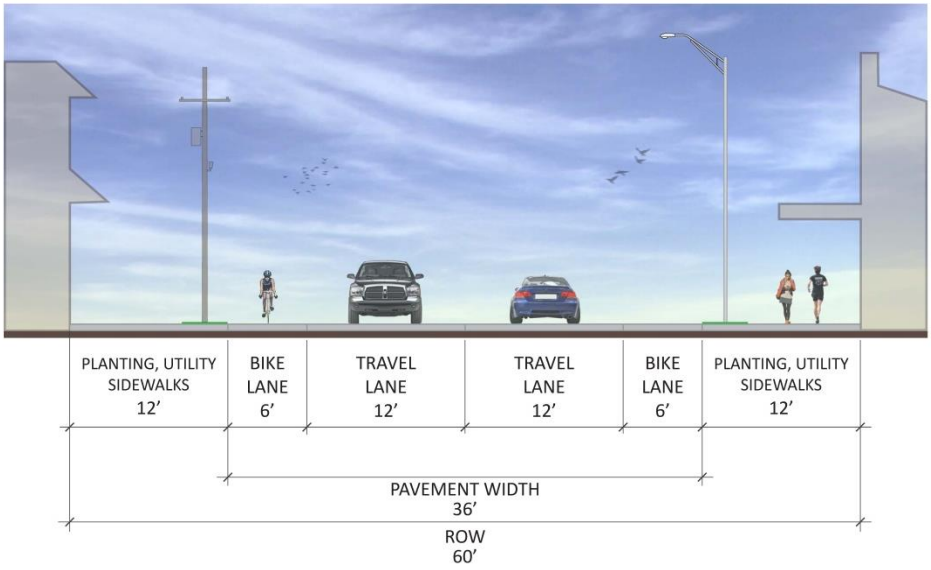


Exhibit 5-4. Urban Arterial Cross-Section – Option 1

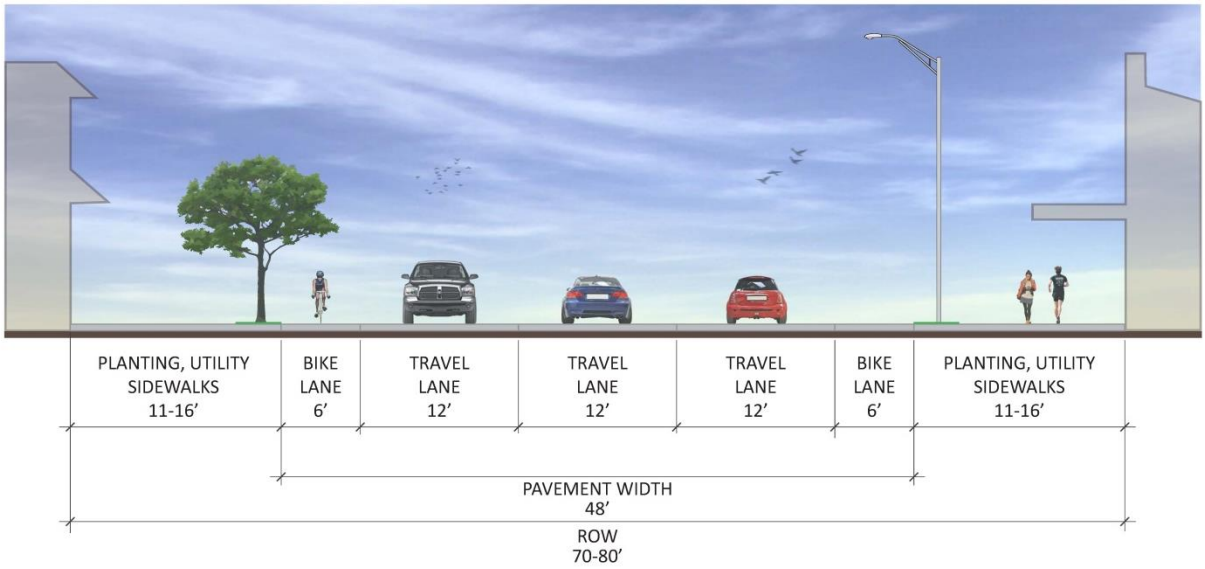


Exhibit 5-5. Urban Arterial Cross-Section – Option 2

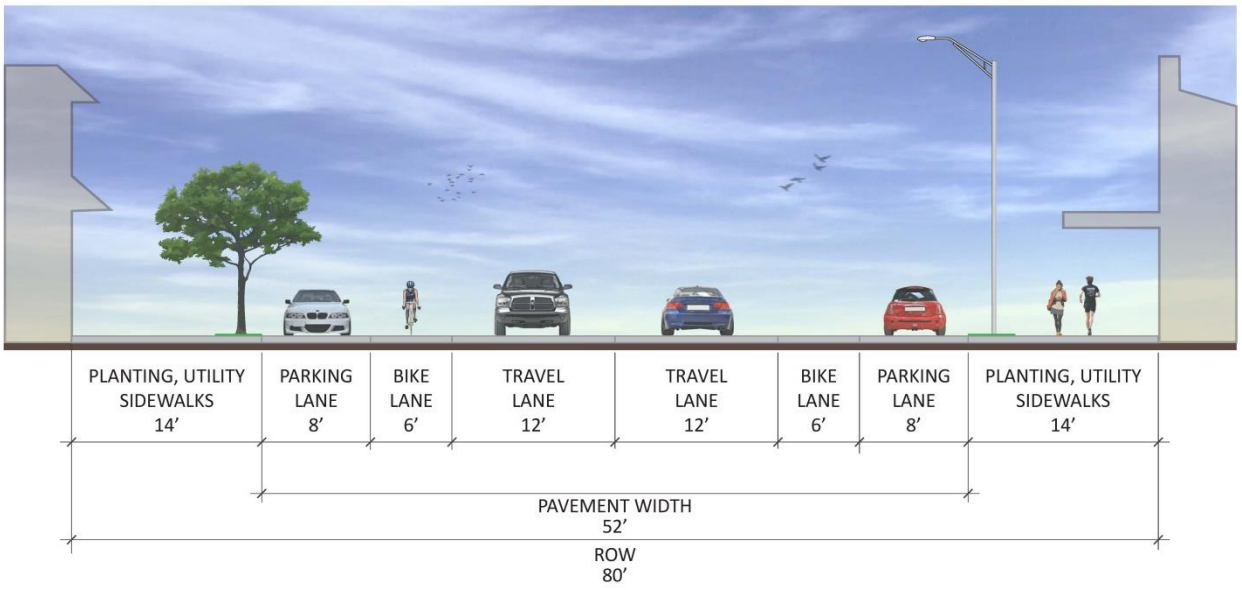


Exhibit 5-6. Urban Arterial Cross-Section – Option 3 (Downtown Arterial)

