SHERMAN COUNTY
TRANSPORTATION SYSTEM PLAN
INCLUDING THE CITIES OF RUFUS, WASCO, MORO, & GRASS VALLEY

VOLUME 2: TECHNICAL APPENDIX

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Sherman County &
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Transportation

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TECHNICAL APPENDIX, VOLUME 2

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FINAL TECHNICAL MEMORANDUM #1

Sherman County Transportation System Plan Update

Plans and Policy Review

Date:	April 3, 2015	Project #: 18054
To:	Georgia MacNab, Sherman County Michael Duncan, ODOT Region 4	
From:	Dan Meader, Casey Bergh, PE, Casey Bergh, and Marc Butorac, PE, PTOE	

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 2015 Sherman County Transportation System Plan (TSP) Update. 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.

The documents reviewed by the project team are identified in Table 1-1 and summarized in the following sections.

BACKGROUND

Sherman County's Comprehensive Plan was acknowledged by the Oregon Department of Land Conservation and Development (DLCD) in 1979. The four incorporated cities, Rufus, Wasco, Moro and Grass Valley followed in 1980. Over the years, these jurisdictions' plans and ordinances have been updated many times. The 2007 updates to the County and the four incorporated Cities' comprehensive plans represent the latest versions and were acknowledged by the DLCD through the Post Acknowledgement Plan Amendment Process (PAPA) in that same year.

The County's first comprehensive Transportation System Plan (TSP) was completed and adopted in 2001. The 2001 TSP included the four Cities as an integral part of the Plan.

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
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STATE OF OREGON/OREGON DEPARTMENT OF TRANSPORTATION (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 all of the goals are not 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)) provides the framework that 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-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 2001 Sherman County Transportation System Plan relates and complies with these.

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.

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)
Oregon 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 2015/2016.

2001 TSP Assessment Relative to the OTP

The 2001 TSP is generally consistent with the policies listed within the OTP. The updated TSP will need to reflect amendments and revisions to the OHP.

The 2001 TSP does include a financial plan inclusive of near-, mid-, 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) 734-051, 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 action items for: system definition, system management, access management, travel alternatives, and environmental and scenic resources.
- 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.

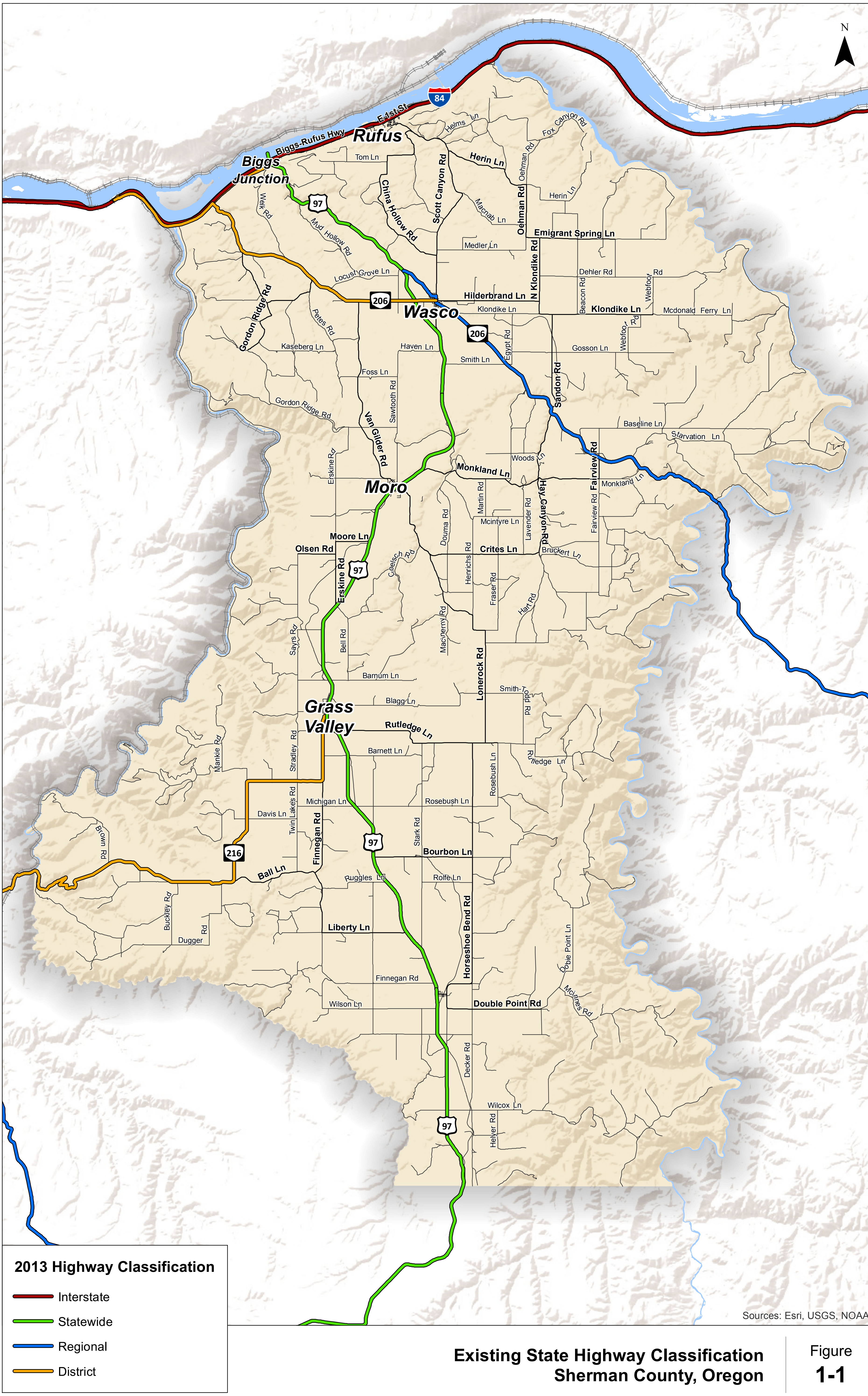
The OHP has been amended several times since its original adoption in 1999, the last amendments were adopted in 2012. These amendments since 1999 have addressed the designation of expressways, changes in mobility standards, designation of Special Transportation Areas, and other changes affecting the 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 *illustrates the existing state highway classifications. I-84, east to west, through the northern edge of the County is an Interstate Highway on the National Highway System. There are two Regional Highways traversing the County, US 97 and OR 206. US 97 is the main north-south arterial through Central Oregon. OR 206 connects Wasco with the City of Condon and Gilliam County. OR 216 is classified as a major collector from Grass Valley to Shears Bridge.*



Existing State Highway Classification
Sherman County, Oregon

Figure
1-1

H:\profile\18054 - Sherman County TSP\gis\1-1 ODOT Classifications County.mxd - operpdx - 5:19 PM 2/16/2015

- **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 and US 97 are the designated freight routes through Sherman 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, 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 Sherman County

- **Policy 1G, Major Improvements** require 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.

[1] The Oregon Transportation Commission reviewed and adopted changes to Policy 1F in December 2011.
[2] Any OHP Amendments are contingent on Oregon Transportation Commission (OTC) approval.

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

Route Name	Facility Extents	Facility Designation	Inside UGB			Outside UGB	
			Non-STAs where posted speed <= 35 mph	Non-STAs where speed > 35 mph but <45 mph	Where speed limit >= 45 mph	Unincorporated Communities	Rural Lands
Interstate 84	Entire Section within County Limits	Interstate	N/A	N/A	0.80	0.70	**0.70**
	Rufus City Limits	Interstate	N/A	N/A	**0.80**	0.70	0.70
US 97 *(Freight Route)*	Outside City Limits	Statewide Highway	0.85	0.80	**0.80**	0.70	0.70
	Moro	Statewide Highway	**0.85**	**0.80**	**0.80**	0.70	0.70
	Grass Valley	Statewide Highway	**0.85**	**0.80**	**0.80**	0.70	0.70
	Biggs Junction & Kent (Unincorporated Communities)	Statewide Highway	0.85	0.80	0.80	**0.70**	0.70
OR 206	Outside of Wasco City Limits, East of Wasco	Regional Highway	0.90	0.85	**0.85**	0.75	0.70
	Within Wasco City Limits, East of Clark Road	Regional Highway	**0.90**	**0.85**	**0.85**	0.75	0.70
	Within Wasco City Limits, West of Clark Road	District Highway	**0.95**	**0.90**	**0.90**	0.80	0.75
	Outside Wasco City Limits, West of Wasco	District Highway	0.95	0.90	**0.90**	0.80	0.75
OR 216	Within Grass Valley City Limits	District Highway	**0.95**	0.90	0.90	0.80	0.75
	Outside of Grass Valley City Limits		0.95	0.90	**0.90**	0.80	0.75
Biggs – Rufus Highway	OR 206 to Biggs Junction	District Highway	**0.95**	**0.90**	**0.90**	0.80	0.75

Source: OHP, Table 6, modified for relevance

OHP Goal 2: System Management

- **Policy 2A, Partnerships** establish cooperative interaction and communication between ODOT and state and federal agencies, regional governments, cities, counties, tribal governments, and the private sector.
- **Policy 2B, Off-System Improvements** help local jurisdictions adopt land use and access management policies.
- **Policy 2E, Intelligent Transportation Systems** places emphasis on considering a broad range of services to improve system efficiency and safety in a cost-effective manner.
- **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** define 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, operational needs, and the surrounding environment. 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 spacing standards based on highway volume.