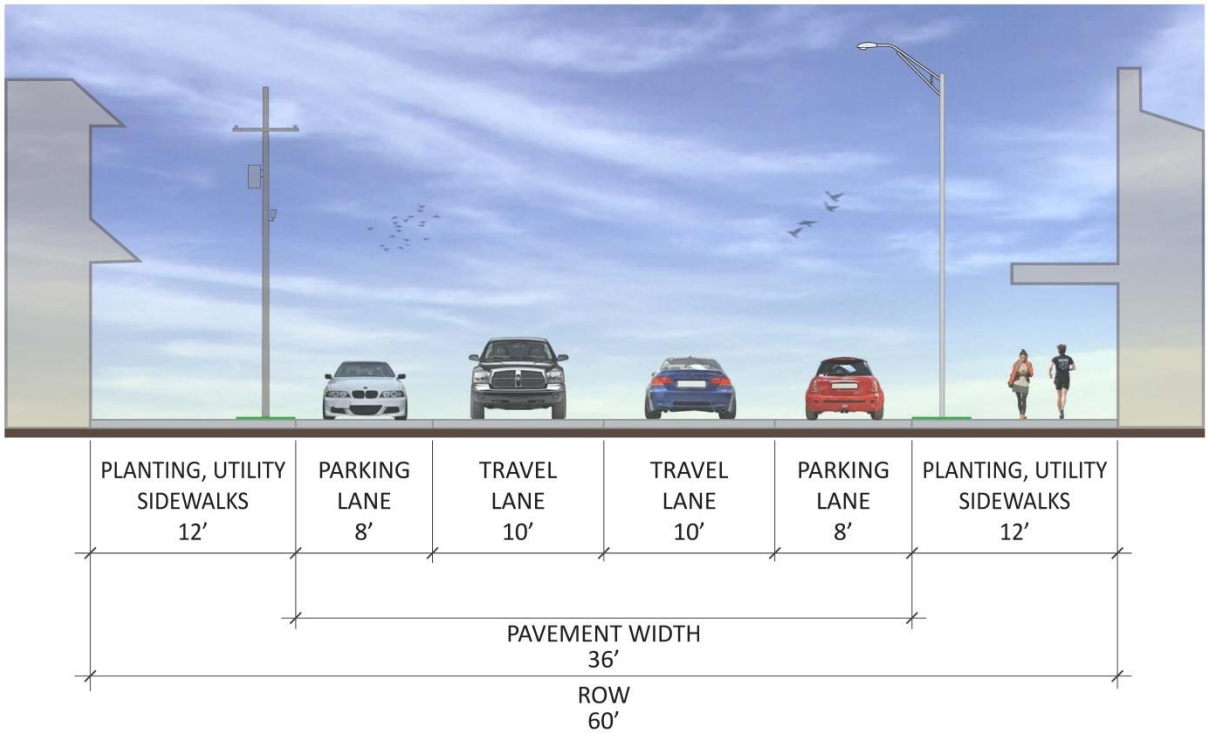


Exhibit 5-7. Urban Collector Cross-Section

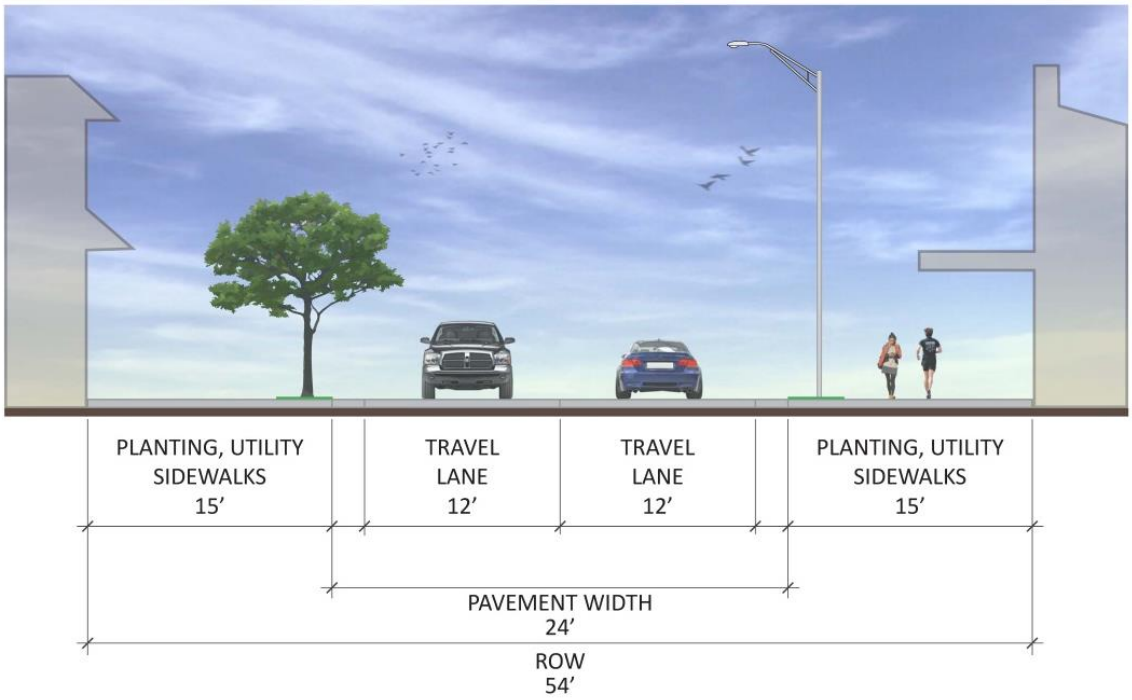


Exhibit 5-8. Urban Local Street Cross-Section - Option 1

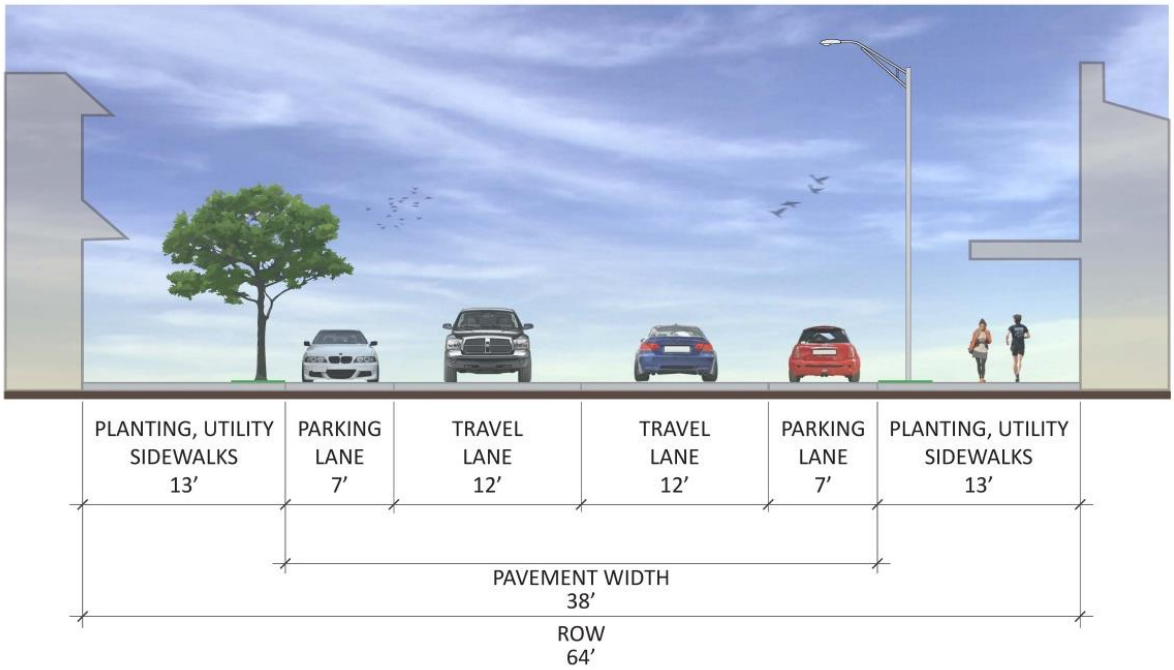


Exhibit 5-9. Urban Local Street Cross-Section - Option 2

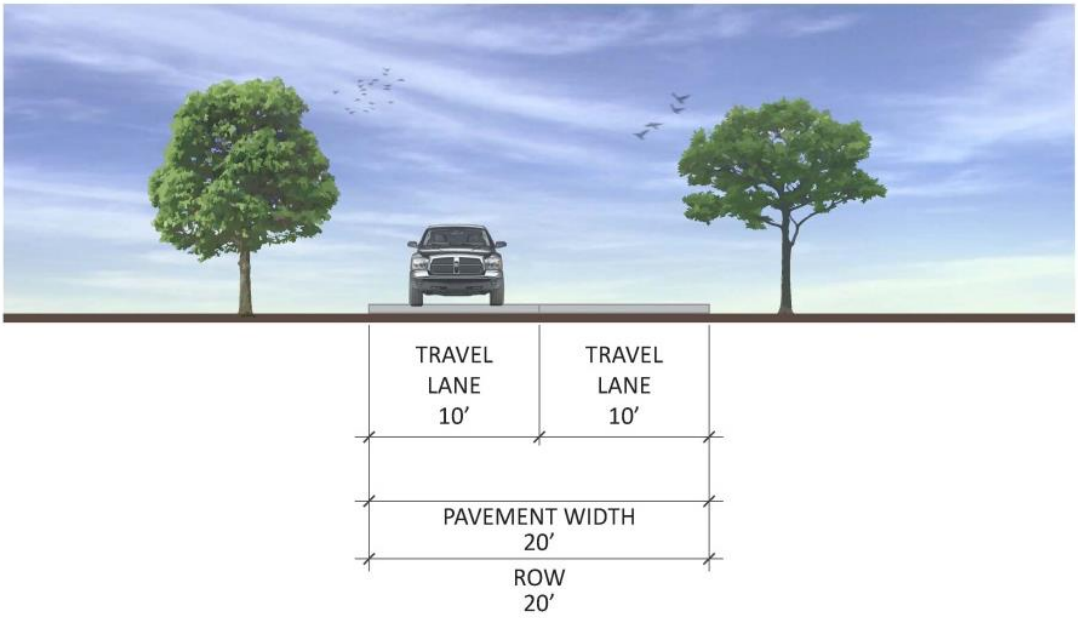


Exhibit 5-10. Urban Alley Cross-Section

Table 5-3. Sherman County Urban Design Guidelines

Classification	Pavement Width	Right-of-Way Width	Number/Width			Planting, Utility, Sidewalks
			Travel Lanes	Parking Lanes	Bike Lanes	
Urban Arterial – Option 1	36 ft	70 ft	2/12 ft	None	2/6 ft	12 ft
Urban Arterial – Option 2	48 ft	70-80 ft	3/12 ft	None	2/6 ft	11-16 ft
Downtown Arterial	52 ft	80 ft	2/12 ft	2/8 ft	2/6 ft	14 ft
Urban Major/Minor Collector	36 ft	60 ft	2/10 ft	2/8 ft	none	12 ft
Urban Local Street – Option 1	24 ft	54 ft	2/10 ft	None	none	15 ft
Urban Local Street – Option 2	38 ft	64 ft	2/12 ft	2/7 ft	none	13 ft
Urban Alley	20 ft	20 ft	2/10 ft	none	none	none

TRANSPORTATION ALTERNATIVES

Transportation alternatives for Gilliam County were developed and evaluated to address transportation needs based on the current and future forecast traffic conditions. The future transportation needs of the County were determined based on: comments received from the public, Gilliam County, ODOT, members of the Project Advisory Committee; a field review conducted by Kittelson and Associates, Inc. (KAI) in 2014; technical analysis of traffic operations; and, a review and analysis of crash history reports. Alternatives include a combination of projects, policies, programs,

pilot projects, and studies. Table 5-4 shows the financially unconstrained transportation alternatives identified to address the future transportation needs.

The *projects* identified in Table 5-4 address various transportation issues, which generally include: modernization, safety issues, pedestrian/bicycle enhancements, and bridge replacement/ preservation needs. These issues are briefly described below:

- Modernization: These projects include upgrades to address operational issues or upgrades to roadways that are serving higher traffic volumes than they were originally intended to serve. These projects cannot be conducted as part of regular maintenance activities and may include activities such as shoulder widening or full reconstruction of a roadway.
- Safety: These projects consider opportunities to improve existing facilities to reduce probability and severity of crashes.
- Active Transportation: These projects improve existing facilities or create new facilities that provide greater connectivity and increase access to pedestrian and bicycle routes within Cities and between communities.

Table 5-4 includes an identification number for reference to the project locations shown Figure 5-2. The preliminary cost estimates in Table 5-4 include contingency and exclude right-of-way costs. Potential non-binding funding sources were also identified for each project.

In addition to the projects identified in the table, several policies, programs, projects, and studies were also identified and are included in the alternatives table to address transit, safety, and parking concerns. Some of these items include:

- Installing shoulder rumble strips on State and County roads, when possible, to help reduce single-vehicle, run-off-the-road crashes. These systemic projects should be included in roadway upgrade projects when possible. National research has found that shoulder rumble strips reduce roadway departure crashes on rural two-lane roads by approximately 26%, when adequate pavement is available on the shoulder.
- Additional transit funding is needed to pay salaries for drivers, training for drivers, vehicle maintenance, and carports for the vehicles.
- The County and Cities permitting requirements may be updated to require parking management plans for some special events to minimize parking overflow onto local and downtown streets during special events.

The next Technical Memorandum will contain detailed prospectus sheets that summarize the details of individual projects, including the location and conceptual sketches of proposed cross-sections or intersection realignments.

Appendix A summarizes the cost estimates and relevant assumptions used to develop costs shown in Table 5-4.

Table 5-4. Transportation Alternatives

ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
S-1	Safety	I-84 Westbound On-Ramp in Arlington	Replace existing sign with larger sign and add pavement markings to indicate correct direction for drivers	$3,000	Medium	X			
S-2	Safety	Railroad crossing of OR 19/Locust Street	Minimize times that the crossing is blocked by trains by working with WM to ensure additional power to move trains up hill and prevent trains from getting stuck.	Unknown	High				X
S-3	Safety	Railroad crossing of I-84 Ramps/Beech Street	Minimize times that the crossing is blocked by trains by working with WM to ensure additional power to move trains up hill and prevent trains from getting stuck.	Unknown	High				X
S-4, A	Safety	Main Street/Walnut Street Intersection Reconfiguration, Option A	Reconfigure intersection to two-way stop-controlled intersection	$46,000	Low	X		X	
S-4, B	Safety	Main Street/Walnut Street Intersection Reconfiguration, Option B	Reconfigure intersection to all-way stop-controlled intersection with flashing warning signs on all approaches	$25,000	High	X		X	
S-4, C	Safety	Main Street/Walnut Street Intersection Reconfiguration, Option C	Install additional “3-way stop” signage and pavement striping at intersection under its existing configuration.	$5,000	High	X		X	

ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
S-5	Safety	E Bayard Street/Main Street Intersection Reconfiguration	Reconfigure intersection to two-way stop-controlled intersection	$106,000	Low	X		X	
S-6	Safety	Lonerock Road at OR 206, Option A	Reconfigure intersection to bring the westbound approach of OR 206 to a perpendicular stop with Lonerock Road.	$104,000	Low	X	X		
S-6	Safety	Lonerock Road at OR 206, Option B	Install curve warning signs and intersection ahead signs to increase awareness of the intersection and promote speed reduction.	$5,000	Medium	X	X		
S-7	Safety	I-84 throughout County	Evaluate effectiveness and feasibility of ITS treatments to provide warnings to drivers when roadway conditions are icy.	N/A	Low	X			
S-8	Safety	Systemic Safety Improvements	Install shoulder rumble strips on State and County roads when possible to help reduce single-vehicle, run-off the road crashes.	Included in upgrade projects.	High	X	X		
S-9	Safety	OR 206, Near MP 22	Evaluate snow drifts at this location to determine if treatments are feasible.	N/A	Low	X			
S-10	Safety	Cedar Springs Road/Blalock Canyon Road	Improve sight distance at intersection.	N/A	Low		X		

ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
S-11	Safety	Travel Speeds in Arlington	Install posted speed limit sign on Beech Street for westbound traffic. Identify opportunities to slow traffic through environment changes in Arlington.	N/A	Low	X		X	
S-12	Safety	Barnett Road	Improve sight distance at blind corners on Barnett Road	N/A	Low		X		
S-13	Safety	Increased Sign Sizes	Install large signs when possible to improve visibility for aging driver population.	N/A	Low	X	X	X	
S-14	Safety	Driver Education	Identify funding for driver education programs in schools.	N/A	Low	X	X	X	X
A-1	Active Transportation	Cottonwood Street Sidewalks	Install sidewalks from Shane Drive to OR 19	$508,000	Low			X	
A-2	Active Transportation	Shane Drive Sidewalks	Install sidewalks from Main Street to Cottonwood Street	$414,000	Low			X	
A-3	Active Transportation	Ivy Street Sidewalks - Arlington	Install sidewalks from 3rd Street to Main Street in Arlington, connecting to the Columbia Hills Manor Independent Living Center	$147,000	High			X	

ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
A-4	Active Transportation	Sidewalks on East Side of Main Street - Condon	Replace sidewalks on the east side of Main Street from 3rd Street to OR 206/Walnut Street	$83,000	Medium			X	
A-5	Active Transportation	Sidewalks on E Spring Street	Install sidewalks from S East Street to S Jefferson Street	$25,000	Medium			X	
A-6	Active Transportation	Inner Pedestrian Recreational Route West of Condon	Create recreational dirt walking path east of Condon for residents from W Bayard Street/Potter Street to OR 206	$87,750	Low		X	X	
A-7	Active Transportation	Outer Pedestrian Recreational Route West of Condon	Create recreational dirt walking path east of Condon for residents from W Bayard Street to Cottonwood Street/Main Street	$109,200	Low		X	X	
A-8	Active Transportation	W 1st Street	Install sidewalks from Cedar Street to Ivy Street	$277,000	Low			X	
A-9	Active Transportation	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	N/A	Medium	X	X		
A-10	Active Transportation	Bicycle Parking	Add bicycle parking in downtown areas of Condon and Arlington	N/A	High			X	

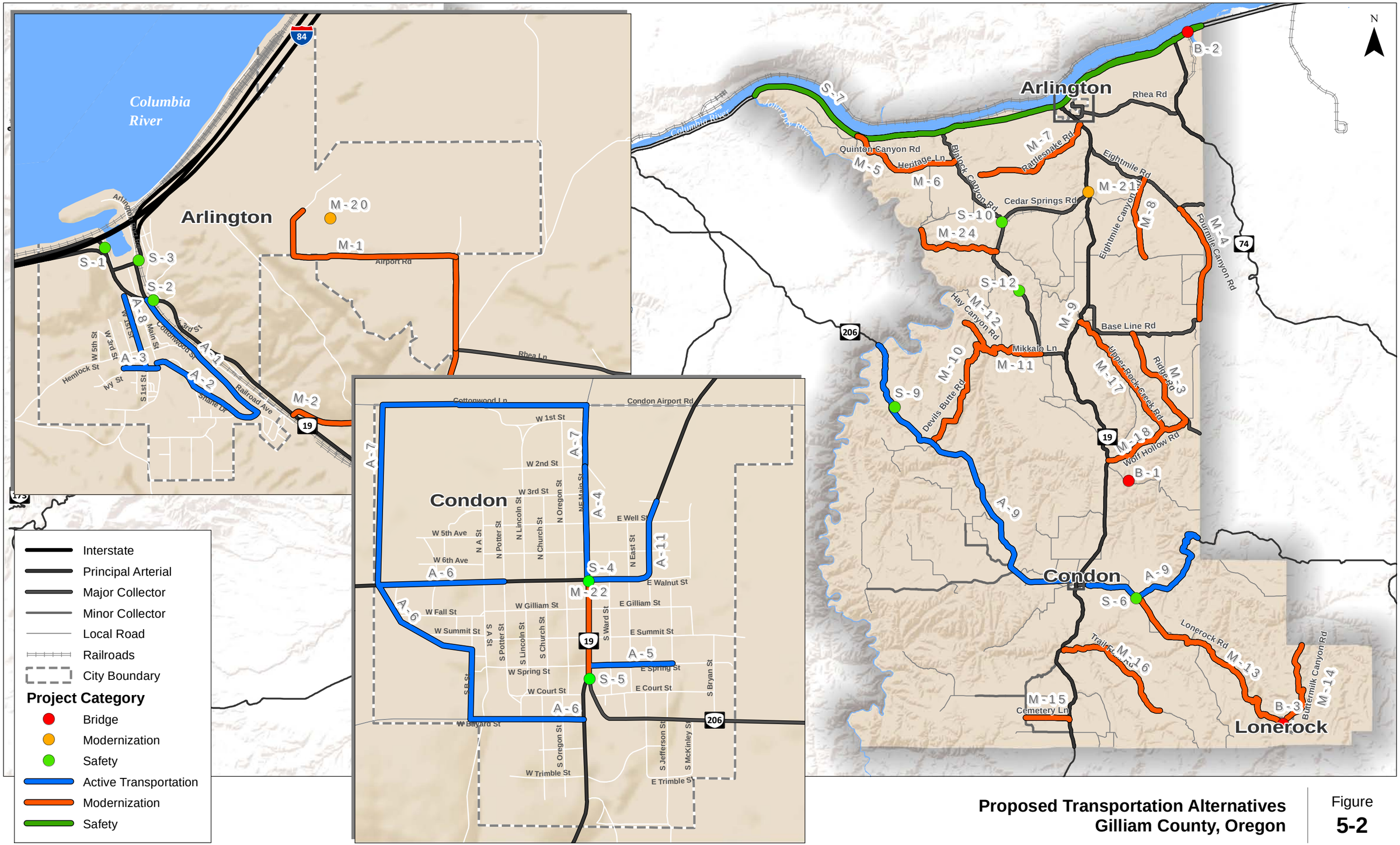
ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
A-11	Active Transportation	OR 19 Sidewalks	Add sidewalks from Main Street to the Fairgrounds driveway in Condon.	N/A	Low	X		X	
B-1	Bridge	Cayuse Canyon Road Bridge	Replace bridge at MP 4 (Rock Creek)	$2,000,000	Low		X		
B-2	Bridge	I-84 EB Bridge	Update bridge at MP 148.6 (Willow Creek)	$160,000	Medium	X			
B-3, A	Bridge	Lonerock Road Bridge Replacement - Option A	Option A: Replace Lonerock Road bridge	$2,000,000	Medium		X		
B-3, B	Bridge	Lonerock Road Bridge Repair - Option B	Option B: Repair Lonerock Road bridge	Waiting on Estimate for Repair	Medium		X		
M-1	Modernization	Airport Road	Reconstruct roadway from Rhea Road to the end of the road with rock base and minimum of 4' shoulders to accommodate industrial traffic associated with the industrial park	$109,200	High	X	X	X	X

ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
M-2	Modernization	Rhea Lane	Upgrade roadway to include 4' shoulders on both sides from OR 19 to Airport Road to serve industrial traffic associated with the Arlington Mesa Industrial Park.	$837,330	High	X	X	X	X
M-3	Modernization	Ridge Road	Upgrade roadway to Major Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Baseline/Ion Road to Flett Road.	$1,177,735	High		X		
M-4	Modernization	Fourmile Canyon Road	Upgrade roadway to Major Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Fairview Lane to the eastern County Limits.	$1,015,820	Medium		X		
M-5	Modernization	Quinton Canyon Road	Upgrade roadway to Minor Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Blalock Canyon Road to I-84 interchange.	$95,550	Low		X		
M-6	Modernization	Heritage Lane	Upgrade roadway to Minor Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Blalock Canyon Road to I-84 interchange.	$95,550	Low		X		
M-7	Modernization	Rattlesnake Road	Reclassify roadway to Minor Collector. Road has already been upgraded to Minor Collector cross-section.	None	High		X		

ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
M-8	Modernization	Eightmile Canyon Road	Upgrade roadway from 18' wide road to Minor Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Old Tree Lane to Fourmile Canyon Road	$1,015,846	Low		X		
M-9	Modernization	OR 19	Reconstruct roadway from MP 16 to 19 to straighten curves to allow long trucks carrying agriculture equipment or wind turbines access without using both lanes.	N/A	Low	X			
M-10	Modernization	Devils Butte Rd	Upgrade roadway from approximately 20' wide dirt road to a Minor Collector to serve State Park traffic from Hay Canyon Road to OR 206.	$156,000	Low	X	X		X
M-11	Modernization	Mikkalo Ln	Upgrade roadway from approximately 20' wide dirt road to a Minor Collector to serve State Park traffic from Hay Canyon Road to OR 19.	$61,100	Low	X	X		
M-12	Modernization	Hay Canyon Rd	Upgrade roadway from approximately 15' wide dirt road to a Minor Collector to serve State Park traffic from Devils Butte Road to the Cottonwood Canyon State Park.	$2,752,422	Low	X	X		
M-13	Modernization	Lonerock Road	Upgrade from Minor Collector to Major Collector from OR 206 to City of Lonerock	$500,000	Medium				

ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
M-14	Modernization	Buttermilk Canyon Road	Downgrade from Minor Collector to Local Road from City of Lonerock to East County Limit	None	High				
M-15	Modernization	Cemetery Road	Upgrade Road to Minor Collector	$100,000	Low				
M-16	Modernization	Trail Fork Road	Downgrade from Minor Collector to Local Road	None	High				
M-17	Modernization	Upper Rock Creek Road	Downgrade from Major Collector to Minor Collector from Wolf Hollow Road to OR 19	None	High				
M-18	Modernization	Wolf Hollow Road	Downgrade from Major Collector to Minor Collector from OR 19 to Ridge Road	None	High				
M-19	Parking/ Special Events	Parking Management Plans	Update permitting procedures to require parking management plans for special events to minimize parking overflow onto local and downtown streets during special events.	N/A	Low		X	X	
M-20	Modernization	Arlington Airport Runway	Pave the Arlington Airport runway, which is currently dirt.	N/A	Low	X			
M-21	Modernization	Shutler Station	Add rail crossovers	$300,000	Medium	X			X
M-22	Modernization	On-Street Parking Spaces on Main Street	Upgrade parking spaces on Main Street in Condon to provide ADA spaces at key destinations.	$3,000	High			X	

ID	Category	Name	Description	Cost Estimate	Priority	Potential Funding Source			
						ODOT/ State	County	Cities	Private
M-23	Transit	Transit Improvements	Obtain additional funding for additional drivers, training, vehicle maintenance, and carports for the County's dial-a-ride system.	N/A	Medium	X	X		
M-24	Modernization	Lower Rock Creek Road	Improve roadway (widen, add shoulders, curve signage, etc.) due to high recreational traffic associated with river access.	N/A	Low		X		
M-25	Modernization	Condon State Airport	Improve airport (runway, facilities, access, etc.) to support development when water is provided to the airport.	N/A	Low	X	X	X	X



Proposed Transportation Alternatives
Gilliam County, Oregon

Figure **5-2**

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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PROJECT TIMING

The projects were categorized into short-term and medium/long-term projects. Short-term projects include those that could be addressed within the next five years. Some medium/long-term projects may be addressed within the next five to ten years; others will be considered during planning projects, but will not likely be addressed for 10 to 20 years.

Each project was categorized based on known transportation needs, forecast travel demand, crash history, and input from the County and ODOT staff. The amount of funding available per year is expected to have the greatest impact on the timing of these projects.

Table 5-5 summarizes the anticipated timeframe in which each project is classified.

Table 5-5. Anticipated Gilliam County Unconstrained Alternatives Timing

ID	Name	Description	Timing	
			Short	Medium/Long
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	X	
S-2	Railroad crossing of OR 19/Locust Street	Minimize times that the crossing is blocked by trains by working with WM to ensure additional power to move trains up hill and prevent trains from getting stuck.	X	
S-3	Railroad crossing of I-84 Ramps/Beech Street	Minimize times that the crossing is blocked by trains by working with WM to ensure additional power to move trains up hill and prevent trains from getting stuck.	X	
S-4, A	Main Street/Walnut Street Intersection Reconfiguration, Option A	Reconfigure intersection to two-way stop-controlled intersection		X
S-4, B	Main Street/Walnut Street Intersection Reconfiguration, Option B	Reconfigure intersection to all-way stop-controlled intersection with flashing warning signs on all approaches	X	
S-4, C	Main Street/Walnut Street Intersection Reconfiguration, Option C	Install additional “3-way stop” signage and pavement striping at intersection under its existing configuration.	X	
S-5	E Bayard Street/Main Street Intersection Reconfiguration	Reconfigure intersection to two-way stop-controlled intersection		X
S-6, A	Lonerock Road at OR 206, Option A	Install curve warning signs and intersection ahead signs to bring awareness to the intersection and slow vehicles.	X	
S-6, B	Lonerock Road at OR 206, Option B	Reconfigure intersection to bring the westbound approach of OR 206 to a perpendicular stop with Lonerock Road.		X
S-7	I-84 throughout County	Evaluate effectiveness and feasibility of ITS treatments to provide warnings to drivers when roadway conditions are icy.		X
S-8	Systemic Safety Improvements	Install shoulder rumble strips on State and County roads when possible to help reduce single-vehicle, run-off the road crashes.	X	

ID	Name	Description	Timing	
			Short	Medium/Long
S-9	OR 206, Near MP 22	Evaluate snow drifts at this location to determine if treatments are feasible.		X
S-10	Cedar Springs Road/Blalock Canyon Road	Improve sight distance at intersection.		X
S-11	Travel Speeds in Arlington	Install posted speed limit sign on Beech Street for westbound traffic. Identify opportunities to slow traffic through environment changes in Arlington.	X	
S-12	Barnett Road	Improve sight distance at blind corners on Barnett Road		X
S-13	Increased Sign Sizes	Install large signs when possible to improve visibility for aging driver population.		X
S-14	Driver Education	Identify funding for driver education programs in schools.		X
A-1	Cottonwood Street Sidewalks	Install sidewalks from Shane Drive to OR 19		X
A-2	Shane Drive Sidewalks	Install sidewalks from Main Street to Cottonwood Street		X
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	X	
A-4	Sidewalks on East Side of Main Street - Condon	Replace sidewalks on the east side of Main Street from 3rd Street to OR 206/Walnut Street	X	
A-5	Sidewalks on E Spring Street	Install sidewalks from S East Street to S Jefferson Street	X	
A-6	Inner Pedestrian Recreational Route West of Condon	Create recreational dirt walking path east of Condon for residents from W Bayard Street/Potter Street to OR 206		X
A-7	Outer Pedestrian Recreational Route West of Condon	Create recreational dirt walking path east of Condon for residents from W Bayard Street to Cottonwood Street/Main Street		X
A-8	W 1st Street	Install sidewalks from Cedar Street to Ivy Street		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	X	
A-10	Bicycle Parking	Add bicycle parking in downtown areas of Condon and Arlington	X	
A-11	OR 19 Sidewalks	Add sidewalks on OR 19 from Main Street to the Fairgrounds driveway in Condon.		X

ID	Name	Description	Timing	
			Short	Medium/Long
B-1	Cayuse Canyon Road Bridge	Replace bridge at MP 4 (Rock Creek)		X
B-2	I-84 EB Bridge	Update bridge at MP 148.6 (Willow Creek)	X	
B-3, A	Lonerock Road Bridge Replacement - Option A	Option A: Replace Lonerock Road bridge		X
B-3, B	Lonerock Road Bridge Repair - Option B	Option B: Repair Lonerock Road bridge		X
M-1	Airport Road	Reconstruct roadway from Rhea Road to the end of the road with rock base and minimum of 4' shoulders to accommodate industrial traffic associated with the industrial park	X	
M-2	Rhea Lane	Upgrade roadway to include 4' shoulders on both sides from OR 19 to Airport Road to serve industrial traffic associated with the Arlington Mesa Industrial Park.	X	
M-3	Ridge Road	Upgrade roadway to Major Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Baseline/Ion Road to Flett Road.	X	
M-4	Fourmile Canyon Road	Upgrade roadway to Major Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Fairview Lane to the eastern County Limits.	X	
M-5	Quinton Canyon Road	Upgrade roadway to Minor Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Blalock Canyon Road to I-84 interchange.		X
M-6	Heritage Lane	Upgrade roadway to Minor Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Blalock Canyon Road to I-84 interchange.		X
M-7	Rattlesnake Road	Reclassify roadway to Minor Collector. Road has already been upgraded to Minor Collector cross-section.		X
M-8	Eightmile Canyon Road	Upgrade roadway from 18' wide road to Minor Collector standards (two 12' travel lanes and 2' shoulders on both sides) from Old Tree Lane to Fourmile Canyon Road		X
M-9	OR 19	Reconstruct roadway from MP 16 to 19 to straighten curves to allow long trucks carrying agriculture equipment or wind turbines access without using both lanes.		X

ID	Name	Description	Timing	
			Short	Medium/Long
M-10	Devils Butte Rd	Upgrade roadway from approximately 20' wide dirt road to a Minor Collector to serve State Park traffic from Hay Canyon Road to OR 206.		X
M-11	Mikkalo Ln	Upgrade roadway from approximately 20' wide dirt road to a Minor Collector to serve State Park traffic from Hay Canyon Road to OR 19.		X
M-12	Hay Canyon Rd	Upgrade roadway from approximately 15' wide dirt road to a Minor Collector to serve State Park traffic from Devils Butte Road to the Cottonwood Canyon State Park.		X
M-13	Lonerock Road	Upgrade from Minor Collector to Major Collector from OR 206 to City of Lonerock		X
M-14	Buttermilk Canyon Road	Downgrade from Minor Collector to Local Road from City of Lonerock to East County Limit	X	
M-15	Cemetery Road	Upgrade Road to Minor Collector	X	
M-16	Trail Fork Road	Downgrade from Minor Collector to Local Road	X	
M-17	Upper Rock Creek Road	Downgrade from Major Collector to Minor Collector from Wolf Hollow Road to OR 19	X	
M-18	Wolf Hollow Road	Downgrade from Major Collector to Minor Collector from OR 19 to Ridge Road	X	
M-19	Parking Management Plans	Update permitting procedures to require parking management plans for special events to minimize parking overflow onto local and downtown streets during special events.	X	
M-20	Arlington Airport Runway	Pave the Arlington Airport runway, which is currently dirt.		X
M-21	Shutler Station	Add rail crossovers	X	
M-22	On-Street Parking Spaces on Main Street	Upgrade parking spaces on Main Street in Condon to provide ADA spaces at key destinations.	X	
M-23	Transit Improvements	Obtain additional funding for additional drivers, training, vehicle maintenance, and carports for the County's dial-a-ride system.	X	
M-24	Lower Rock Creek Road	Improve Lower Rock Creek Road (widen, add shoulders, curve signage, etc.) due to high recreational traffic associated with river access.		X
M-25	Condon State Airport	Improve Condon State airport (runway, facilities, access, etc.) to support development when water is provided to the airport.		X

CONCLUSION

This memorandum summarizes future transportation projects proposed for Gilliam County. The projects were developed and evaluated to address current and future transportation needs based on the current and 20-year project forecasts. The projects do not take into consideration available or potential future revenue sources to implement the projects.

The Project Advisory Committee will review these projects and the project prioritization. The next step will be to develop a financially-constrained list of projects based on future potential revenue sources for the projects. Technical Memorandum #6 will summarize the financially-constrained project list.

APPENDICES

Appendix A: Project Alternative Cost Estimate Calculations

Appendix A Project Alternative Cost Estimate Calculations

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-1: Cottonwood St. Sidewalks

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 30,000.00	$ 30,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 10,000.00	$ 10,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 2,000.00	$ 2,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS 1	$ 11,200.00	$ 11,200.00
5	F&P CONCRETE CURBS	LF 7,424	$ 16.00	$ 118,784.00
6	F&P CONCRETE WALK	SQ FT 37,120	$ 5.00	$ 185,600.00
		CONSTRUCTION QUOTE =		**$ 357,584.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 78,668.48
8	CONTINGENCY	LS 1	20%	$ 71,516.80
		TOTAL QUOTE =		**$ 507,769.28**

Project A-1: Cottonwood St. Sidewalks

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-2: Shane Dr. Sidewalks

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 25,000.00	$ 25,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 7,500.00	$ 7,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 2,000.00	$ 2,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS 1	$ 9,600.00	$ 9,600.00
5	F&P CONCRETE CURBS	LF 5,752	$ 18.00	$ 103,536.00
6	F&P CONCRETE WALK	SQ FT 28,760	$ 5.00	$ 143,800.00
			CONSTRUCTION QUOTE=	**$ 291,436.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 64,115.92
8	CONTINGENCY	LS 1	20%	$ 58,287.20
			TOTAL QUOTE=	**$ 413,839.12**

Project A-2: Shane Dr. Sidewalks

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-3: Ivy St. Sidewalks

ITEM #	DESCRIPTION	U/M / QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 9,000.00	$ 9,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 5,000.00	$ 5,000.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 1,000.00	$ 1,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS / 1	$ 2,800.00	$ 2,800.00
5	F&P CONCRETE CURBS	LF / 1,614	$ 23.00	$ 37,122.00
6	F&P CONCRETE WALK	SQ FT / 8,070	$ 6.00	$ 48,420.00
		CONSTRUCTION QUOTE=		**$ 103,342.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 22,735.24
8	CONTINGENCY	LS / 1	20%	$ 20,668.40
		TOTAL QUOTE=		**$ 146,745.64**

Project A-3: Ivy St. Sidewalks

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-4: Main St. Sidewalk				
ITEM #	**DESCRIPTION**	**U/M QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 4,000.00	$ 4,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 2,500.00	$ 2,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 1,000.00	$ 1,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS 1	$ 4,000.00	$ 4,000.00
5	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 6,415	$ 1.50	$ 9,622.50
5	F&P CONCRETE WALK	SQ FT 5,300	$ 7.00	$ 37,100.00
			CONSTRUCTION QUOTE=	**$ 58,222.50**
6	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 12,808.95
7	CONTINGENCY	LS 1	20%	$ 11,644.50
			TOTAL QUOTE=	**$ 82,675.95**
Project A-4: Main St. Sidewalk				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-5: Spring St. Sidewalks				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 4,000.00	$ 4,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 1,500.00	$ 1,500.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 1,000.00	$ 1,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS / 1	$ 1,600.00	$ 1,600.00
5	F&P CONCRETE WALK	SQ FT / 1,042	$ 9.00	$ 9,378.00
		CONSTRUCTION QUOTE=		**$ 17,478.00**
6	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 3,845.16
7	CONTINGENCY	LS / 1	20%	$ 3,495.60
		TOTAL QUOTE=		**$ 24,818.76**
Project A-5: Spring St. Sidewalks				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-8: W 1st Street Sidewalks				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 9,000.00	$ 9,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 5,000.00	$ 5,000.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 1,000.00	$ 1,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS / 1	$ 2,800.00	$ 2,800.00
5	F&P CONCRETE CURBS	LF / 3,000	$ 23.00	$ 69,000.00
6	F&P CONCRETE WALK	SQ FT / 18,000	$ 6.00	$ 108,000.00
		CONSTRUCTION QUOTE=		**$ 194,800.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 42,856.00
8	CONTINGENCY	LS / 1	20%	$ 38,960.00
		TOTAL QUOTE=		**$ 276,616.00**
Project A-8: W 1st Street Sidewalks				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project S-4, Option A: Walnut St. and Main St. Intersection All-Way Stop				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 500.00	$ 500.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 1,000.00	$ 1,000.00
3	F&P PAINT STRIPING	LS / 1	$ 1,000.00	$ 1,000.00
4	F&P ALL NECESSARY SIGNAGE	LS / 1	$ 1,000.00	$ 1,000.00
		CONSTRUCTION QUOTE =		**$ 3,500.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 770.00
2	CONTINGENCY	LS / 1	20%	$ 700.00
		TOTAL QUOTE =		**$ 4,970.00**
Project S-4, Option A: Walnut St. and Main St. Intersection All-Way Stop				