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

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

Table 1-4 Interchange Spacing Standards for Interstate Highways

Route Name	Facility Extents	Facility Designation	Area	Access Spacing Standard (feet)
Interstate 84	Entire Section within County Limits	Interstate	Rural	6 miles (interchange)
	Rufus City Limits	Interstate	Urban	3 miles (interchange)

Source: Oregon Highway Plan, Appendix C Revisions to Address Senate Bill 264 (2011) Table 12

Table 1-5 Access Management Spacing Standards for Highway Segments (<5,000 ADT)

Route Name	Facility Extents	Facility Designation	2012 ADT	Posted Speed Limit (mph)	Access Spacing Standard (feet)
US 97 *(Freight Route)*	Outside City Limits	Statewide Highway	<5,000	40/45/55	990/990/1,320
	Moro	Statewide Highway	<5,000	25/30/45	150/250/360
	Grass Valley	Statewide Highway	<5,000	30/45	250/360
	Biggs Junction (Unincorporated Community)	Statewide Highway	<5,000	35/45	425/750
	Kent (Unincorporated Community)	Statewide Highway	<5,000	55	1,320
OR 206	Outside of Wasco City Limits, East of Wasco	Regional Highway	<5,000	55	650
	Within Wasco City Limits, East of Clark Road	Regional Highway	<5,000	30/40/55	250/360/650
	Within Wasco City Limits, West of Clark Road	District Highway	<5,000	35/45	250/360
	Outside Wasco City Limits, West of Wasco	District Highway	<5,000	55	650
OR 216	Within Grass Valley City Limits	District Highway	<5,000	25	150
	Outside of Grass Valley City Limits		<5,000	55	650
Biggs – Rufus Highway (from OR 206 to Biggs Junction)	OR 206 to Biggs Junction	District Highway	<5,000	35/45/55	250/360/650

Source: Oregon Highway Plan, Appendix C Revisions to Address Senate Bill 264 (2011) Table 13

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.

2001 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 TSP. The 2001 TSP includes a Streets and Highways Element that defines the street functional classification, and specifies classifications within the Sherman 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 is one airport in Sherman County, the Wasco State Airport. The Wasco State Airport is classified as a Local General Aviation Airport by the OAP.

2001 TSP Assessment Relative to the OAP

The 2001 TSP includes an Air Service Element, which recognizes that the Wasco 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 Wasco Airport.

Oregon Bicycle and 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.

2001 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 pedestrian attractions such as parks and trails with County residents, and include specific 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 in Figure 1-2, from the OFP, by the Lower John Day Area Commission on Transportation (LJDACT) include: I-84 (Columbia River Corridor) and US 97 (Central Oregon Corridor).

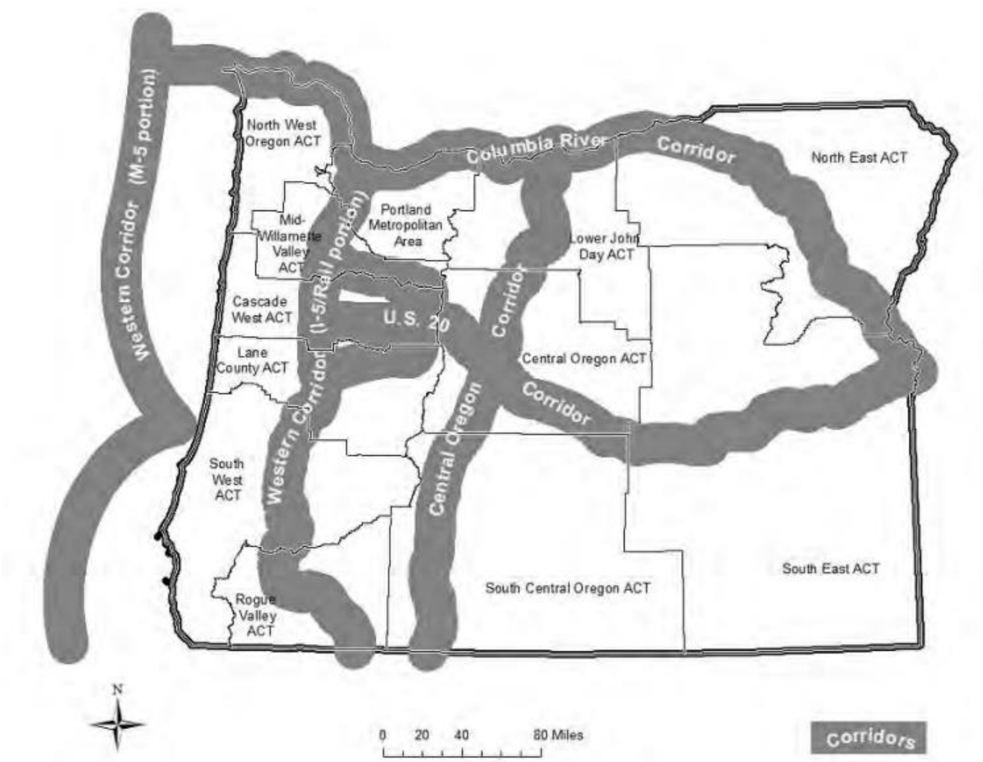


Figure 1-2. Freight Strategic Corridors in Oregon (Source: Oregon Freight Plan, 2011)

2001 TSP Assessment Relative to the OFP

The 2001 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.

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).”

2001 TSP Assessment Relative to the Public Transportation Plan

The 2001 TSP includes an inventory of public transportation facilities in the county and through the cities. The TSP update should document public transportation services available to residents, including trips within the County and the region.

Given that Sherman County does not have any urban areas containing a population of more than 25,000, it is not required to evaluate the feasibility of public transit systems.

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 Sherman County given the existing rail infrastructure. 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(s) 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 may not be able to 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.

2001 TSP Assessment Relative to the Oregon Rail Plan

The Sherman County 2001 TSP has an element addressing Rail Service in the County. The Union Pacific Railroad lies at the extreme northern boundary of the County, along the Columbia River. There are no regular service stops or drops in the County. The Burlington Northern/Santa Fe railroad travels from Celilo to Bend on the west bank of the Deschutes River in Wasco County.

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.

2001 TSP Assessment Relative to the TSAP

The 2001 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, passed in June 2011, 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.

2011 TSP Assessment Relative to the OAR 734-051

The 2001 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 2001 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 1-6 shows which design standards are applicable for certain projects based on project type, and whether the project pertains to a state route.

Table 1-6 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	N/A
Safety- Operations- Miscellaneous/ Special Programs	ODOT Urban	AASHTO

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.

2001 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. Four projects are included in the approved *2012-2015 STIP. One was completed in 2013; two are under construction; and one is scheduled for construction to be in 2015*.

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 three projects within Sherman County, as summarized in Table 1-7.

Table 1-7 2015-2018 Draft STIP Projects within Sherman County

Section	Total Cost	Description	Status	Year (FFY)
US 97: Spanish Hollow Creek (MP 2.17-2.19)	$569,000	Bridge; scour repair	Construction Scheduled for 2015	2015
I-84: Celilo – Rufus (MP 96.70 – 110.5)	$8,325,000	Pavement preservation	Construction Scheduled for 2015	2015
I-84 at Rufus Westbound	$400,000	Replace variable message sign	Construction Scheduled for 2018	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 731-017-0005 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 several existing informal park and ride lots in Sherman County and indicates that formalizing park and ride locations is a medium priority in the County.

COUNTY PLANS AND POLICIES

Sherman County Comprehensive Plan (Last Amended 2007)

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.

The 2007 Update included a Population Projection through the year 2030. State Statute requires Counties to use the projections prepared by the Office of Economic Analysis and, further, to allocate the future population growth throughout the County and its incorporated Cities and unincorporated areas. This was done in 2007 and relied on the past population ratios in the County to project future populations on a proportional basis for the four incorporated Cities of the County. The 2007 population projection called for a County-wide population of 2,102 by the year 2030. The 2013 population update prepared by OEA shrinks that number markedly. Now the County population is projected to be just 1,745 by 2035.

Sherman County Zoning, Subdivision, Partitioning and Land Development Ordinance of 1994 (Last updated 2003)

The Sherman County Zoning and Land Development Ordinance was developed in 1994 and updated and adopted in 2003. This ordinance implements applicable provisions of relevant state administrative rules (OAR's) and Statewide Planning Goals 1-14 and generally promotes the public health, safety, convenience and general welfare through the implementation of the County's Comprehensive Plan. Article 4 provides provisions for access management and pedestrian and bicycle access and facilities. Article 4 will need to be updated to reference revised policies provided in the updated TSP.

Sherman County TSP (2001)

The 2001 Sherman 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.

Appendix C includes a list of projects that were listed in the 2001 TSP.

CITY PLANS AND POLICIES

There are four incorporated Cities in Sherman County and all have adopted the required Comprehensive Plans and Ordinances. For simplicities sake, the cities are discussed north to south in the following analysis.

City of Rufus Comprehensive Plan (2007 update)

The City of Rufus is the northernmost city in Sherman County, lying immediately adjacent to the Columbia River and I-84. The City's Comprehensive Plan was updated in 2007, and notes the City serves as local service center for the surrounding farming community. Over the last 25 years, the City of Rufus has represented approximately 15 percent of the County's population, on average. The 2010 population of 270 documented in the 2010 census is forecast to grow to 320 by 2030, as documented in the Sherman County Comprehensive Plan (2007).

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's housing stock ranges from houses built in the late 1890s to just a few homes that have been built in the last 10 years. Regarding multi-family dwellings, the City has one apartment building converted from a motel containing several apartments.

The City supports and allows, in its Zoning Ordinance, all types of single-family dwellings, including site built, modular homes and manufactured dwellings. There are provisions for multiple-family housing, including duplexes, triplexes, four-plexes and apartments.

The City joined with Sherman County to prepare the 2001 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.

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.

A review of the Buildable Lands Inventory Spreadsheets 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 recently platted subdivision on the west side of the City, with full services awaiting development. There is adequate land available barring some unforeseen economic activity to boost the residential housing needs of the community

The 2010 Census Data indicated the population of the City is 270. The Census found that that there are 162 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.

The 2001 TSP does not provide specific goals and policies specifically for the City of Rufus. It does provide a guide for the City to meet its transportation goals and objectives. The 2001 TSP does provide specific recommended Street Development Standards that will need to be revisited during this TSP Update. There are no specific "in city" Street Improvement Projects listed for Rufus.

City of Wasco Comprehensive Plan (2007)

The City of Wasco Comprehensive Plan was updated in 2007. 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.

The Buildable Lands Map was completed in February of 2007 via a windshield survey by the City's staff. The analysis notes over 70 vacant residential lots available, along with over 400 acres of vacant residential land. There is a new subdivision in the north east corner of the City. It is the first residential subdivision in all of Sherman County in over 40 years.

Over the last 25 years, the City of Wasco has represented 20 percent of the County's population, on average. The 2010 population of 389 is forecast to grow to 423 by 2030, as documented in the Sherman County Comprehensive Plan (2007).