Plus $5,000 per sign for flashing stop sign

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project S-4, Option B: Walnut St. and Main St. Intersection Modification

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 3,000.00	$ 3,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 2,500.00	$ 2,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 500.00	$ 500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 2,000	$ 2.00	$ 4,000.00
5	PROVIDE SUBGRADE PREPARATION	LS 1	$ 2,000.00	$ 2,000.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 42	$ 35.00	$ 1,470.00
7	F&P 3/4" MINUS AGGREGATE BASE	TON 12	$ 45.00	$ 540.00
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 20	$ 110.00	$ 2,200.00
9	F&P CONCRETE CURBS	LF 150	$ 25.00	$ 3,750.00
10	F&P CONCRETE WALK	SF 1,400	$ 8.00	$ 11,200.00
11	F&P PAINT STRIPING	LS 1	$ 1,000.00	$ 1,000.00
12	F&P ALL NECESSARY SIGNAGE	LS 1	$ 500.00	$ 500.00
			CONSTRUCTION QUOTE =	**$ 32,660.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 7,185.20
2	CONTINGENCY	LS 1	20%	$ 6,532.00
			TOTAL QUOTE =	**$ 46,377.20**

Project S-4, Option B: Walnut St. and Main St. Intersection Modification

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project S-5: E. Bayard St. and Main St. Intersection Realignment				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 6,700.00	$ 6,700.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 10,000.00	$ 10,000.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 2,000.00	$ 2,000.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT / 3,400	$ 2.00	$ 6,800.00
5	F&P STORM CATCH BASIN	EA / 2	$ 1,500.00	$ 3,000.00
6	F&P STORM SEWER	LF / 200	$ 40.00	$ 8,000.00
7	PROVIDE SUBGRADE PREPARATION	LS / 1	$ 2,000.00	$ 2,000.00
8	F&P 1-1/2" MINUS AGGREGATE BASE	TON / 63	$ 35.00	$ 2,205.00
9	F&P 3/4" MINUS AGGREGATE BASE	TON / 18	$ 45.00	$ 810.00
10	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON / 15	$ 110.00	$ 1,650.00
11	F&P CONCRETE CURBS	LF / 290	$ 25.00	$ 7,250.00
12	F&P CONCRETE WALK	SF / 1,450	$ 8.00	$ 11,600.00
13	F&P PAINT STRIPING	LS / 1	$ 7,500.00	$ 7,500.00
14	F&P ALL NECESSARY SIGNAGE	LS / 1	$ 5,000.00	$ 5,000.00
		CONSTRUCTION QUOTE =		**$ 74,515.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 16,393.30
2	CONTINGENCY	LS / 1	20%	$ 14,903.00
		TOTAL QUOTE =		**$ 105,811.30**
Project S-5: E. Bayard St. and Main St. Intersection Realignment				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project S-6: OR 206 and Lonerock Road Intersection Reconstruction

ITEM #	DESCRIPTION	U/M / QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 8,000.00	$ 8,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 7,500.00	$ 7,500.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 1,500.00	$ 1,500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT / 6,300	$ 2.00	$ 12,600.00
5	PROVIDE SUBGRADE PREPARATION	LS / 1	$ 5,000.00	$ 5,000.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON / 290	$ 35.00	$ 10,150.00
7	F&P 3/4" MINUS AGGREGATE BASE	TON / 85	$ 45.00	$ 3,825.00
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON / 150	$ 110.00	$ 16,500.00
9	F&P PAINT STRIPING	LS / 1	$ 5,000.00	$ 5,000.00
10	F&P ALL NECESSARY SIGNAGE	LS / 1	$ 3,000.00	$ 3,000.00
		CONSTRUCTION QUOTE =		**$ 73,075.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 16,076.50
2	CONTINGENCY	LS / 1	20%	$ 14,615.00
		TOTAL QUOTE =		**$ 103,766.50**

Project S-6: OR 206 and Lonerock Road Intersection Reconstruction

[illegible] Alternate Route

PAVE SHOULDERS TO MAKE 24' ROAD
MILL AH TO 24'
REBUILD SHOULDERS TO MATCH NEW PAVEMENT

[illegible]	18,000
[illegible]	36,300
[illegible]	7040
GRADER	1800
[illegible]	1000
BROOM	1200
TRUCK SHOULDERS	5000
TRUCK MILL	6000
PAVER	5000
WATER ROLLER	1000
TRUCK	1000
	83,040

Engineer Report

PAVE FROM 4 MILE INTERSECTION TO LEMON BRIDGE
WITH 1.5" OVERLAY

6 MOS	12,900 cu yds [illegible] + PAVE	580,500
[illegible]		90,000
PAVER		45,000
[illegible]		2500
[illegible]		2000
ROLLER		2500
TRAVEL		5000
SHOULDERS 2400 cu yds @ 8.80		21120
DUMP TRUCKS		20,000
GRADER W/SHOULDER MACHINE		7200
LOADER		5400
		781,420

FOUR MILE CANYON

SAME AS 8 MILE

PAVE FROM SPRINGDALE LANE TO QUAIL LANE AND FROM

[illegible] WITH GRINDINGS FROM I84

ONE [illegible]

6 MILES @ 22' ≈ 420'

RHEA ROAD

5 MILES @ 24' 11,800 CU YDS GRADING @ 45¢	$ 53,100
BELLY DUMPS	50,000
PAVER	22,500
ROLLER	1000
WATER TRUCK	2000
GRADER W/ SHOULDER MACHINE	6000
DUMP TRUCKS	13,200
BROOM	800
SHOULDER ROCK 2000 TONS @ 7.50	15,000
	$ 244,100

MAHOLIC PLANT

WHEELS LOOP

3.4 MILES

7500 CU YDS MIX & HAUL DYER STOCKPILE

GRADER	1200
ROLLER	800
UNDERGROUND	2700
PUG MILL	
LOADER	
MIX & FREIGHT	487500
PAVER	
ROLLER	
1500 CU YDS SHOULDER ROCK	12,000
BROOM	3200
GRADER W/SHOULDER MACHINE	4800
4- DUMP REMOVE	11500
LOADER	1550
	525250

Ridge Road

Improve shoulders and grading to (W) ranch pave from (W) to Powell Line

SHOULDER ROCK	2000 cu yds @ 8.80	17,600
Grader		5400
Small Loader	Rent	900
Water Truck		6000
Ranger		1250
Water Loader		3600
LOADER		3800
Trucks		7000
		50,750
4000 cu yds	2" overlay	260,000
2650 cu yds	5" pave gravel	562,250
Shoulder Rock	1000 cu yds	8,800
Equipment		24,150
Total		$ 905,950

Quinnon Canyon
Grant

REPAVE
WIND MILL PROJECT

HERITAGE LANE

REMOVE S CURVES
PAVE

EXCAVATION		4500
SEPARATOR		6000
ROLLER		2700
BELLY DUMPS		35,000
GRADER		4500
LOADER		3000
WATER TRUCK		4000
BASE RACK	3600 CU YDS	21 600
ROAD MIX	1200 CU YDS	10 560
PAVING	1200 CU YDS	54,000
TRAVEL		10,000
		146,860
		250,000

DEVILS BUTTE
GRADE INTO HAY CANYON

WIDEN GRADE WHERE NEEDED	$25,000
EXTEND CULVERTS	15,000
IMPROVE LINE OF SIGHT	25,000
IMPROVE ROAD SURFACE 3000 [illegible]	40,000
SIGNAGE & SIGHT POSTS	15,000
TOTAL	$120,000

Hay Canyon Road

Oregon State Park

1.95 miles 10,296 ft

95,000 cu yds excavation

615 scraper	@ 185 $/hr		125,000 $
D6	@ 135 $/hr		108,000 $
2 - graders	@ 80 $/hr		185,000 $
Loader	@ 94 $/hr		160,480 $
2 - Dump trucks	@ 90 $/hr		244,000 $
Excavator	@ 165 $/hr		62,800 $
Water truck	@ 90 $		48,800 $
Water Pump	@ 15 $		4,800 $
Roller	@ 90 $		28,800 $
2 Belly Dumps	@ 100 $		180,000 $
12,000 cu yds	Base Rock @ 6 $	40 days 2 Belly Dumps 2 Truck Drivers	72,000 $
5,000 cu yds	Road Rock @ 8 $		40,000 $
Haul truck			
mob			16,000 $
Travel			150,000 $
Haul truck			
Excavator			1,015,680
			101568
			2,117,248 $

MIKKALO LANE

MI WEST GRADE INTO HAY CANYON

IMPROVE LINE OF SIGHT		12,000
ROAD SURFACE	1000 [illegible] GRADE	15,000
SIGNAGE & [illegible]		20,000
[illegible]		[illegible]
TOTAL		47,000

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 P 541.312.8300 F 541.312.4585

TECHNICAL MEMORANDUM #6

Gilliam County Transportation System Plan Update

Preferred Alternative

Date: April 30, 2015 Project #: 17679

To: Michael Duncan, ODOT
Michelle Colby, Gilliam County

From: Casey Bergh, PE; Ashleigh Griffin; and Marc Butorac, PE, PTOE

cc: Project Advisory Committee

This memorandum 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 Public 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.

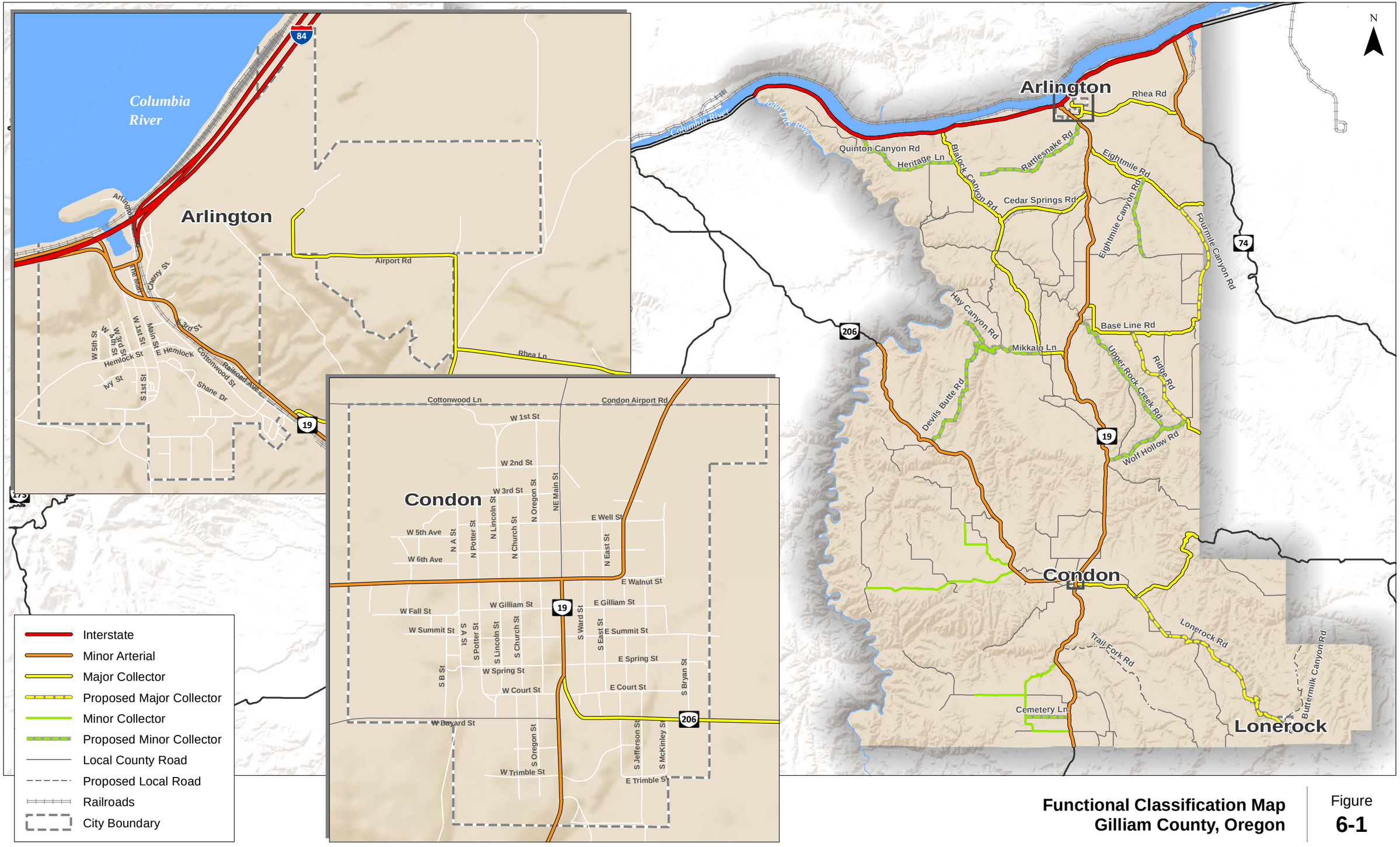
Functional Classifications

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 6-1 provides a detailed description of each classification. Figure 6-1 presents the preferred functional classifications for all existing and planned County roadways.

Table 6-1. Gilliam County Functional Classification Descriptions

Functional Classification	Description
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	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. 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.
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
6-1

K:\H_Portland\proj\fel\17679 - Gilliam County TSP\gis\memo 6\6-1 Proposed Functional Classification.mxd - agriffin - 3:15 PM 4/30/2015

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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 6-1, Exhibit 6-2, and Exhibit 6-3. 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.