The 2001 Transportation System Plan does not contain specific goals for the City of Wasco nor does it contain a specific street improvement project listing.

Wasco State Airport Layout Plan (2002)

The Wasco State Airport Layout Plan was developed in 2002 for the Oregon Department of Aviation, which owns the facility. The Plan was 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 dates back to 1946 and has been continuously operated by the State of Oregon since it acquired it in 1958. The airport accommodates general aviation and agricultural users serving the local community and the surrounding region. The Airport was relocated to the east of Wasco in approximately 1987-1988. The original runway terminated inside the City Limits. Wasco State Airport has a land area of approximately 66 acres and is zoned Airport Development (A-D) by Sherman 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). Both the City of Wasco and Sherman County have adopted the FAA Part 77 Imaginary Surfaces Plan for the Airport.

City of Moro

The City of Moro lies nine miles south of the City of Wasco on US 97. Moro serves as the County Seat and most of the County Administrative Offices are located here. The town is bisected by US 97 and has a well-defined commercial area in the blocks alongside the highway. There has not been significant residential development in many years. The City Recorder's Office indicates just 14 new residences in the City since 2002. The current PSU Certified population is 325. The City did just revise and update its Subdivision Ordinance and in the course of doing so, revised its street standards in both the ordinance and in its Comprehensive Plan to require standard width streets for residential development.

The Buildable Lands Inventory Map prepared in 2007 indicates 186 vacant platted lots and over 170 acres of vacant land available in the City. Even with the 14 new homes, there is adequate land available to meet future residential needs.

The 2001 Transportation System Plan does not contain specific goals for the City of Moro nor does it contain a specific Street Improvements project listing.

City of Grass Valley

The City of Grass Valley lies 9 miles south of Moro, on US 97. It is also bisected by US 97, and has a long lineal commercial strip along the highway. There are some light industrial lands at the south end of the City. There is a municipal domestic water system, but the City does not have waste water collection and treatment facilities. The lack of a sewer system severely limits any growth to the City. The most recent addition for economic development has been the construction and operation of the Oregon Raceway Park located approximately 1½ miles east of Grass Valley. This raceway is a 2 ½ mile paved road course that is receiving national attention since opening in 2010. The City and County see this as a major factor in the south County economy going forward.

The City has a fairly stable population of 160 people and is forecast to grow to 183 in 2030. Over the last 25 years, the City of Grass Valley has represented less than 10 percent of the County's population, on average, as documented in the Sherman County Comprehensive Plan (2007).

The 2007 Buildable Lands Inventory indicated 150 vacant residential lots along with 100+ acres of vacant residential land in the City. There have just been a handful of new homes placed in the City since 2007. There is more than an adequate amount of residential property available to meet future needs of the City.

The 2001 Transportation System Plan does not contain specific goals for the City of Grass Valley nor does it contain a specific Street Improvements project listing.

Summary of TSP Update Actions

This review of plans and policies identified the following key elements of the 2001 TSP that need to be updated to remain consistent with current State, County, and City plans and policies.

- Update 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.
- Assess and update system inventory for all modes of travel, including capacity, access, and physical condition.
- Incorporate Safe Routes to School program recommendations, and identify new sidewalk and bike lane connections between pedestrian attractions such as parks and trails with County residents.
- Identify opportunities to improve safety for all highway system users with solutions involving engineering, education, enforcement, and emergency medical services.
- Classify roadways to reflect their purpose and balance between mobility and access.
- The updated TSP will need to address current revenue projections and respond to the need for a financially-constrained system.
- Identify capacity improvements to the street network to accommodate growth through 2035.
- Identify opportunities to improve freight mobility, consistent with the Oregon Freight Plan.
- Document public transportation services available to residents of Sherman 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.
- Incorporate the amendments to OAR 734-051 through the adoption of Senate Bill 264 and Senate Bill 408 when establishing revised street design guidelines.

APPENDICES

Appendix A Summary of Senate Bill 408 Amendments to OAR 734-051
Appendix B Comprehensive Plan Policies
Appendix C 2001 TSP Projects

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 Comprehensive Plan Policies

Transportation Policies from the June 2007 Sherman County Comprehensive Land Use Plan

Policy IV. The County road system shall be maintained and improved consistent with the needs of the Sherman County citizenry, when funds are available. It shall be the policy of the County Court to maintain school bus routes. Further oiling and graveling of existing roads shall be undertaken to provide the greatest benefit to the greatest number of rural residents.

Policy V. The construction of new public roads and highways shall be located whenever possible to avoid dividing existing farming units.

Policy VI. The Wasco State Airport shall be retained within the State system and in State ownership. The airport shall also be protected from incompatible land uses.

Policy VIII. Roads developed into recreation facilities should be maintained at standards consistent with the resources carrying capacity and the facilities planned level of use.

Policy X. Transportation Planning Policies (Ord No. 21-05-2003)

A. The Transportation System Plan and Land Use Review Policies

1. The Sherman County Transportation System Plan, including the incorporated cities, is an element of the County 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.
2. All development proposals, plan amendments, or zone changes shall conform to the adopted Transportation System Plan.
3. Operation, maintenance, repair, and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.
4. Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, for improvements designated in the Transportation System Plan, the classification of the roadway, and approved road standards shall be allowed without land use review.
5. 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.

B. Local-State Coordination Policies

1. The County shall coordinate with the Oregon Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the Transportation System Plan and County Comprehensive Plan.
2. The County shall provide notice to ODOT of land use applications and development permits for properties that have direct frontage or direct access onto a State highway. Information that should be conveyed to reviewers includes project location, proposed land use action, and location of project access points.
3. The 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 processes.

C. Protection of Transportation Facilities Policies

1. The County shall protect the function of existing and planned roadways as identified in the Transportation System Plan.
2. The County shall include a consideration of a proposal's impact on existing or planned transportation facilities in all land use decisions.
3. The County shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.
4. The County shall consider the potential to establish or maintain accessways, paths, or trails prior to the vacation of any public easement or right-of-way.
5. The County shall preserve right-of-way for planned transportation facilities through exactions, voluntary dedication, or setbacks.

Appendix C 2001 TSP Projects

Table C-1: Prioritized 20-Year Transportation Project List (2001 Sherman County Transportation System Plan)

Links	Project Number/Description	Estimated Cost Allocation		
		Local	State	Total
High Priority (2001-2006)				
	1b. Design and implement Bike path along US 97	$15,000	$150,000	$165,000
4	2. Improve roadway grade on Van Gilder Road	$30,000		$30,000
	4. Implement no-passing zone in Kent		$3,000	$3,000
	Sa. OR 206 at Fairview intersection improvements			$7,000
	5b. OR 206 at Smith Lane intersection improvements			$15,000
	6a. Lighting for intersections at Wasco exits		$30,000	$30,000
1	8. Improve Fields Corner at Highway 97		$800,000	$800,000
1,2,3	10. Biggs Junction Refinement Plan improvements.		$251,000	$251,000
	12. Move Guardrail back/widen Krusow St. Entrance	$3,000		$3,000
	13. Pave 2nd Street in Moro from US 97	$50,000		$50,000
1	14. Install warning signs on Hwy 97 at Biggs & Moro		$80,000	$80,000
	15. Mud Hollow Bridge	$50,000		$50,000
2	21. Install rumble strips on US 97			
	23. Improve Dewey Street in Moro	$50,000		$50,000
	24. Replace Moore Street Bridge in Moro			
2	25. Construct kiosk in Biggs	$15,000		$15,000
	29. Replace bridges at Scott Cyn. And Gerking Cr. In Rufus		$200,000	$200,000
	30. OR 206 Cottonwood Grade Curve Correction		$1,500,000	$1,500,000
	31. Monkland Road Curve Corrections			
	Subtotal High Priority Projects	*$163,000*	*$3,014,000*	*$3,177,000*
Medium Priority (2007-2012)				
	1a. Design/install multi-purpose paths in all four cities	$15,000	$400,000	$415,000
	6b. Redesign Southern Wasco entrance		$25,000	$25,000
	9. Safety measures at Hwy 30 intersection & US 97.		$5,000	$5,000
	1L Widen Scott Canyon Road & install signage	$750,000		$750,000
	116. Directional signs on US 97 at Wasco			$5,000
2	117. Establish visa at MP 13		$150,000	$150,000
1,2 j	18. Implement Streetscaperrraffic calming measures-Moro		$300,000	$300,000
2	19. Establish vista turnout at MP 32		$150,000	$150,000
2	20. Implement Streetscape/ traffic calming measures- Grass Valley		$300,000	$300,000
2	22. Install 2 passing lanes south of Grass Valley on US 97		$3,000,000	$3,000,000
	26a.Train local law enforcement for truck inspections			
	26b. Increase traffic enforcement	$30,000		$30,000
2	27. Reconstruct I-84/US 97 interchange		$15,000,00	$15,000,000
	28. Repair or replace OR 206 bridge at Spanish Hollow		$150,000	$150,000
	Subtotal Medium Priority Projects	***$795,00***	***$19,480***	***$20,275,000***

Low Priority (2013-2023)				
	1a. Design and implement multi-purpose path system in all four cities			
	1b. Design and implement Bike path along US 97	$15,000	$150,000	$165,000
	3. Placement of warning signs on US 97 at cities/enforcement	$60,000	$4,000	$64,000
2	7a. High School Loop road North entrance		$150,000	$150,000
2	7b High School Loop road south entrance		$150,000	$150,000
	Subtotal Low Priority Projects	*$75,000*	*$454,000*	*$529,000*
	Sherman County Total			**$23,981,000**

References:

1 2001-2004 STIP Project
2 US 97 Corridor Plan Project
3 Biggs Refinement Plan Project
4 Sherman County Five Year Plan

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FINAL TECHNICAL MEMORANDUM #2

Sherman County Transportation System Plan Update

Plan Goals, Objectives, and Evaluation Criteria

Date: April 3, 2015 Project #: 18054

To: Georgia MacNab, Sherman 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 Sherman 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 2003 Sherman County TSP. Key transportation issues and changes in Sherman 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 Sherman 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 and State, and it will be refined to incorporate feedback from the Project Advisory Committee members who represent 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, and 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 2003 Sherman County TSP focused on mobility, livability, and economic development as outlined in the following goals:

- Focus on management, maintenance, operations and service improvements in the county, rather than modernization and large capital improvements;
- Reduce auto/truck conflicts through the strategic use of passing and climbing lanes on US 97;
- Establish a Special Transportation Area in Moro to improve safety for a variety of modes – trucks, bicycles, pedestrians and autos; and
- Develop transportation alternatives that reduce reliance on automobiles.