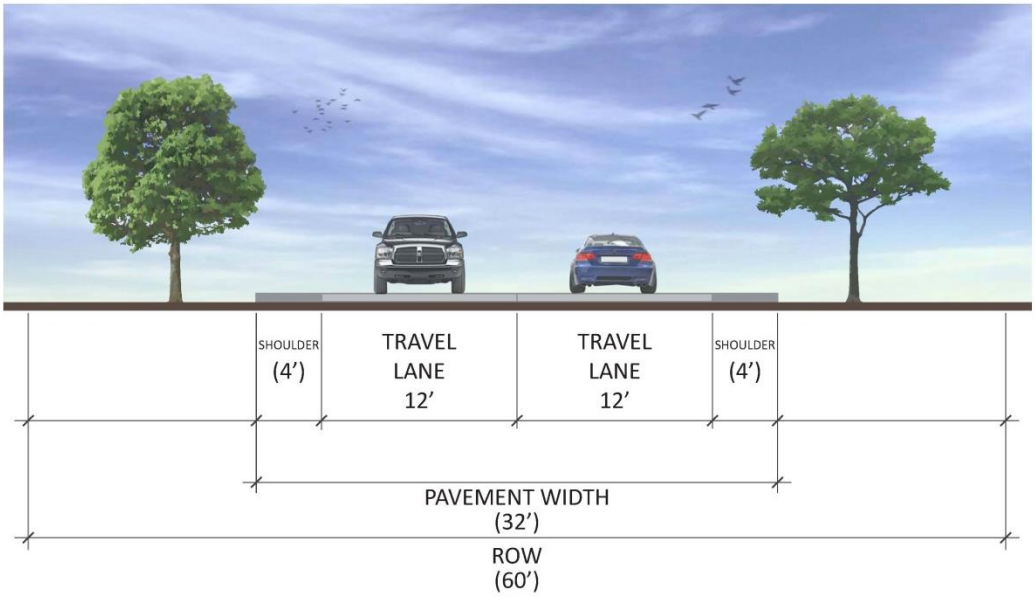


Exhibit 6-1. Rural Arterial Street Cross-Section

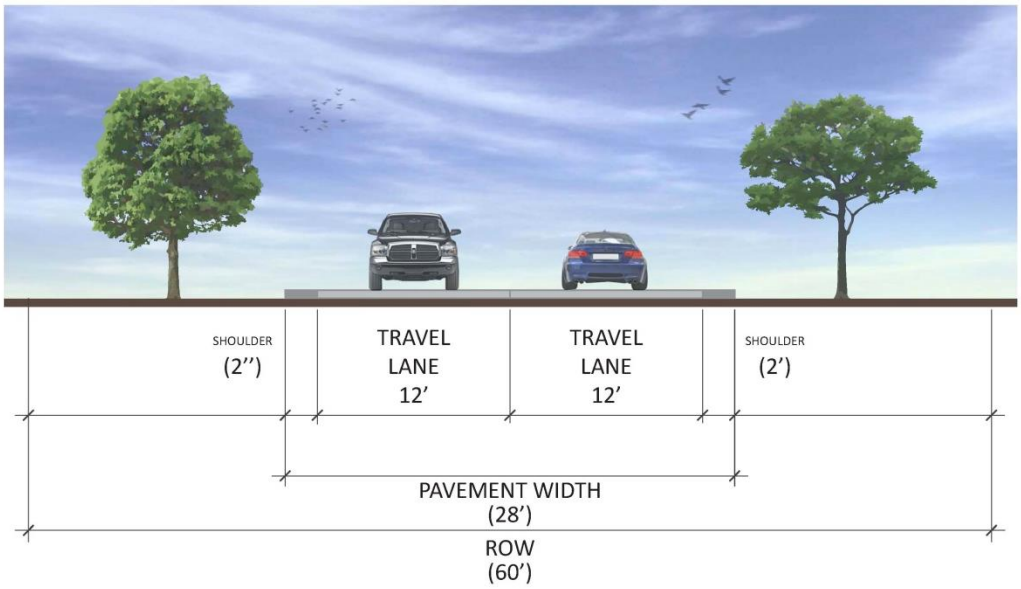


Exhibit 6-2. Rural Major and Minor Collector Street Cross-Section

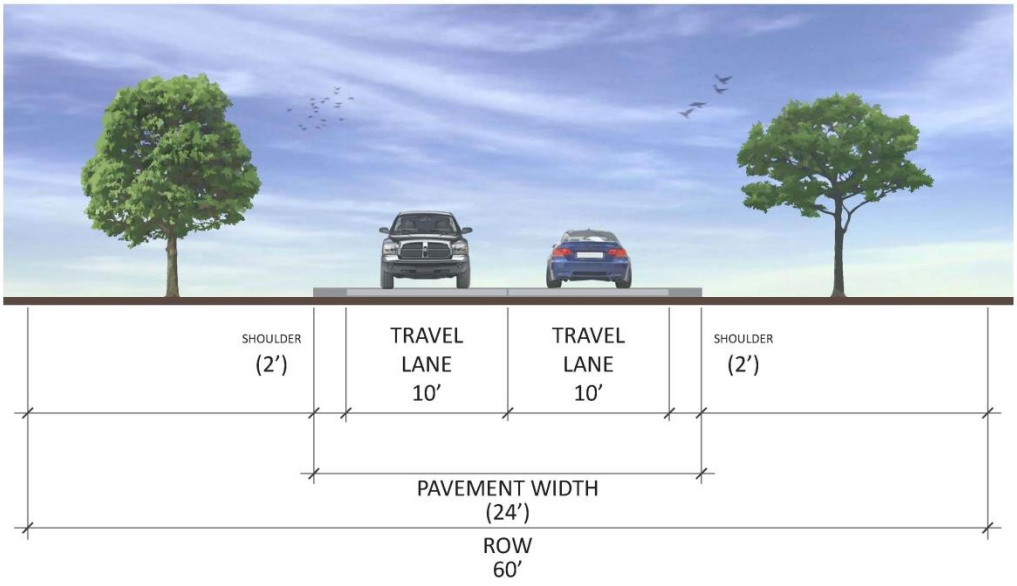


Exhibit 6-3. Rural Local Street Cross-Section

Urban Design Standards

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

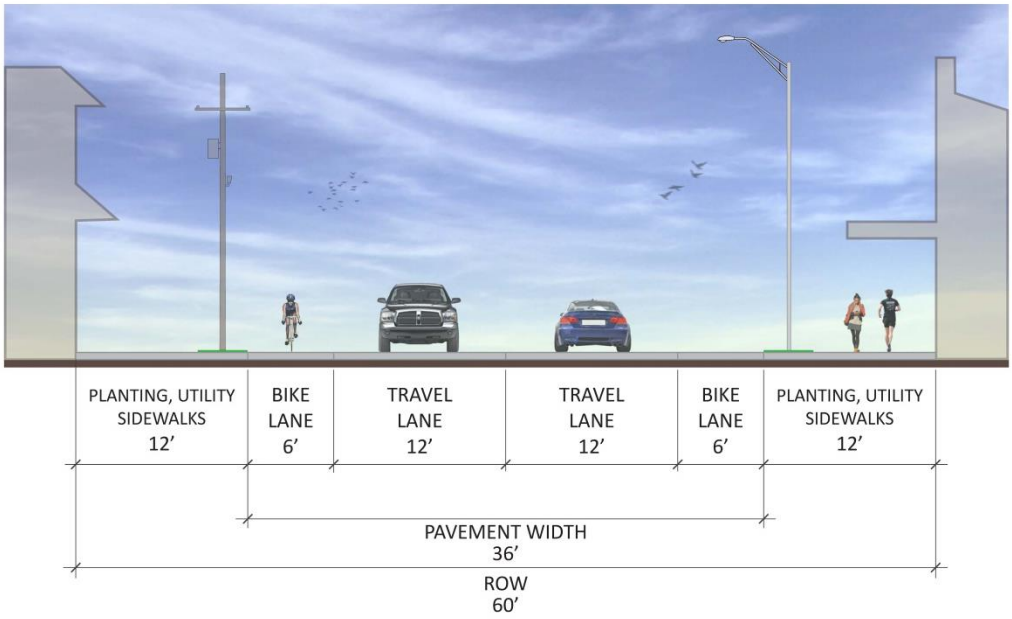


Exhibit 6-4. Urban Arterial Street Cross-Section

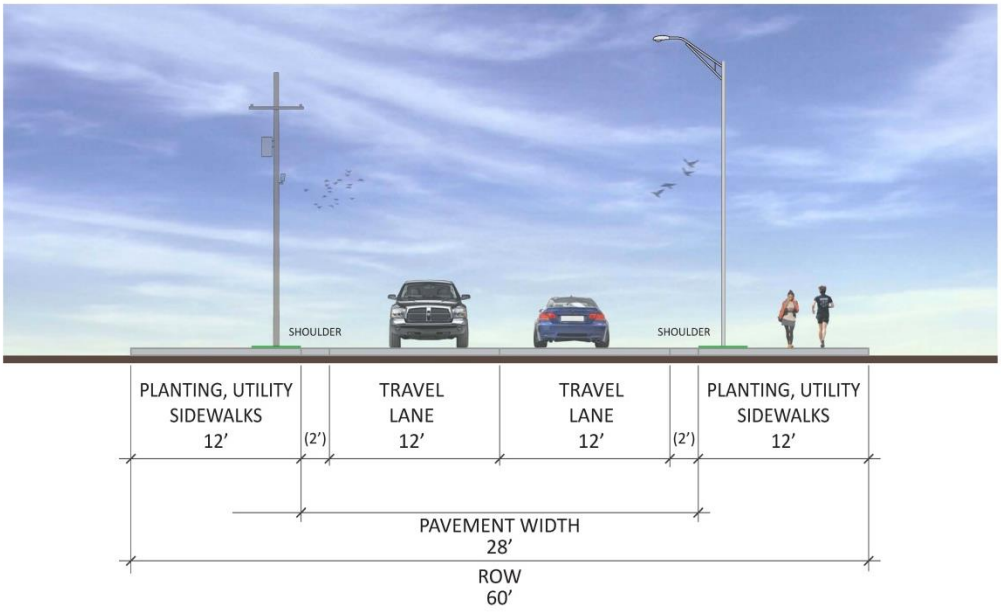


Exhibit 6-5. Urban Major and Minor Collector Street Cross-Section

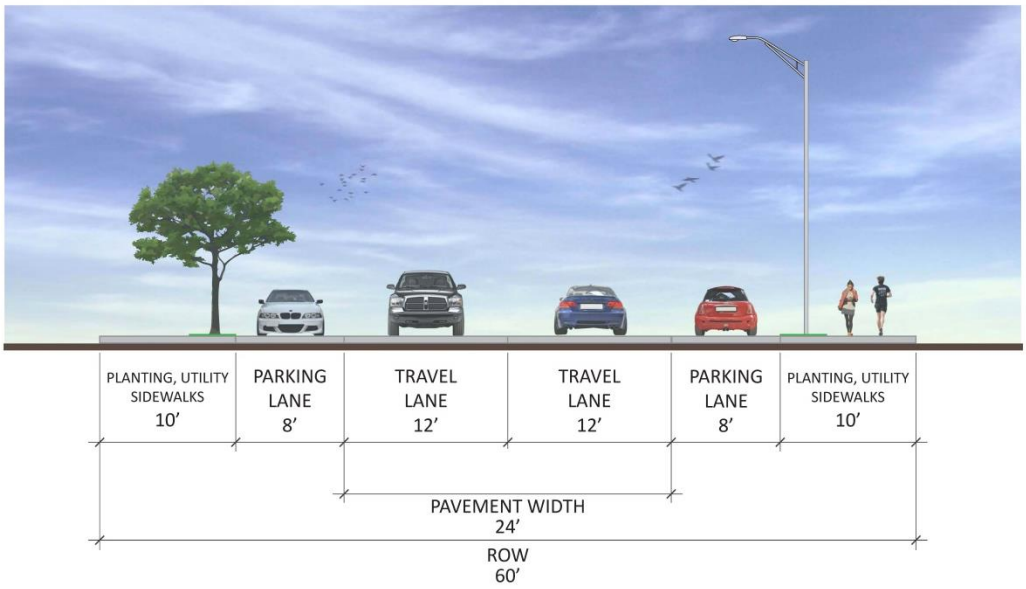


Exhibit 6-6. Urban Local Street Cross-Section

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 6-2 (rural) and 0 (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 6-2. 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 6-3. 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 Technical Memorandum #5 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 2017-2021 Statewide Transportation Improvement Program (STIP). The project locations are selected based on reported history of fatal and severe injury crashes. The draft 300-percent list for ODOT Region 4 2017-2021 Hotspot Safety projects does not include any projects in Gilliam County. Similarly, the draft 150-percent list of 2017-2021 Systemic Safety projects in Region 4 does not include any projects in Gilliam County.

County Systemic Safety Prioritization Methodology

Although no safety projects in Gilliam County are included in the draft 2017-2021 STIP lists, a set of objective criteria were established to generate a prioritized list of projects that could be considered for future updates to the STIP.

A list of projects was generated based on a review of crash trends and locations with history of crashes in the County, 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 for locations with geometric and traffic control characteristics where low-cost, systemic countermeasures could reduce risk of roadway departure or intersection crash types.

Draft lists of prioritized Roadway Departure projects and Intersection projects, based on a set of objective criteria outlined in Table 6-4, are provided in Table 6-5 and Table 6-6. The projects are ordered from highest to lowest priority based on the criteria each location satisfies. No systemic pedestrian and bicycle safety projects were identified.

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 6-7. Intersection treatments may include additional signage, pavement markings, and mountable raised medians, as shown by the concept in Table 6-8.

Table 6-4. Objective Criteria for Identifying and Prioritizing Systemic Safety Projects

	Roadway Departure Projects	Intersection Projects
Criteria for Identifying Locations for Systemic Projects	▪ ≥1 Fatal or Injury A Crash ▪ ≥2 Injury B or C Crashes ▪ ≥3 PDO Crashes ▪ Presence of Roadway Departure Crashes ▪ Presence of a Horizontal Curve ▪ Higher ADT (or Functional Classification)	▪ ≥1 Fatal or Injury A Crash ▪ ≥2 Injury B or C Crashes ▪ ≥3 PDO Crashes ▪ Restricted intersection sight distance ▪ Skewed intersection approach ▪ Presence of a high-speed uncontrolled approach ▪ Higher Minor Street ADT (or Functional Classification if ADT is unavailable)

Table 6-5. 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	30.68	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 6-6. 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.

Table 6-7. Systemic Safety Countermeasure Toolbox for Rural Roadways

Systemic Safety Countermeasure	Description	Documented Effectiveness
Milled Rumble Strip – Centerline  Photo: ODOT	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 can be placed on the shoulder (if adequate paved shoulder is available) or on the centerline.	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)
Milled Rumble Strip – Shoulder or Edgeline 		26 to 46 percent reduction in single-vehicle run-off-road injury crashes on two-lane rural roads (Source: NCHRP Report 641)
Horizontal Curve Signage  Photo: Speed Concepts: Informational Guide, FHWA	Provide Static Combination Horizontal Alignment/Advisory Curve Warning Sign, Install RECOMMENDED Chevron Signs on Rural Horizontal Curves	13 to 16 percent reduction in run-off-road injury crashes rural two-lane roads. Source: *Manual for Selecting Safety Improvements on High Risk Rural Roads* (FHWA-SA-14-075)

Table 6-8. Systemic Safety Countermeasure Toolbox for Rural Intersections

Systemic Safety Countermeasure	Description	Documented Effectiveness
Basic Set of Sign and Marking Improvements  Photo: Low-Cost Safety Enhancements for Stop-Controlled and Signalized Intersections, FHWA	Install basic set of signs/markings from the ODOT Intersection Safety Implementation Plan, including: double up oversize warning signs, double STOP signs, mountable curb on stop approach (if feasible), street name signs, and stop bars.	40 percent reduction in intersection crashes at rural two-way stop controlled intersections. Source: *Low-Cost Safety Enhancements for Stop-Controlled and Signalized Intersections* (FHWA-SA-09-020)

IMPLEMENTATION PLAN

This section outlines specific transportation system improvement projects as well as a categorization of the identified improvements into two groups: near-term and long-term. The categorization 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 for improvements at those times.

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 particular 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 6-9. The table includes a project letter for reference to the project location illustrated in Figure 6-2. 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*. *Cost estimate calculations and assumptions are provided in Attachment A.*

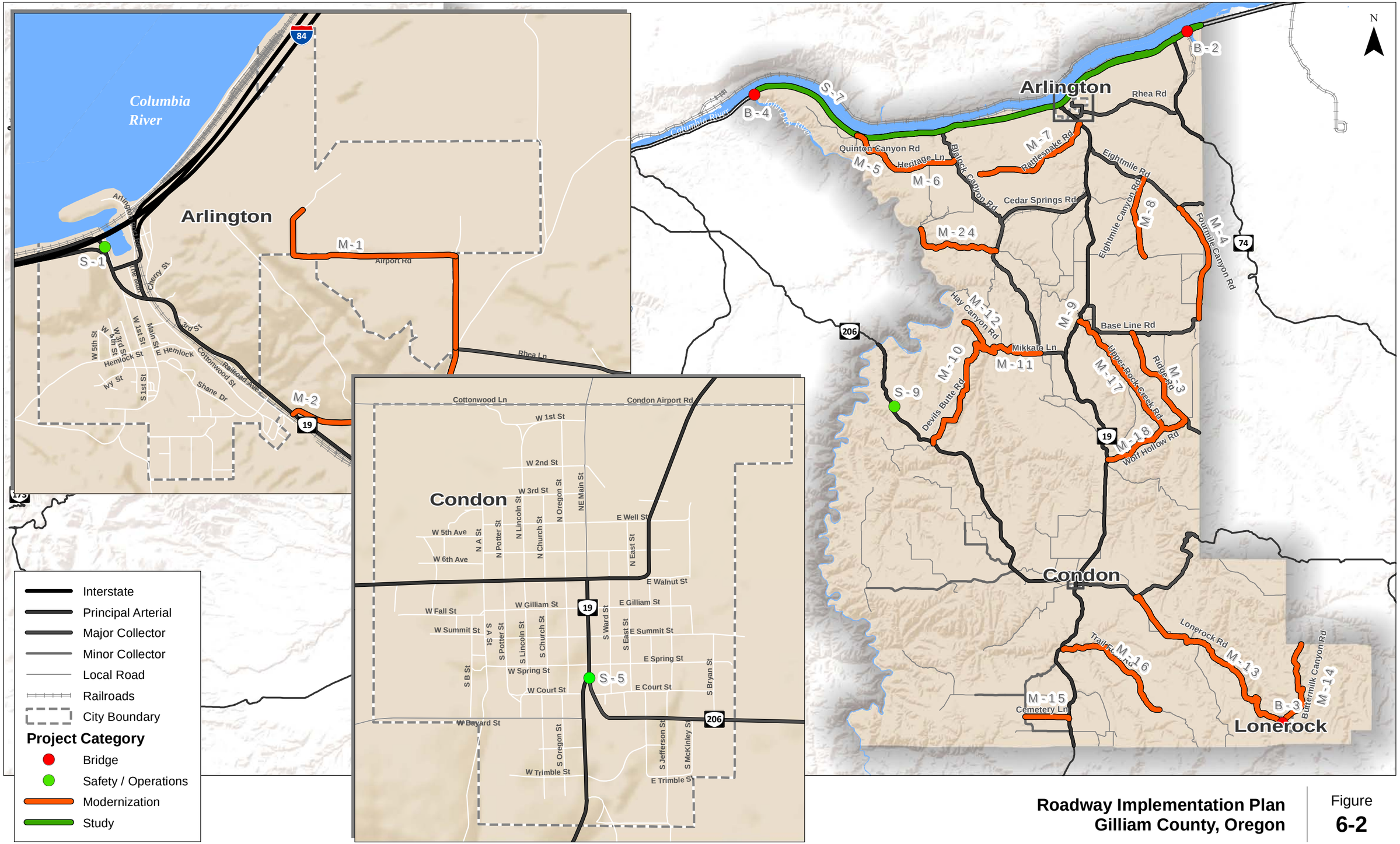
The implementation plan incorporates the preferred financing plan, which identifies that a limited amount of money will be available to fund projects. As a result, only improvements that are planned for implementation and are expected to have funding are shown in the near-term time frame. The long-term 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 6-9. Planned Transportation Improvements in Gilliam County

ID	Name	Description	Category	Cost Estimate[1]	Potential Funding Source			
					ODOT/ State	County	Cities	Private
Short-Term Projects								
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" of asphalt and add 2' gravel shoulders from the intersection of Rhea Road to the end of the Arlington Mesa industrial base. Airport Road was previously widened several years ago. This project will be completed in conjunction with Rhea Lane.	Feasibility Study	$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.	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' 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-7	Rattlesnake Road	Reclassify roadway to Minor Collector to support the increased ADT using the road due to new wind farms recently completed. Road improvements have already been completed to the Minor Collector cross-section guidelines.	Policy	$0		X		
M-14	Buttermilk Canyon Road	Downgrade from Minor Collector to Local Road from City of Lonerock to East County Limit. This route is just a back route into the Lonerock community from Morrow County.	Policy	$0				
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		
M-16	Trail Fork Road	Downgrade from Minor Collector to Local Road because the land is all in CRP now (set aside for wildlife grazing) and serves limited residences.	Policy	$0				
M-17	Upper Rock Creek Road	Downgrade from Major Collector to Minor Collector from Wolf Hollow Road to OR 19. The road does not serve the traffic levels associated with a Major Collector as hay is produced and used locally to feed cattle rather than being shipped out.	Policy	$0				
M-18	Wolf Hollow Road	Downgrade from Major Collector to Minor Collector from OR 19 to Ridge Road as it only serves as an alternate route.	Policy	$0				
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			
Medium and Long-Term Projects								
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 road and adding 2' gravel	Heavy Maintenance	$1,015,846		X		

ID	Name	Description	Category	Cost Estimate[1]	Potential Funding Source			
					ODOT/ State	County	Cities	Private
		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		
Vision Projects								
S-4	Main Street/Walnut Street Intersection Reconfiguration	Reconfigure the intersection to a two-way stop-controlled intersection.	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 provide adequate sight distance at this intersection.	Project	$150,000	X	X		

[1] Cost estimate is planning level only. Does not include right-of-way costs.



Roadway Implementation Plan
Gilliam County, Oregon

Figure **6-2**

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

The total cost of projects, policies, programs, and feasibility studies shown in Table 6-9 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 at key intersections 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 6-10 includes a feasibility study and pilot project of bike rest areas at strategic locations along OR 206 where cyclists can rest, get water, and fix their bikes. These bike rest areas may also provide opportunities for local businesses to advertise and provide wayfinding signage to direct tourists to local businesses. Table 6-7 provides an example of a bicycle rest area. The cities of Arlington and Condon should also add bicycle parking within their downtown areas. Exhibit 6-8 shows an example of a decorative bicycle rack that can be used in the downtown areas and add to the main street character.

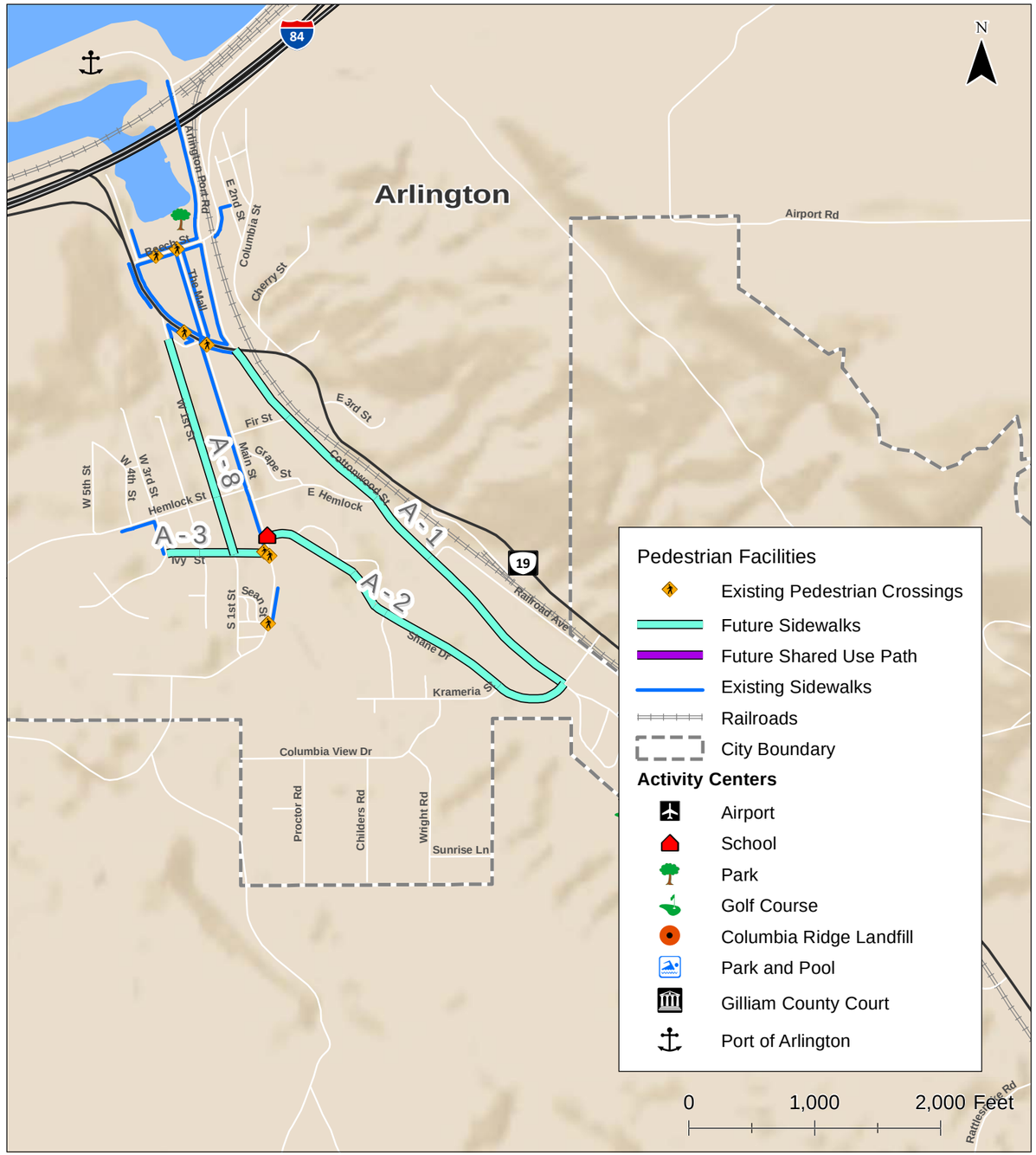
Within the cities, the standards for arterials include a bike lane to provide space for bicyclists to ride separate from vehicles. Bicyclists are expected to share the road with vehicles on the other local roads in the cities due to the low speeds and low volumes. Arterials, collectors, and local streets 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. Key gaps in the existing sidewalk infrastructure as well as locations with sidewalks in need of repair are identified in Figure 6-3 and included in Table 6-10.

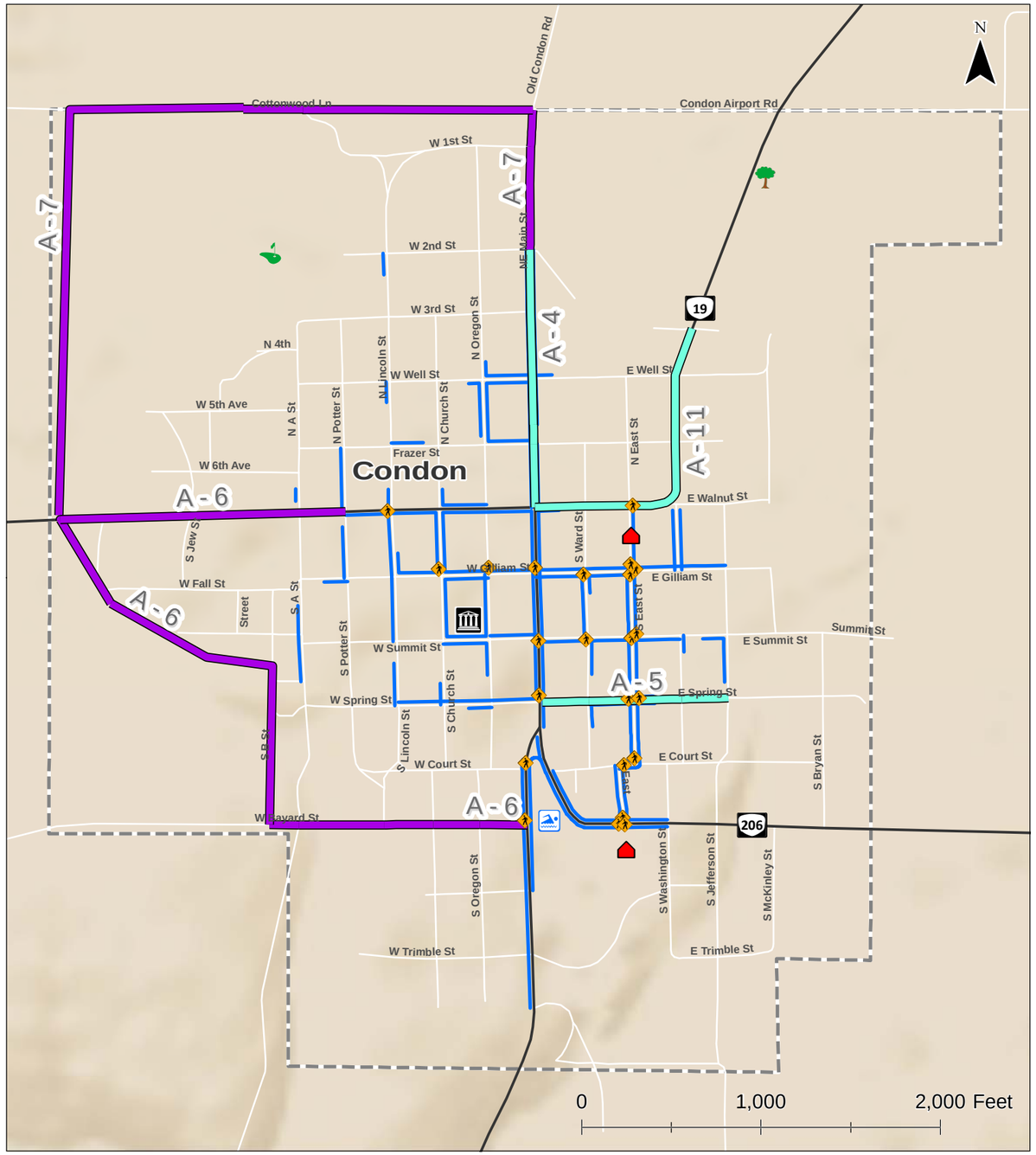
Exhibit 6-7. Example of bicycle rest area

Exhibit 6-8. Example of decorative bicycle parking

Table 6-10. Planned Pedestrian and Bicycle Improvements in Gilliam County

ID	Name	Description	Category	Cost Estimate[1]	Potential Funding Source			
					ODOT/ State	County	Cities	Private
Short-Term Projects								
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 3rd Street to OR 206/Walnut Street	Ped/Bike	$83,000			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		
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 the Fairgrounds driveway in Condon.	Ped/Bike	$300,000	X		X	
Medium- & Long-Term Projects								
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	





Pedestrian System Implementation Plan
Gilliam County, Oregon

Figure
6-3

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KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Oregon Department of Transportation, US Census

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.

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 6-9. 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 6-9. Existing Watco Rail Line and Shutler 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.

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 has had an annual revenue of approximately $1.3 million per year over the past ten years. As shown in Exhibit 6-10, 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 6-11 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 6-12, 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, such as paving a new road, project per year in his budget and work schedule.