The complete goals and objectives of the existing plan are provided as Attachment A.

Since the 2003 TSP was developed, time, growth, and development patterns have altered the County's forward vision. The following information provides context and illustrates the challenges, opportunities, and needs tied to the County's evolving transportation system:

- The incorporated cities of Rufus, Wasco, Moro, and Grass Valley are out of compliance with state rules and regulations, and have exhausted the project lists identified in the 2003 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, including:
  - Networks that provide safe and more comfortable access for pedestrians and bicyclists to and from residential areas, schools, and downtown. The cities of Wasco, Grass Valley, and Moro have new sidewalks or bicycle facilities that connect schools, grocery stores, government facilities, or healthcare – with the exception of the City of Moro.
  - Balancing freight capacity and community accessibility and safety associated with the designated freight routes that bisect downtown neighborhoods and central business districts. The movement of freight is important to the County, as is providing safe, livable, and vibrant transportation corridors. US 97 is the primary arterial of the County, running north-south from Washington to California. US 97 will need continued focus to maintain and improve it to carry freight through the state.
  - The TSP will revisit the Cities' street development standards. The standards identified in the current TSP, in particular, the "skinny street" residential standards have not been successful in Sherman County communities. The City of Moro has

revised its own standards to require a more common street improvement width in its development code.

- Since the 2003 TSP, land use patterns have changed. The County recognizes that transportation system improvements are required to support these recent emerging trends. As the County's population has been declining in recent years, the County would like to facilitate economic development to attract new residents to Sherman County.
  - The City of Rufus has developed a 60-acre industrial area that is shovel-ready and has access to I-84 in Rufus.
  - The County is 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.
  - In recent years there have been two new residential developments in the County. These two subdivisions, one in Rufus and one in Wasco, are the first residential developments in over 40 years in the County. The Wasco development has a few constructed homes, but no construction has moved forward in the Rufus subdivision. A existing residential subdivision on the west side of Wasco has available lots in addition to these new developments.
- The four 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, efficient, 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 four 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. Emphasis should be placed on maintenance, operations, management, and service improvements rather than large capital improvements.
- Promote transportation linkages between the dispersed cities of Moro, Wasco, Grass Valley, and Rufus 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. The County recognizes that automobiles will continue to be the primary mode of transportation between cities, given the rural nature of the County.
- Preserve the function, operation, capacity, level of service, and safety of state highways and local roads in a manner consistent with adopted State and local plans.
- Balance truck freight on US 97 with automobile needs by providing adequate passing and climbing lanes, expanded pull out areas, and shoulders.
- Update roadway cross section standards to balance the needs of all users and the primary purpose of the roadway.
- Coordinate with the Oregon Department of Transportation and local cities to identify priority roadway improvements and maintenance needs.
- Improve traffic circulation within the four cities, while maintaining the local character of each community.
- Balance local community and state goals for the state highways that run through the Cities. Provide alternative solutions to address the needs of downtown businesses (access and visibility) with the need to preserve through traffic functions of US97, OR206, and OR216.
- Promote and plan for future industrial, commercial, and residential growth areas.
- Retain countywide school bus service.
- 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.
- Plan for roads created in land division and development so that they are designed to tie into existing and anticipated road circulation patterns.

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

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 and wind turbine industries and supports economic diversification in the future.
- Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of the county.
- 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 US 97 and I-84 through the County.
- Identify truck routes to focus truck traffic to a limited number of roads in urban areas.
- Support long-term improvements in connections to major agricultural distribution facilities in Biggs and Moro.
- Support truck access to industrial sites, including turn and acceleration/deceleration lanes where appropriate and improvements to the Biggs Junction Interchange with I-84.
- Retain and promote rail freight service along I-84 in a manner consistent with the OTP and adopted Oregon Rail Freight Plan.
- Review transportation connections to the Wasco State Airport to ensure that it is adequately served by the transportation system and that the transportation system supports the development of supporting land uses around the airports.
- Protect the Wasco State Airport from the encroachment of incompatible land uses to ensure efficient aviation operations and to minimize the noise and safety problems for the general public in a manner consistent with the adopted Oregon Aviation Plan.
- Actively encourage the development of enterprises and commerce in the Port at Biggs Junction.
    - Maintain travel times for the movement of freight through the corridor to port facilities.
    - Support improvements to access and intermodal connections to port facilities.

- 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.

National and state safety evaluations have evolved from qualitative assessments to quantitative analyses that utilize data to inform priorities. The TSP will apply the latest tools and methods from the Highway Safety Manual to provide an objective and repeatable analysis of all crashes in Sherman County.

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.
- Review existing roadways and roadway standards to ensure that they 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.
- Update County access management and roadway cross-section 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 that reduce reliance on the automobile through community awareness and education. Increase the use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and dial-a-ride transit) through improved access, safety, and service within urban areas and rural service centers within the County.

- Encourage development to occur within existing urban areas and rural service centers where services are presently available so as to reduce the dependence on automotive transportation.
- Consider bicycle and pedestrian facility needs during construction of new roads and during upgrades of existing roads.
- Review facilities for compliance with the Americans with Disabilities Act.
- Promote an interconnected network of bicycle, pedestrian, and transit facilities throughout the County.
- 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.
- Undertake bicycle facility improvements, such as establishing bike lanes and paths, where appropriate, within the cities of Rufus, Wasco, Moro, and Grass Valley that will balance the need for safe and convenient bicycle travel within the communities against the need to preserve through movement of traffic on the roadway.
- Identify needs for sidewalks and bicycle lanes in urban areas and develop programs to fulfill needs.
- Support maintenance of State highways as bicycle routes, with use of local parallel routes as alternative routes where feasible.
- Emphasize shoulder maintenance (surfacing, cleaning, vegetation removal), particularly in the peak summer cycling months
- Support widening shoulders as for bicycle travel as part of roadway preservation and improvement projects or as separate projects.
- Provide pedestrian facilities, such as establishing sidewalks and paths, where appropriate, within the cities of Rufus, Wasco, Moro, and Grass Valley that connect residential areas with important destinations such as parks, schools, commercial areas, and community buildings.
- Encourage development of connective sidewalk systems in commercial areas, and along arterials, and major and minor collectors within urban areas.
- Examine the need for specific pedestrian crossing locations in urban areas.
- Ensure that adequate services are provided for the transportation disadvantaged.
- Support the development of regional public transit opportunities.

- Provide paratransit, dial-a-ride service to all residents within the county matched to the availability of financial resources.
- Coordinate paratransit service with other providers and between modes within and outside the county to optimize use of equipment and minimize costs to government and the user.

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.
- Develop and upgrade transportation facilities in such a manner consistent with the adopted Oregon Transportation Plan (OTP), the Oregon Highway Plan (OHP), and the Transportation Planning Rule (TPR), and ensure that valuable soil, water, scenic, historic, and cultural resources are not damaged or impaired.
- Comply with all applicable state and federal noise, air, water, and land quality regulations.
- Design all transportation improvements to preserve and enhance natural and scenic resources, i.e., new roads should not be constructed in areas identified as sensitive wildlife areas.

GOAL 6: PLANNING AND FUNDING

Maintain the safety, physical integrity, and function of the County's multi-modal transportation network, consistent with Goal 6 of the OTP. None of the cities in Sherman County contain a population of 2,500 or more; therefore, a transportation financing program is not required as provided in OAR 660-12-0040.

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 city 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 Sherman County, ODOT, the Federal Highway Administration (FHWA), and local jurisdictions.
    - Cooperate with ODOT in the implementation of the Statewide Transportation Improvement Program (STIP);
    - Encourage the improvement of state highways;
    - Encourage planning coordination between local jurisdictions, the County, and the State.
    - 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.
    - Encourage citizen involvement in identifying and solving local issues.

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: 2003 Sherman County TSP Goals and Objectives

ATTACHMENT A: 2003 SHERMAN COUNTY TSP GOALS AND OBJECTIVES

CHAPTER 2
GOALS AND OBJECTIVES

The purpose of the TSP is to provide a guide for Sherman County to meet its transportation goals and objectives. The following goals and objectives were developed from information contained in the county's and cities' comprehensive plans and public concerns as expressed during public meetings. ODOT's US Highway 97 draft Corridor Plan and Biggs Junction Refinement Plan were also considered. 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 accommodate the efficient movement of people, goods and services while maintaining the livability of existing communities within the county by encouraging development within communities and rural service centers, protecting the integrity of the environment, enhancing travel safety and supporting economic development within the county, region and the state.

Overall Direction

The role of and management solutions for the auto differ throughout the Corridor. In the urban area, it is one of many possible travel choices. In the rural area, in many cases the automobile is the only transportation mode available, making the rural portion of the Corridor more reliant on automobile travel.

In the rural areas, it is recognized that the automobile will, out of necessity, continue to be the overwhelmingly dominant mode for moving people in the Corridor. Travel distances between residences and destinations are generally too great for bicycling and walking. The absence of transit service reduces travel options for those without ready access to an auto in rural areas. Generally, the management approach is to:

Focus on management, maintenance, operations and service improvements in the county, rather than modernization and large capital improvements.
Reduce auto/truck conflicts through the strategic use of passing and climbing lanes on US 97.
Establish a Special Transportation Area in Moro to improve safety for a variety of modes – trucks, bicycles, pedestrians and autos.

Continue to develop transportation alternatives that reduce reliance on the auto.

POLICIES:

General

1. Maintain and upgrade the overall transportation system within the county and cities to meet present and future needs.
2. Cooperate with ODOT in the implementation of the STIP.
3. Take advantage of federal and state highway funding programs.
4. Increase the use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and dial-a-ride transit) through improved access, safety, and service within urban areas and rural service centers within the county.
5. Ensure planning coordination between the local jurisdictions, the county and the state.
6. Seek Transportation and Growth Management (TGM) and other funding for projects evaluating and improving the environment for alternative modes of transportation.
7. Develop and upgrade transportation facilities in such a manner consistant with the adopted Oregon Transportation Plan (OTP), The Oregon Highway Plan (OHP), and the Transportation Planning Rule (TPR), and insure that valuable soil, water, scenic, historic, or cultural resources are not damaged or impaired.
8. Encourage citizen involvement in identifying and solving local problem spots.
9. Work with the local jurisdictions in establishing cooperative road improvement programs, funding alternatives, and schedules.
10. Comply with all applicable state and federal noise, air, water, and land quality regulations.
11. Promote alternative modes and rideshare/carpool programs through community awareness and education.
12. The general policy of the Planning Commission will be to not create any traffic hazard in the granting of variances, conditional uses permits, and zone amendments.
13. Encourage active pedestrian and bicycle use within urban areas and along state highways.
14. Promote use of available dial-a-ride transit, carpooling, and telecommuting.

Auto

15. Preserve the function, capacity, level of service, and safety of the state highways and local roads in a manner consistent with the adopted OTP, OHP, TPR, draft US Highway 97 Corridor Plan, and the February 2001 Biggs Junction Refinement Plan.

16. Adopt access management standards that will meet the requirements of the TPR, the OHP, US Highway 97 Corridor Plan, Biggs Junction Refinement Plan, and Oregon Administrative Rule (OAR) 734-051, and also consider the needs of the affected communities.
17. Provide for safe and efficient high-speed continuous flow operation in rural areas (a V/C of 7.0 or less) and moderate-speed operations of flow in the urban areas of Rufus, Wasco, Moro and Grass Valley and the rural development centers of Biggs Junction and Kent (a V/C ratio of 0.75) and 0.85 within an STA.
18. Improve and maintain all existing public roadways to: 1) achieve a pavement condition of 70% in fair or better condition, 2) provide bike lanes on all arterials within urban areas, 3) provide shoulder widths adequate to accommodate bicycles on rural arterial and major collectors, and 4) provide crosswalks when warranted.
19. Improve the access on to and off of arterial roadways to accommodate projected growth in a manner consistent with adopted comprehensive plans and implementing regulations.
20. Encourage development to occur within existing urban area and rural service centers where services are presently available so as to reduce the dependence on automotive transportation.
21. Provide adequate signage along major and minor county roads for the purpose of easy identification.
22. Adopt policies and standards that address street connectivity, spacing, and access management.
23. Work with the local jurisdictions in establishing the right-of-way needed for new roads identified in the TSP.
24. Ensure that roads created in land division and development be designed to tie into existing and anticipated road circulation patterns.
25. Direct commercial development and use access onto major arterials by means of improved county roads.
26. Continue to develop and maintain the road system as the principal mode of transportation both for access to the county and within the county.
27. Review and revise, if necessary, street cross section standards for local, collector, and arterial streets to enhance safety and mobility.
28. Analyze the safety of traveling speeds and consider modifying posted speeds as necessary.
29. Expanded shoulder areas, and pull-outs along U.S. 97.
30. Design all transportation improvements to preserve and enhance natural and scenic resources, i.e., new roads should not be constructed in areas identified as sensitive wildlife areas.
31. Retain countywide school bus service.

Bicycle

32. Incorporate balanced opportunities for bicyclists in new or reconstructed transportation facilities.
33. Develop a county bicycle plan.
34. Identify needs for bike lanes in urban areas and develop programs to fulfill needs.
35. Support maintenance of State highways as a bicycle routes, with use of local parallel routes as alternative routes where feasible.
36. Undertake bicycle facility improvements, such as establishing bike lanes and paths, where appropriate, within the cities of Rufus, Wasco, Moro, and Grass Valley that will balance the need for safe and convenient bicycle travel within the communities against the need to preserve through movement of traffic on the roadway.
37. Support widening shoulders as for bicycle travel as part of roadway preservation and improvement projects or as separate projects. Where feasible, provide standard continuous five-foot (4-foot at a minimum) shoulders on all State highways.
38. Emphasize shoulder maintenance (surfacing, cleaning, vegetation removal), particularly in the peak summer cycling months.

Pedestrian

39. Provide pedestrian facilities, such as establishing sidewalks and paths, where appropriate, within the cities of Rufus, Wasco, Moro, and Grass Valley that connect residential areas with important destinations such as parks, schools, commercial areas and community buildings.
40. Identify needs for sidewalks in urban areas and develop programs to fulfill needs.
41. Encourage development of connective sidewalk systems in commercial areas, and along arterials, and major and minor collectors within urban areas.
42. All pedestrian facilities and crossings should be accessible to people with disabilities to meet the standards of the Americans with Disabilities Act.
43. Examine the need for specific pedestrian crossing locations in urban areas.
44. Sidewalks should be buffered from the Highway with adequate landscaping, shoulders, and/or parking in areas with design speeds of 45 mph or above.
45. Within the corridor's urban section, provide, at a minimum, six-foot sidewalks to increase mobility and safety of pedestrian activities.
46. Where feasible, provide separation between pedestrians and autos through access management and landscaping, or street design guidelines within urban areas.
47. Provide adequate shoulders on rural collector and arterial roads to support biking and walking.

48. Incorporate traffic calming measures (curb extensions, raised medians, landscape treatments) within designated Special Transportation Areas as part of new highway projects or major reconstruction. Retrofit projects should be programmed based on need.
49. Provide adequate pedestrian warning signs in rural service centers.

Public Transit

50. Support OTP policies to develop a "seamless" public transportation system over time with multimodal alternatives and proper facilities.
51. Work with existing inter-city bus districts and special needs transportation operations to maintain or increase bus service frequency.
52. Explore potential for a new passenger collector depot station, where local service providers from the surrounding counties (Sherman, Gilliam and Wheeler) could meet and transfer passengers to larger busses bound for The Dalles and other destinations.
53. Ensure that adequate services are provided for the transportation disadvantaged in the Corridor.
54. Provide paratransit, dial-a-ride service to all residents within the county matched to the availability of financial resources.
55. Coordinate paratransit service with other providers and between modes within and outside the corridor to optimize use of equipment and minimize costs to government and the user.
56. Enhance and/or maintain regularly scheduled commercial transit service along the corridor.
57. Support local efforts to establish a public or private bus passenger terminal at Biggs Junction.

Rail Freight

58. Retain and promote rail freight service along I-84 and southward along the Deschutes River in a manner consistent with the OTP and adopted Oregon Rail Freight Plan.
59. Support long-term improvements in connections to major agricultural distribution facilities in Biggs and Moro.
60. Partner with carriers and receivers to facilitate transfer of highway freight to rail where economically feasible.
61. Work with the Burlington Northern/Santa Fe and Union Pacific railroads and Sherman County staff, key businesses, and other interested parties to explore redevelopment of a truck/rail distribution facility in Biggs.

Truck Freight

62. Provide for safe and efficient high-speed continuous flow operation in rural areas and moderate-speed operations of flow in urban and urbanizing areas and rural development centers.
63. Partner with carriers and receivers to facilitate transfer of highway freight to rail where economically feasible.
64. Identify truck routes to focus truck traffic to a limited number of roads in urban areas.
65. Support long-term improvements in connections to major agricultural distribution facilities in Biggs.
66. Support construction of additional truck climbing/passing lanes on US 97.
67. Support truck access to industrial sites, including turn and acceleration/deceleration lanes where appropriate.
68. Support improvements to US 97 Interchange with I-84 in Biggs Junction to improve overall operation of the interchange as part of the Statewide Freight System.

Water Transport

69. Actively encourage development of enterprises and commerce in the Port at Biggs Junction.
70. Maintain travel times for the movement of freight through the corridor to port facilities.
71. Support improvements to access and intermodal connections to port facilities.

Air Transport

72. Protect the Wasco State Airport from the encroachment of incompatible land uses to ensure efficient aviation operations and to minimize the noise and safety problems for the general public in a manner consistent with the adopted Oregon Aviation Plan.

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TECHNICAL MEMORANDUM #3

Sherman County Transportation System Plan Update

Existing & Future Conditions Analysis

Date:	May 31, 2015	Project #: 18054
To:	Michael Duncan, ODOT Georgia Macnab, Sherman County	
From:	Casey Bergh, PE, Ashleigh Griffin, and Marc Butorac, PE, PTOE	
cc:	Project Advisory Committee	

This memorandum inventories and evaluates existing and 2035 forecast conditions of the Sherman County transportation system to identify existing system needs and anticipate future needs that can be incorporated into the Transportation System Plan (TSP) update. This memorandum will identify existing and future transportation needs based on current performance measures. Needs identified in this memorandum will be addressed in the Transportation System Plan (TSP) Update through policies, projects, programs, pilot projects and refinement studies to improve the system.