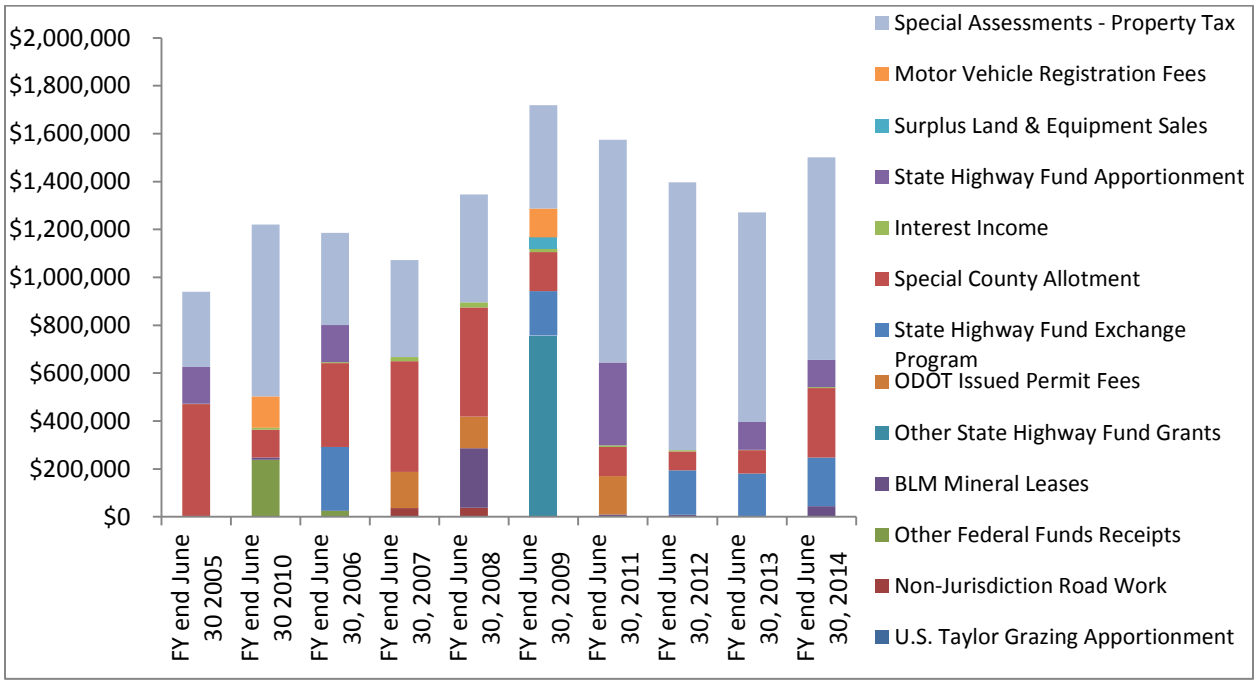

Exhibit 6-10. Gilliam County Transportation Revenue Sources (2005 – 2014)

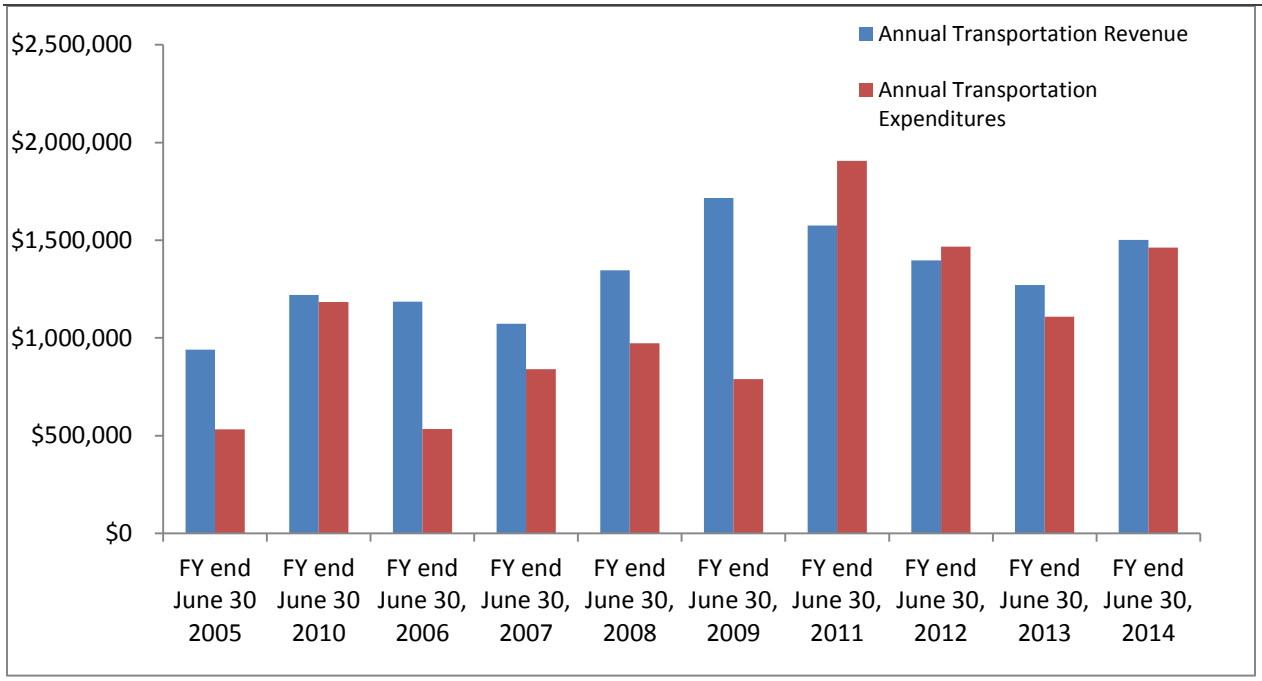

Exhibit 6-11. Gilliam County Transportation Revenue Compared to Transportation Expenditures (2005 – 2014)

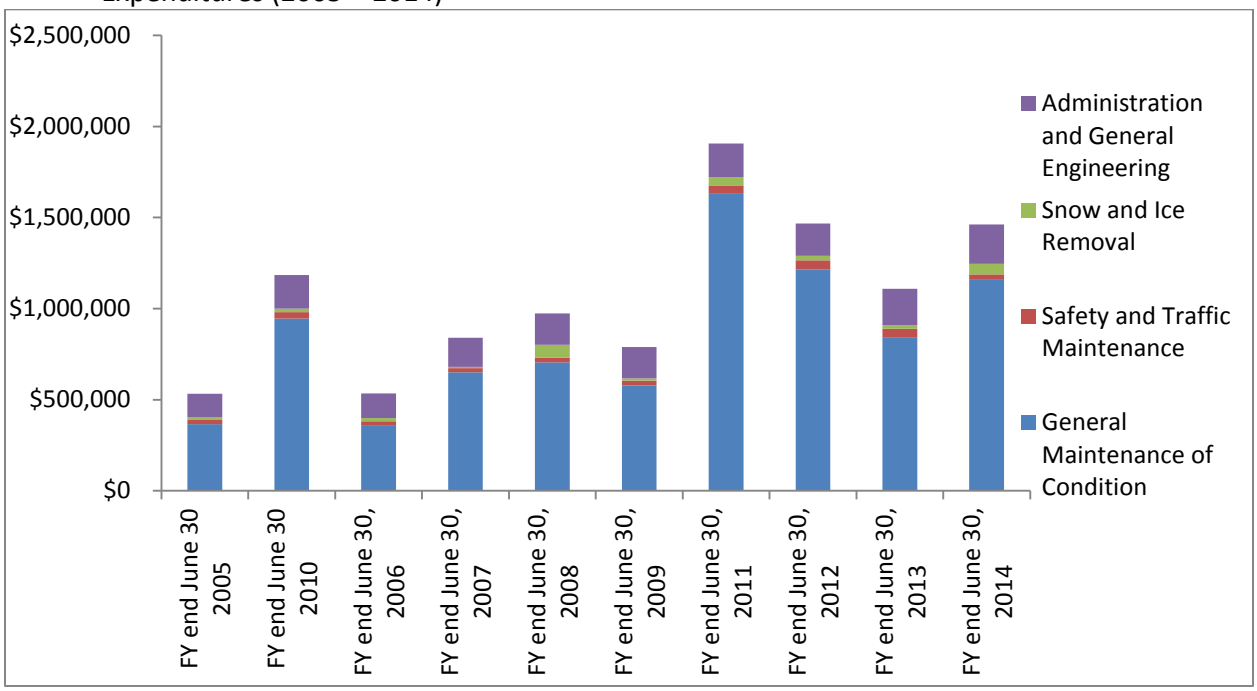

Exhibit 6-12. Gilliam County Transportation Expenditures (2005 – 2014)

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 would approach $7,000,000. *A comprehensive table summarizing all modal alternatives and their cost estimate is provided in Attachment B.*

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 identified grants from those summarized in Table 6-11 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 plan for the 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 6-11. 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	http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html
2	Highway Safety Improvement Program	Annual	Address safety issues on highways and High Risk Rural Roads	All	ODOT	Varies	10%	www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/highway _safety_program.shtml
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%	http://www.oregon.gov/OPRD/GRANTS/local.shtml
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%	http://www.oregon.gov/OPRD/GRANTS/trails.shtml
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%	http://www.oregon.gov/OPRD/GRANTS/lwcf.shtml
6	Statewide Transportation Improvement Program	Biennial	Multi-year, statewide, intermodal program of transportation projects	Sidewalk, bikeways, crossing improvements	ODOT	Varies	Varies	http://www.oregon.gov/ODOT/HWY/STIP/
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%	http://www.oregon.gov/oprd/ATV/pages/grants.aspx
8	Immediate Opportunity Funds	Biennial	Support primary economic development through the construction and improvement of street and roads.	All	ODOT	On-going	50%	http://www.oregon.gov/ODOT/TD/EA/reports/IOF_PolicyGuidelines2015%20doc.pdf
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%	http://www.oregon.gov/ODOT/TD/STIP/Pages/WhatsChanged.aspx
10	ConnectOregon	Biennial	Non-highway transportation projects that promote economic development in Oregon.	Non-highway modes	ODOT	November	20%	http://www.oregon.gov/ODOT/TD/TP/pages/connector.aspx
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%	http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/ARTS.aspx

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 6-12 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 6-12. Local Taxes and User Fee Options

Source	Description	Comments
General Fund	Property taxes from the county's permanent tax rate.	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 county's permanent tax rate.	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.

ATTACHMENTS

Attachment A. Cost Estimate Calculations

Attachment B. Planned TSP Alternatives

Attachment A. Cost Estimate Calculations

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-1: Cottonwood St. Sidewalks

ITEM #	DESCRIPTION	U/M / QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 30,000.00	$ 30,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 10,000.00	$ 10,000.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 2,000.00	$ 2,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS / 1	$ 11,200.00	$ 11,200.00
5	F&P CONCRETE CURBS	LF / 7,424	$ 16.00	$ 118,784.00
6	F&P CONCRETE WALK	SQ FT / 37,120	$ 5.00	$ 185,600.00
		CONSTRUCTION QUOTE =		**$ 357,584.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 78,668.48
8	CONTINGENCY	LS / 1	20%	$ 71,516.80
		TOTAL QUOTE =		**$ 507,769.28**

Project A-1: Cottonwood St. Sidewalks

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-2: Shane Dr. Sidewalks				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 25,000.00	$ 25,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 7,500.00	$ 7,500.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 2,000.00	$ 2,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS / 1	$ 9,600.00	$ 9,600.00
5	F&P CONCRETE CURBS	LF / 5,752	$ 18.00	$ 103,536.00
6	F&P CONCRETE WALK	SQ FT / 28,760	$ 5.00	$ 143,800.00
		CONSTRUCTION QUOTE=		**$ 291,436.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 64,115.92
8	CONTINGENCY	LS / 1	20%	$ 58,287.20
		TOTAL QUOTE=		**$ 413,839.12**
Project A-2: Shane Dr. Sidewalks				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-3: Ivy St. Sidewalks				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 9,000.00	$ 9,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 5,000.00	$ 5,000.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 1,000.00	$ 1,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS / 1	$ 2,800.00	$ 2,800.00
5	F&P CONCRETE CURBS	LF / 1,614	$ 23.00	$ 37,122.00
6	F&P CONCRETE WALK	SQ FT / 8,070	$ 6.00	$ 48,420.00
		CONSTRUCTION QUOTE=		**$ 103,342.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 22,735.24
8	CONTINGENCY	LS / 1	20%	$ 20,668.40
		TOTAL QUOTE=		**$ 146,745.64**
Project A-3: Ivy St. Sidewalks				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-4: Main St. Sidewalk				
ITEM #	**DESCRIPTION**	**U/M QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 4,000.00	$ 4,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 2,500.00	$ 2,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 1,000.00	$ 1,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS 1	$ 4,000.00	$ 4,000.00
5	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 6,415	$ 1.50	$ 9,622.50
5	F&P CONCRETE WALK	SQ FT 5,300	$ 7.00	$ 37,100.00
			CONSTRUCTION QUOTE=	**$ 58,222.50**
6	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 12,808.95
7	CONTINGENCY	LS 1	20%	$ 11,644.50
			TOTAL QUOTE=	**$ 82,675.95**
Project A-4: Main St. Sidewalk				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-5: Spring St. Sidewalks				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 4,000.00	$ 4,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 1,500.00	$ 1,500.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 1,000.00	$ 1,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS / 1	$ 1,600.00	$ 1,600.00
5	F&P CONCRETE WALK	SQ FT / 1,042	$ 9.00	$ 9,378.00
		CONSTRUCTION QUOTE=		**$ 17,478.00**
6	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 3,845.16
7	CONTINGENCY	LS / 1	20%	$ 3,495.60
		TOTAL QUOTE=		**$ 24,818.76**
Project A-5: Spring St. Sidewalks				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project A-8: W 1st Street Sidewalks				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 9,000.00	$ 9,000.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 5,000.00	$ 5,000.00
3	F&P EROSION CONTROL MEASURES	LS / 1	$ 1,000.00	$ 1,000.00
4	PROVIDE CLEARING & SUBGRADE PREPERATION	LS / 1	$ 2,800.00	$ 2,800.00
5	F&P CONCRETE CURBS	LF / 3,000	$ 23.00	$ 69,000.00
6	F&P CONCRETE WALK	SQ FT / 18,000	$ 6.00	$ 108,000.00
		CONSTRUCTION QUOTE=		**$ 194,800.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 42,856.00
8	CONTINGENCY	LS / 1	20%	$ 38,960.00
		TOTAL QUOTE=		**$ 276,616.00**
Project A-8: W 1st Street Sidewalks				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project S-4, Option A: Walnut St. and Main St. Intersection All-Way Stop				
ITEM #	**DESCRIPTION**	**U/M / QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS / 1	$ 500.00	$ 500.00
2	PROVIDE TRAFFIC CONTROL	LS / 1	$ 1,000.00	$ 1,000.00
3	F&P PAINT STRIPING	LS / 1	$ 1,000.00	$ 1,000.00
4	F&P ALL NECESSARY SIGNAGE	LS / 1	$ 1,000.00	$ 1,000.00
		CONSTRUCTION QUOTE =		**$ 3,500.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS / 1	22%	$ 770.00
2	CONTINGENCY	LS / 1	20%	$ 700.00
		TOTAL QUOTE =		**$ 4,970.00**
Project S-4, Option A: Walnut St. and Main St. Intersection All-Way Stop				