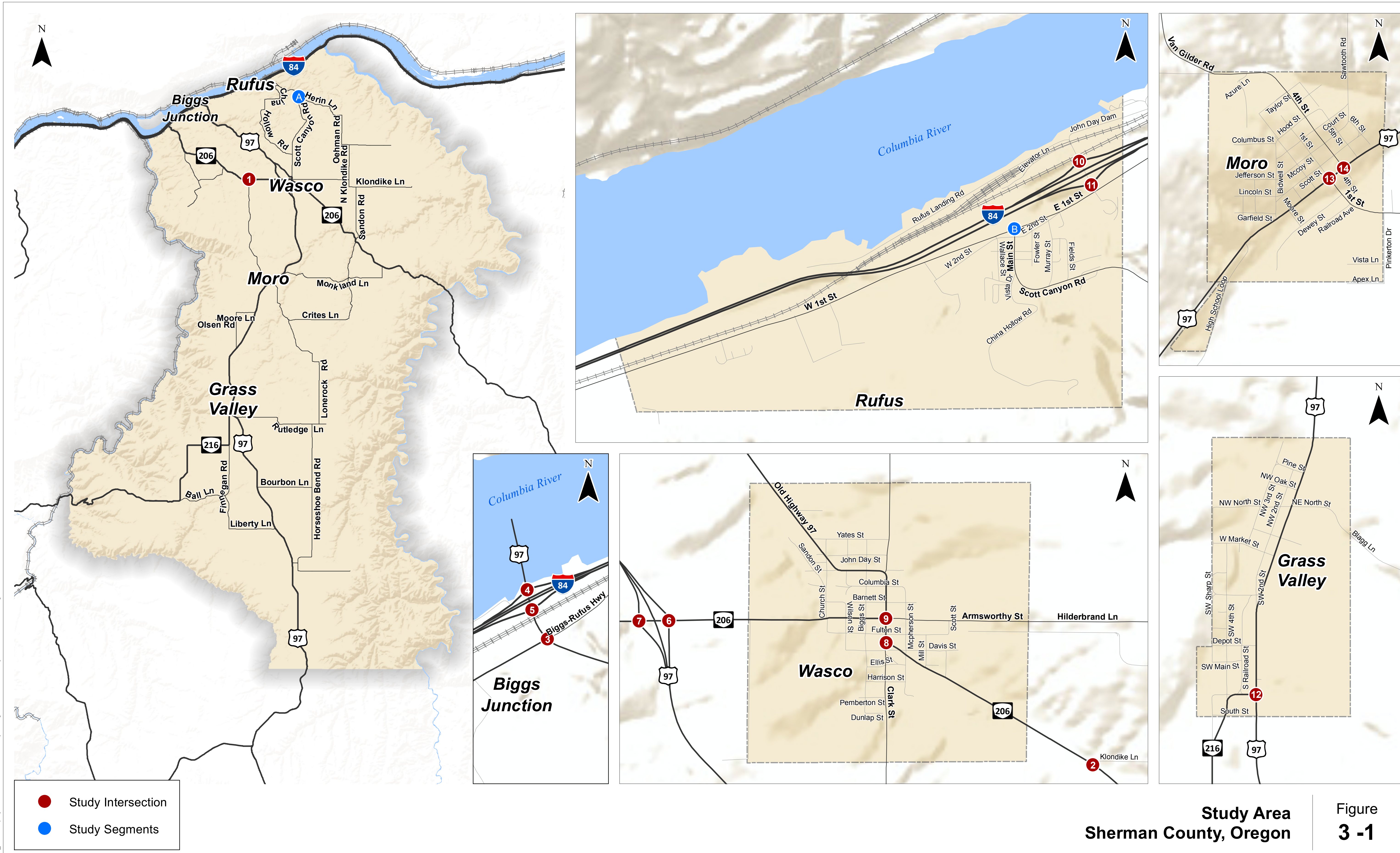
The majority of the inventory and analysis results are presented in figures and tables, with supplemental text provided to explain the illustrated information. The information is organized into the following sections:

STUDY AREA

The Transportation System Plan (TSP) focuses on the entire county, including the cities of Wasco, Rufus, Grass Valley, Moro, and the unincorporated community of Biggs Junction, as shown in Figure 3-1. Fourteen intersections and two 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

ID	Intersection/Segment Name	Location
1	Van Gilder Rd / OR 206	Wasco
2	Klondike / OR 206	Wasco
3	Biggs-Rufus Hwy / US 97	Biggs Junction
4	I-84 WB / US 97	Biggs Junction
5	I-84 EB / US 97	Biggs Junction
6	OR 206 / US 97 NB	Wasco
7	OR 206 / US 97 SB	Wasco
8	Clark St / OR 206/Old Wasco-Heppner Hwy	Wasco
9	Clark St / OR 206	Wasco
10	I-84 WB / John Day Dam Rd	Rufus
11	I-84 EB / John Day Dam Rd	Rufus
12	Krusow St / OR 216	Grass Valley
13	Lone Rock Rd / US 97	Moro
14	4^{th} St / US 97	Moro
A	Herin Lane at Scott Canyon Road	County
B	Main Street at 1^{st} Street/Biggs Rufus Highway	Rufus



Study Area
Sherman County, Oregon

Figure
3 -1

LAND USE AND POPULATION

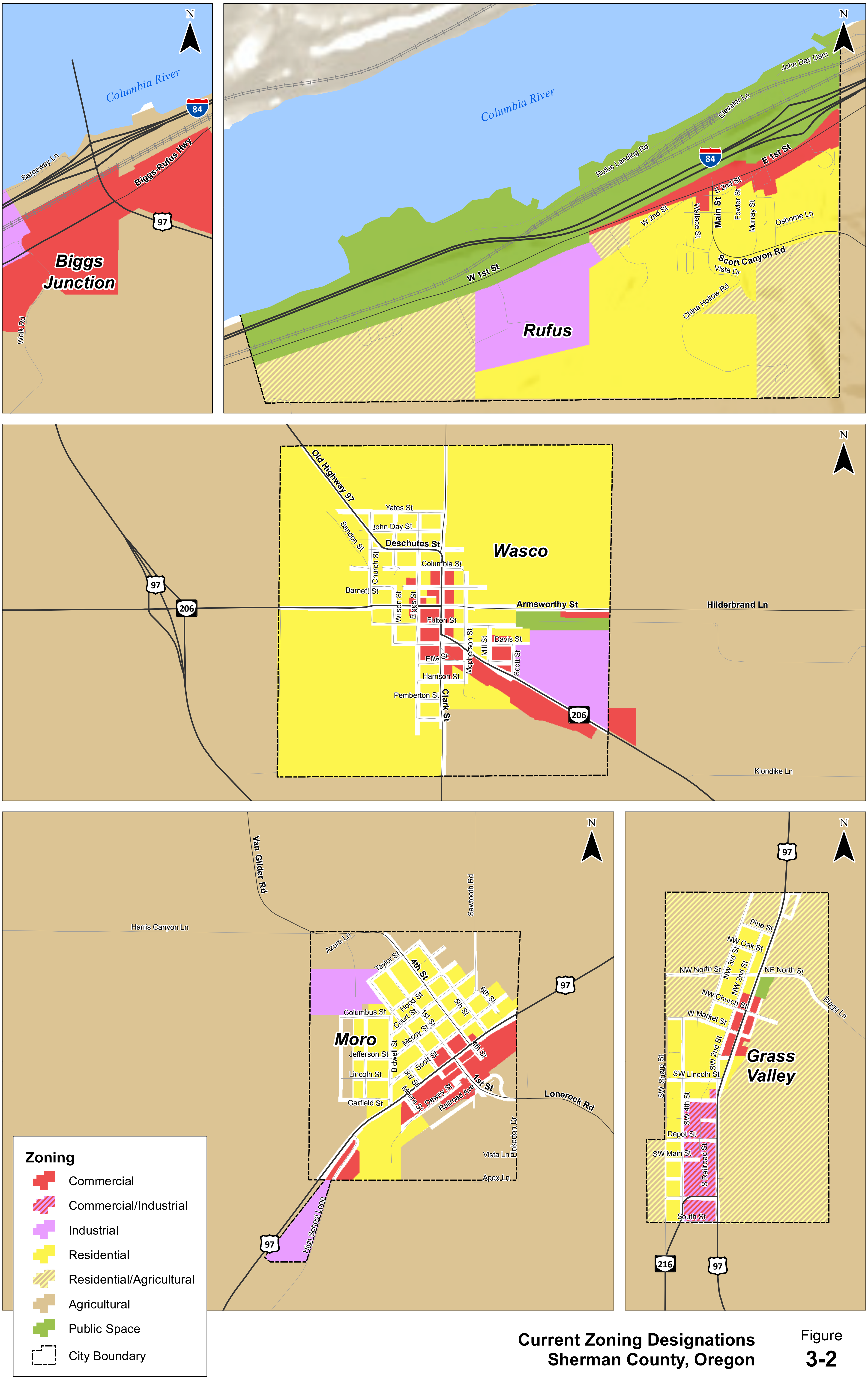
The land use and population inventory identifies existing, planned, and potential land uses. The land use and population inventory will inform existing and future conditions analyses, particularly as the project team works with the community to develop future alternative scenarios that capture the County's vision. Figure 3-2 illustrates the current zoning for the County and Cities.

Key activity centers and destinations within the County include:

- Sherman Elementary School, located in Grass Valley
- Sherman Junior Senior High School, located in Moro (The County has plans to consolidate both schools, the elementary and junior/senior high school, at this site.)
- Wasco, Moro, and Grass Valley City Parks
- Sherman County RV Park outside of Moro, adjacent to the County fairgrounds and DeMoss Park north of Moro
- Cottonwood Canyon State Park
- Deschutes State Park
- Oregon Raceway Park
- Wind Turbine Farms
- Mid-Columbia Producers
- Azure Standard
- Agricultural farms
- Biggs Junction commercial center

In addition to these key activity centers in the County, US 97 within Sherman County is designated as an Oregon State scenic byway and may attract visitors from other regions of the state. The cities also have downtown commercial centers that generate regional trips for shopping, dining, and other purposes.

The following sections describe the buildable lands inventory for the communities of Wasco, Moro, Grass Valley, and Rufus. 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 four cities.



Current Zoning Designations
Sherman County, Oregon

Figure
3-2

H:\projfile\18054 - Sherman County TSP\gis\memo 3\3-2 Sherman County Zoning Map.mxd - jsommerville - 1:26 PM 3/9/2015

City of Rufus

The City of Rufus, the northernmost city in Sherman County, lies immediately adjacent to the Columbia River and I-84. The City's Comprehensive Plan was updated in 2007, and notes the City serves as local service center for the surrounding farming community. Over the last 25 years, the City of Rufus has represented approximately 15 percent of the County's population, on average. The 2010 population of 270 documented in the 2010 census is forecast to grow to 320 by 2030, as documented in the Sherman County Comprehensive Plan (2007).

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.

A review of the Buildable Lands Inventory Spreadsheets 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 recently platted subdivision on the west side of the City, with full services awaiting development. There is adequate land available barring some unforeseen economic activity to boost the residential housing needs of the community

The 2010 Census Data indicated the population of the City is 270. The Census found that that there are 162 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.

City of Wasco

The City of Wasco Comprehensive Plan was updated in 2007. The Buildable Lands Map was completed in February of 2007 via a windshield survey by the City's staff. The analysis notes over 70 vacant residential lots available, along with over 400 acres of vacant residential land. There is a new subdivision in the north east corner of the City. It is the first residential subdivision in all of Sherman County in over 40 years.

Over the last 25 years, the City of Wasco has represented 20 percent of the County's population, on average. The 2010 population of 389 is forecast to grow to 423 by 2030, as documented in the Sherman County Comprehensive Plan (2007).

City of Moro

The City of Moro lies nine miles south of the City of Wasco on US 97. Moro serves as the County Seat and most of the County Administrative Offices are located here. The town is bisected by US 97 and has a well-defined commercial area in the blocks alongside the highway. There has not been significant residential development in many years. The City Recorder's Office indicates just 14 new residences in the City since 2002. The current PSU Certified population is 325. The City did just revise and update its Subdivision Ordinance and in the course of doing so, revised its street standards in both the ordinance and in its Comprehensive Plan to require standard width streets for residential development.

The Buildable Lands Inventory Map prepared in 2007 indicates 186 vacant platted lots and over 170 acres of vacant land available in the City. Even with the 14 new homes, there is adequate land available to meet future residential needs.

City of Grass Valley

The City of Grass Valley lies 9 miles south of Moro, on US 97. It is also bisected by US 97, and has a long lineal commercial strip along the highway. There are some light industrial lands at the south end of the City. There is a municipal domestic water system, but the City does not have waste water collection and treatment facilities. The lack of a sewer system severely limits any growth to the City. The most recent addition for economic development has been the construction and operation of the Oregon Raceway Park located approximately 1½ miles east of Grass Valley. This raceway is a 2 ½ mile paved road course that is receiving national attention since opening in 2010. The City and County see this as a major factor in the south County economy going forward.

The City has a fairly stable population of 160 people and is forecast to grow to 183 in 2030. Over the last 25 years, the City of Grass Valley has represented less than 10 percent of the County's population, on average, as documented in the Sherman County Comprehensive Plan (2007).

The 2007 Buildable Lands Inventory indicated 150 vacant residential lots along with 100+ acres of vacant residential land in the City. There have just been a handful of new homes placed in the City since 2007. There is more than an adequate amount of residential property available to meet future needs of the City.

Priority Development Areas

Based on these inventories, areas prioritized to support existing and future economic development within the Cities and County include:

- Industrial development within the shovel-ready, 60-acre industrial area in Rufus;
- Existing commercial development within the cities, including Oregon Raceway Park near Grass Valley;

- Existing and future freight services at Biggs Junction, including truck parking and intermodal connections for wheat transfer from trucks to barges.
- Supporting infrastructure for transporting goods to support the wind turbine industry and agriculture.
- Dense residential development within the cities, particularly in the subdivision on the west side of Rufus and the subdivision in the northeast corner of Wasco.

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. The County's 2007 Comprehensive Plan Update included a Population Projection through the year 2030. State Statute requires Counties to use the projections prepared by the Office of Economic Analysis and, further, to allocate the future population growth throughout the County and its incorporated Cities and unincorporated areas. This was done in 2007 based on the past population ratios in the County and the projected future populations on a proportional basis for the four incorporated Cities of the County and updated in 2013. Table 3-2 below summarizes the projected population in each City and the entire County based on the 2007 projections. The 2007 population projection called for a County wide population of 2,102 by the year 2030, which would result in a growth of 169 people or 8.7 percent of the 2010 population. However, the 2013 population update prepared by OEA, shown in Table 3-3, shrinks that number markedly, projecting a County population of just 1,745 by 2035, a net loss of 188 people or 9.7 percent of the 2010 population.

Table 3-2. Sherman County Population Projection, based on 2007 County Projections

Year		Population Projections				
	Sherman County (Total)	Unincorporated Area (39.4%)	Grass Valley (8.7%)	Moro (16.6%)	Rufus (15.2%)	Wasco (20.1%)
2010	1933	761	168	321	294	389
2015	1986	786	173	330	302	399
2020	2043	804	179	339	310	411
2025	2081	820	181	345	317	418
2026	2085	822	181	346	317	419
2030	2102	827	183	349	320	423

Table 3-3. Sherman County Population Projection, based on 2013 County Projections

Year		Population Projections				
	Sherman County (Total)	Unincorporated Area (39.4%)	Grass Valley (8.7%)	Moro (16.6%)	Rufus (15.2%)	Wasco (20.1%)
2015	1735	684	151	288	264	348
2020	1716	677	149	285	261	344
2025	1718	677	149	285	261	345
2030	1731	682	151	287	263	348
2035	1745	687	152	290	265	351

STREET SYSTEM AND TRAFFIC ANALYSIS

Four state highways and a network of highways, arterials, collectors, and local streets maintained by the County serve Sherman County. Primary roadway facilities, their characteristics, and existing operational performance are summarized below.

Street System Overview

Roadways within Sherman 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 Sherman County provide interstate, statewide, and regional connectivity. These facilities include Interstate 84 (I-84), US Highway 97 (US 19), Oregon Highway 206 (OR 206), and Oregon Highway 216 (OR 216). The state facilities serve all four cities in Sherman County. I-84 provides access to Rufus, US 97 provides a connection to Wasco and passes through Moro and Grass Valley, OR 216 connects Grass Valley with Highway 197 to the West, and OR 206 connects Wasco with Gilliam County to the east.

County Roadways

The County has jurisdiction over 127 roads that cover approximately 471 miles. Approximately 26.5 percent of these are paved, 62 percent are gravel, and 11.5 percent are dirt roads. The roads are typically two lanes wide. Paved roads typically have two 24-feet travel lanes and two-foot gravel shoulders. Gravel roads are typically 20 feet wide.

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.

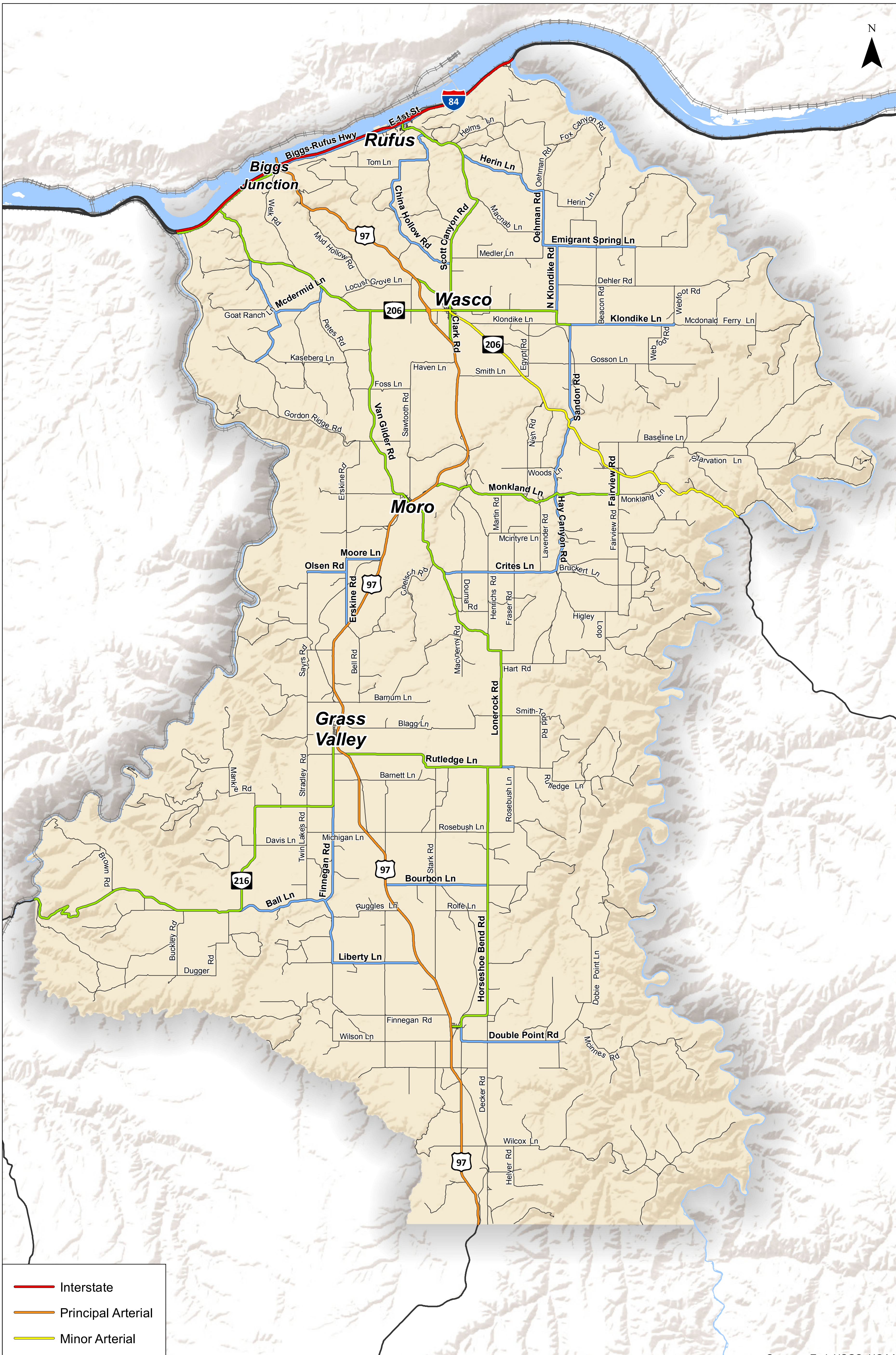
State Facilities

Figure 3-3 shows the ODOT functional classification for state facilities in the County. Table 3-4 summarizes the roadway characteristics of each of these facilities, including posted speed limit, number of lanes, and current pavement condition. Because the local cities 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 3-4. State Functional Classification

Route Name	Facility Extents	ODOT Facility Designation	ODOT Functional Classification	Posted Speed Limit (mph)	Number of Lanes	Pavement Condition (2012)
Interstate 84	Entire Section within County Limits	Interstate	Rural Interstate	65	4	Fair (West of Rufus) to Very Good (East of Rufus)
	Rufus City Limits	Interstate		65	4	Fair
US 97 *(Freight Route)*	Outside City Limits	Statewide Highway	Other Rural Principal Arterial	40/45/55	2-4	Poor (south of Grass Valley) to Good (North of Grass Valley)
	Moro	Statewide Highway		25/30/45	2	Good
	Grass Valley	Statewide Highway		30/45	2	Poor to Good
	Biggs Junction (Unincorporated Community)	Statewide Highway		35/45	2	Good
	Kent (Unincorporated Community)	Statewide Highway		55	2	Poor
OR 206	Outside of Wasco City Limits, East of Wasco	Regional Highway	Rural Minor Arterial	55	2	Good
	Within Wasco City Limits, East of Clark Road	Regional Highway		30/40/55	2	Good
	Within Wasco City Limits, West of Clark Road	District Highway		35/45	2	Fair
	Outside Wasco City Limits, West of Wasco	District Highway	Rural Major Collector	55	2	Fair
OR 216	Within Grass Valley City Limits	District Highway	Rural Major Collector	25	2	Good
	Outside of Grass Valley City Limits			55	2	
Biggs – Rufus Highway (from OR 206 to Biggs Junction)	OR 206 to Biggs Junction	District Highway	Rural Major Collector	35/45/55	2	Fair

Figure 3-4 summarizes the lane configurations and traffic control devices at the study intersections. Each of the study intersections is unsignalized and under ODOT's jurisdiction.