Plus $5,000 per sign for flashing stop sign

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project S-4, Option B: Walnut St. and Main St. Intersection Modification

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 3,000.00	$ 3,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 2,500.00	$ 2,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 500.00	$ 500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 2,000	$ 2.00	$ 4,000.00
5	PROVIDE SUBGRADE PREPARATION	LS 1	$ 2,000.00	$ 2,000.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 42	$ 35.00	$ 1,470.00
7	F&P 3/4" MINUS AGGREGATE BASE	TON 12	$ 45.00	$ 540.00
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 20	$ 110.00	$ 2,200.00
9	F&P CONCRETE CURBS	LF 150	$ 25.00	$ 3,750.00
10	F&P CONCRETE WALK	SF 1,400	$ 8.00	$ 11,200.00
11	F&P PAINT STRIPING	LS 1	$ 1,000.00	$ 1,000.00
12	F&P ALL NECESSARY SIGNAGE	LS 1	$ 500.00	$ 500.00
			CONSTRUCTION QUOTE =	**$ 32,660.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 7,185.20
2	CONTINGENCY	LS 1	20%	$ 6,532.00
			TOTAL QUOTE =	**$ 46,377.20**

Project S-4, Option B: Walnut St. and Main St. Intersection Modification

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project S-5: E. Bayard St. and Main St. Intersection Realignment				
ITEM #	**DESCRIPTION**	**U/M QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 6,700.00	$ 6,700.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 10,000.00	$ 10,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 2,000.00	$ 2,000.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 3,400	$ 2.00	$ 6,800.00
5	F&P STORM CATCH BASIN	EA 2	$ 1,500.00	$ 3,000.00
6	F&P STORM SEWER	LF 200	$ 40.00	$ 8,000.00
7	PROVIDE SUBGRADE PREPARATION	LS 1	$ 2,000.00	$ 2,000.00
8	F&P 1-1/2" MINUS AGGREGATE BASE	TON 63	$ 35.00	$ 2,205.00
9	F&P 3/4" MINUS AGGREGATE BASE	TON 18	$ 45.00	$ 810.00
10	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 15	$ 110.00	$ 1,650.00
11	F&P CONCRETE CURBS	LF 290	$ 25.00	$ 7,250.00
12	F&P CONCRETE WALK	SF 1,450	$ 8.00	$ 11,600.00
13	F&P PAINT STRIPING	LS 1	$ 7,500.00	$ 7,500.00
14	F&P ALL NECESSARY SIGNAGE	LS 1	$ 5,000.00	$ 5,000.00
			CONSTRUCTION QUOTE =	**$ 74,515.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 16,393.30
2	CONTINGENCY	LS 1	20%	$ 14,903.00
			TOTAL QUOTE =	**$ 105,811.30**
Project S-5: E. Bayard St. and Main St. Intersection Realignment				

Gilliam County Transportation System
T.E.C. Engineers Estimate

Project S-6: OR 206 and Lonerock Road Intersection Reconstruction

ITEM #	DESCRIPTION	U/M / QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 8,000.00	$ 8,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 7,500.00	$ 7,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 1,500.00	$ 1,500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 6,300	$ 2.00	$ 12,600.00
5	PROVIDE SUBGRADE PREPARATION	LS 1	$ 5,000.00	$ 5,000.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 290	$ 35.00	$ 10,150.00
7	F&P 3/4" MINUS AGGREGATE BASE	TON 85	$ 45.00	$ 3,825.00
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 150	$ 110.00	$ 16,500.00
9	F&P PAINT STRIPING	LS 1	$ 5,000.00	$ 5,000.00
10	F&P ALL NECESSARY SIGNAGE	LS 1	$ 3,000.00	$ 3,000.00
			CONSTRUCTION QUOTE =	**$ 73,075.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 16,076.50
2	CONTINGENCY	LS 1	20%	$ 14,615.00
			TOTAL QUOTE =	**$ 103,766.50**

Project S-6: OR 206 and Lonerock Road Intersection Reconstruction

[illegible] Alternate Route

PAVE SHOULDERS TO MAKE 24' ROAD
OVERLAY TO 24'
REBUILD SHOULDERS TO MATCH NEW PAVEMENT

[illegible] @ 45¢	16,000
[illegible] @ 45¢	36,300
[illegible] @ 2¢	7040
Gravel	1800
[illegible]	1000
Broom	1200
Travel shoulders	5000
Travel mix	2000
Paver	5000
Mob Roller	1000
Travel	1000
	80,040

Engineer Report

PAVE FROM 4 MILE INTERSECTION TO LEMON BRIDGE
WITH 1.5" OF ASPHALT

6 MOS	12,900 cu yds @ $45 + PAVE	580,500
[illegible]		90,000
POWER		45,000
[illegible]		2500
[illegible]		2000
[illegible]		2500
TRAVEL		5000
SHOULDERS	2400 cu yds @ 8.80	21,120
DUMP TRUCKS		20,000
GRADER W/SHOULDER MACHINE		7200
LOADER		5400
		781,420

FOUR MILE CANYON

SAME AS 8 MILE

PAVE PARK SERVICE ROAD TO QUARRY AND PARK

WITH GRINDINGS FROM I84

6 MILES @ 22'

420'

RHEA ROAD

5 miles @ 24' 11,800 cu yds Grubbing @ 45¢	$ 53,100
Belly Dumps	50,000
Paver	22,500
Roller	1000
Water Truck	2000
Grader w/ shoulder machine	6000
Dump Trucks	13,200
Broom	600
Shoulder rock 2000 cu yds @ 7.50	15,000
	$ 214,100

MANDUS FLAT

WHEEL LOOP

3.4 MILES

7500 CU YDS MIX & HAUL DYER STOCKPILE

GRADER	1200
ROLLER	800
UNDERGROUND	2700
PUG MILL	
LOADER	
MIX & HAUL	487500
PAVER	
ROLLER	
1500 CU YDS SHOULDER ROCK	12,000
BROOM	3200
GRADER W/SHOULDER MACHINE	4800
4- DUMP TRUCKS	11500
LOADER	1550
	525250

Ridge Road

Improve shoulders and ditching to (W) Ranch Pave from (W) to County Line

SHOULDER ROCK	2000 cu yds @ 8.80	17,600
Grader		5400
Small Loader	Rent	9000
Water Truck		8000
Ranch		1250
Water Truck		3600
LOADER		3800
Pickups		7000
		50,750
4000 cu yds	2" overlay	260,000
2650 cu yds	5" pave gravel	562,250
SHOULDER ROCK	1000 cu yds	8,800
Equipment		24,150
TOTAL		$ 905,950

Quinnon Canyon
Grant

REPAVE
WIND MILL PROJECT

HERITAGE LANE

REMOVE 5 CURVES
PAVE

EXCAVATION		4500
SEPARATOR		6000
ROLLER		2700
BELLY DUMPS		35,000
GRADER		4500
LOADER		3000
WATER TRUCK		4000
BASE RACK	3600 CU YDS	21 600
ROAD MIX	1200 CU YDS	10 560
PAVING	1200 CU YDS	54,000
TRAVEL		10,000
		146,860
		250,000

DEVILS BUTTE

GRADE INTO HAY CANYON

WIDEN GRADE WHERE NEEDED	25,000
EXTEND CULVERTS	15,000
IMPROVE LINE OF SIGHT	25,000
IMPROVE ROAD SURFACE 3000 [illegible]	40,000
SIGNAGE & SIGHT POSTS	15,000
TOTAL	$120,000

Hay Canyon Road

Oregon State Park

1.95 miles 10,296 ft

95,000 cu yds excavation

615 scraper	@ 185 cy/hr		125,000 cy
D6	@ 135 cy/hr		108,000 cy
2 - graders	@ 80 cy/hr		185,000 cy
Loader	@ 94 cy/hr		160,480 cy
2 - Dump trucks	@ 90 cy/hr		244,000 cy
Excavator	@ 165 cy/hr		62,800 cy
Water truck	@ 90 cy		48,800 cy
Water Pump	@ 15 cy		4,800 cy
Roller	@ 90 cy		28,800 cy
2 Belly Dumps	@ 100 cy		180,000 cy
12,000 cu yds	Base Rock @ 6 cy	40 days 2 Belly Dumps 2 Truck (Rock)	72,000 cy
5,000 cu yds	Road Rock @ 8 cy		40,000 cy
Haul truck			
mob			16,000 cy
Travel			150,000 cy
Haul truck			
Excavator			1,015,680
			101568
			2,117,248 cy

MIKKALO LANE

M1 WEST GRADE INTO HAY CANYON

IMPROVE LINE OF SIGHT		12,000
ROAD SURFACE	1000 [illegible]	15,000
SIGNAGE & [illegible]		20,000
[illegible]		[illegible]
TOTAL		47,000

Attachment B. Planned TSP Alternatives

ID	Name	Description	Category	Source	Cost Estimate[1]	Potential Funding Source			
						ODOT/ State	County	Cities	Private
Short-Term Projects									
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	PAC	$147,000			X	
A-4	Sidewalks on East Side of Main Street (Condon)	Replace sidewalks on the east side of Main Street from 3rd Street to OR 206/Walnut Street	Ped/Bike	PAC / City of Condon Pedestrian Grant Application	$83,000			X	
A-5	Sidewalks on E Spring Street	Install sidewalks from S East Street to S Jefferson Street, connecting to ball fields	Ped/Bike	PAC	$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	PAC	$5,000	X	X		
A-10	Bicycle Parking	Add bicycle parking in downtown areas of Condon and Arlington	Ped/Bike	PAC	$3,500			X	
A-11	OR 19 Sidewalks	Add sidewalks from Main Street to the Fairgrounds driveway in Condon.	Ped/Bike	PAC / City of Condon Pedestrian Grant Application	$300,000	X		X	
B-2	I-84 EB Bridge	Widen the I-84 eastbound bridge at MP 148.6 (Willow Creek) to meet current standards.	Bridge	ODOT Bridge Inventory Analysis	$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	2015-2018 STIP	$2,482,000	X			
M-1	Airport Road	Overlay Airport Road with 2" of asphalt and add 2' gravel shoulders from the intersection of Rhea Road to the end of the industrial base. Airport Road was previously widened several years ago. This project will be completed in conjunction with Rhea Lane.	Feasibility Study	TAC	$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 Inudstrial Park. This project will be done in conjunction with Airport Road.	Heavy Maintenance	TAC	$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-ft gravel shoulders will be added where possible.	Heavy Maintenance	TAC	$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' gravel shoulders where possible to support the truck traffic that carries wheat out of Morrow and Gilliam County.	Full Reconstruction	TAC	$1,015,820		X		
M-7	Rattlesnake Road	Reclassify roadway to Minor Collector to support the increased ADT using the road due to new wind farms recently completed. Road improvements have already been completed to the Minor Collector cross-section guidelines.	Policy	TAC	$0		X		
M-14	Buttermilk Canyon Road	Downgrade from Minor Collector to Local Road from City of Lonerock to East County Limit. This route is just a back route into the Lonerock community from Morrow County.	Policy	TAC	$0				
M-15	Cemetery Road	Upgrade Road to Minor Collector to serve the wheat area as part of Wherli Canyon loop. Project includes paving the surface. Widening has already been completed.	Heavy Maintenance	TAC	$100,000		X		
M-16	Trail Fork Road	Downgrade from Minor Collector to Local Road because the land is all in CRP now (set aside for wildlife grazing) and serves limited residences.	Policy	TAC	$0				

ID	Name	Description	Category	Source	Cost Estimate[1]	Potential Funding Source			
						ODOT/ State	County	Cities	Private
M-17	Upper Rock Creek Road	Downgrade from Major Collector to Minor Collector from Wolf Hollow Road to OR 19. The road does not serve the traffic levels associated with a Major Collector as hay is produced and used locally to feed cattle rather than being shipped out.	Policy	TAC	$0				
M-18	Wolf Hollow Road	Downgrade from Major Collector to Minor Collector from OR 19 to Ridge Road as it only serves as an alternate route.	Policy	TAC	$0				
M-19	Parking Management Plans	Update permitting procedures to require parking management plans for special events to minimize parking overflow onto local and downtown streets during special events.	Policy	PAC	$2,000		X	X	
M-21	Shutler Station	Add rail crossovers to support operations at Shutler Station.	Operations	TAC	$300,000	X			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	TAC	$3,000	X			
S-2	Railroad crossing of OR 19/Locust Street	Minimize times that the crossing is blocked by trains by working with WM and Union Pacific (UP) to ensure additional power to move trains up hill and prevent trains from getting stuck. Document the issue and any progress annually with UP.	Program	TAC	$0				X
S-3	Railroad crossing of I-84 Ramps/Beech Street	Minimize times that the crossing is blocked by trains by working with WM and Union Pacific (UP) to ensure additional power to move trains up hill and prevent trains from getting stuck. Document the issue and any progress annually with UP.	Program	TAC	$0				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	PAC	$15,000	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	ODOT Roadway Departure Plan; PAC	$10,000	X	X	X	
S-14	Driver Education	Identify funding for driver education programs in schools.	Program	PAC	$10,000	X	X	X	X
Medium- & Long-Term Projects									
A-1	Cottonwood Street Sidewalks (Arlington)	Install sidewalks from Shane Drive to OR 19	Ped/Bike	PAC	$508,000			X	
A-2	Shane Drive Sidewalks (Arlington)	Install sidewalks from Main Street to Cottonwood Street	Ped/Bike	PAC	$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	PAC	$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	PAC	$109,200		X	X	
A-8	W 1st Street Sidewalks	Install sidewalks from Cedar Street to Ivy Street	Ped/Bike	PAC	$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	City of Condon Pedestrian Grant Application	$10,000	X		X	
B-3	Lonerock Road Bridge Replacement	Replace Lonerock Road bridge if it cannot be repaired.	Bridge	TAC	$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	TAC	$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	Heavy	TAC	$325,000		X		

ID	Name	Description	Category	Source	Cost Estimate[1]	Potential Funding Source			
						ODOT/ State	County	Cities	Private
		wind farms and agricultural land. Project includes removing S-curves and paving the west end of the road.	Maintenance						
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 road and adding 2' gravel shoulders where possible.	Heavy Maintenance	TAC	$1,015,846		X		
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	TAC	$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	TAC	$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	TAC	$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	TAC	$500,000				
M-20	Arlington Airport Runway	Evaluate the feasibility and cost of paving the Arlington Airport runway.	Feasibility Study	PAC	$10,000	X			
M-24	Lower Rock Creek Road	Improve roadway (widen, add shoulders, curve signage, etc.) due to high recreational traffic associated with river access.	Operations	PAC	$400,000		X		
M-25	Condon State Airport	Conduct a feasibility study to determine what airport improvements are needed (runway, facilities, access, etc.) to support development when water is provided to the airport.	Feasibility Study	PAC	$10,000	X	X	X	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	TAC; Systemic Safety	$106,000	X		X	
S-9	Snow Drifts on OR 206	Evaluate the occurrence of snow drifts on OR 206 near milepost 22	Feasibility Study	PAC	$1,000	X	X		
Vision Projects									
S-4	Main Street/Walnut Street Intersection Reconfiguration	Reconfigure the intersection to a two-way stop-controlled intersection.	Project	PAC	$10,000	X		X	
S-6	Lonerock Road/OR 206 Intersection	Reconfigure the intersection to bring the eastern leg of OR 206 perpendicular to Lonerock Road to provide adequate sight distance at this intersection.	Project	PAC	$150,000	X	X		