Existing Roadway Functional Classification
Sherman County, Oregon

Figure
3-2

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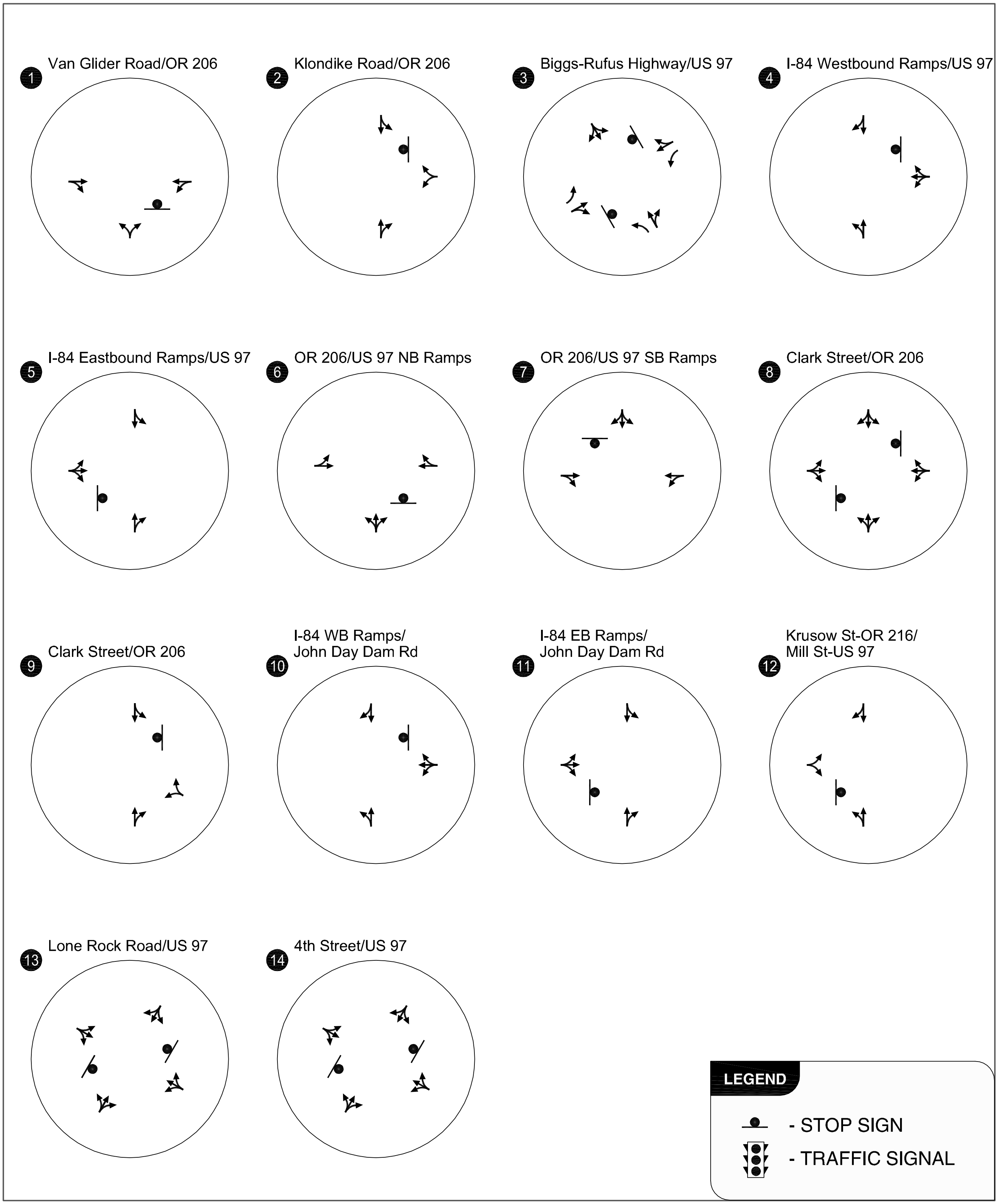


Existing Lane Configurations and Traffic Control Devices
Sherman County, Oregon

Figure
3-4

County Facilities

Sherman 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 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.) that have occurred in the past ten years 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.

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 3-5. The County also has recommended roadway widths that are intended to serve the forecast future traffic demands in the County, as summarized in Exhibit 3-1.

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 3-5. Sherman County Rural Roadway Design Standards

Classification	Right-of-Way Width (ft)	Roadway		Shoulder	
		Width (ft)	Surface	Width (ft)	Surface
Arterial Street	80-120	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	-	-	-

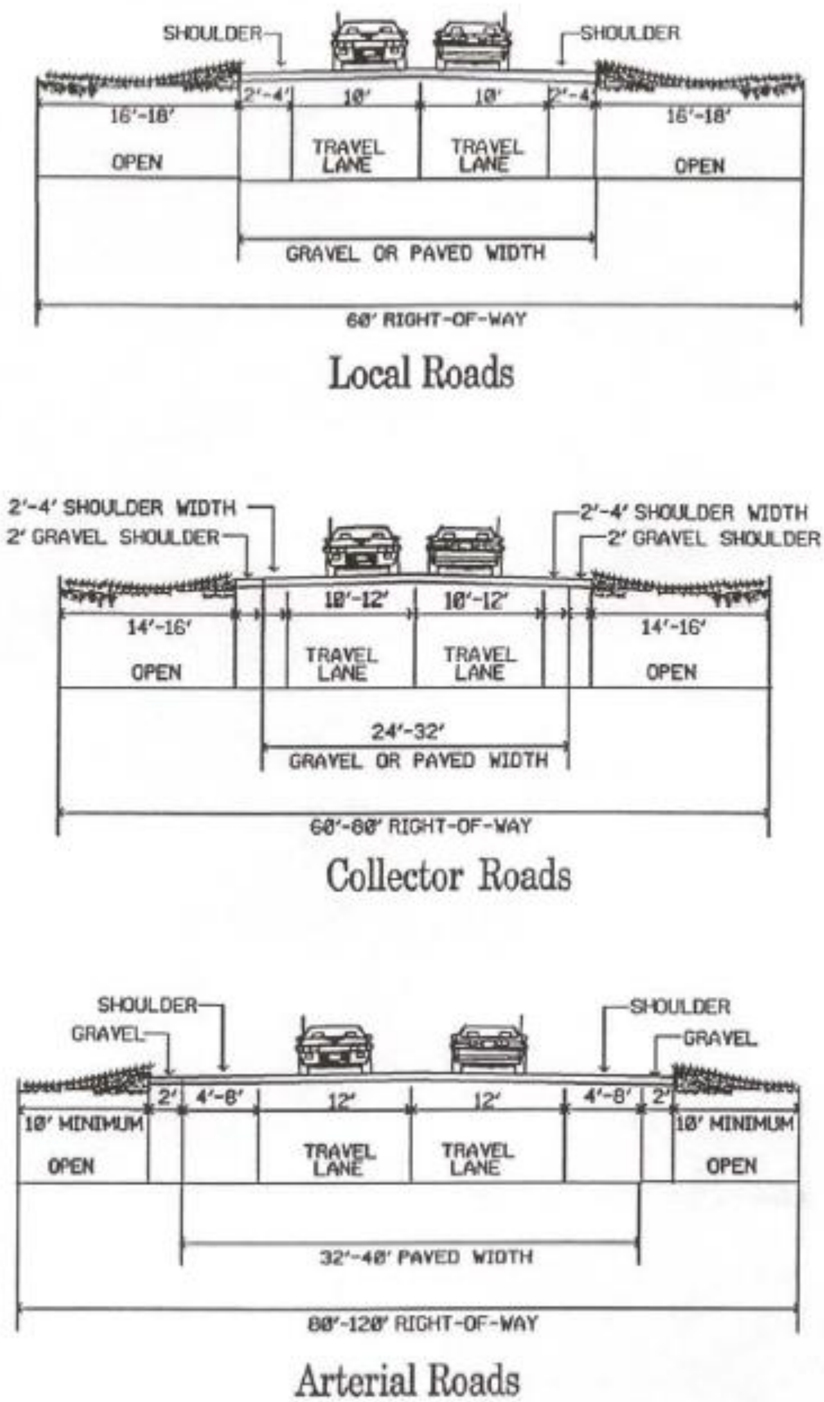


Exhibit 3-1. Rural Street Standards for Local Streets, Collectors, and Arterials from the 2003 TSP

Local Facilities

Street design standards for the local cities were developed during the last TSP Update. These design standards were based on ADT, storm drainage, type and density of development, fiscal constraints, and community character. The cities have only collector and local streets, except where state highways bisect the cities.

The exhibits in *Appendix A* illustrate the current design standards for each city and the roadways that these design standards are applied to. Since the primary purpose of local roadways is to provide access to properties, the recommended local roadway width is 20 to 24 feet. The roadway surfaces could be paved, but most local roadways are gravel. Although the standards do not call for sidewalks, there is space in the right-of-way to add these where appropriate.

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. Exhibit 3-2 illustrates the relationship between access and mobility relative to the street classifications in the Sherman County area. US 97, OR 216, and OR 206 bisect the cities of Grass Valley, Moro, and Wasco and run through the downtown commercial areas of both cities. Therefore, these facilities must balance carrying through traffic and providing access within the downtown cores.

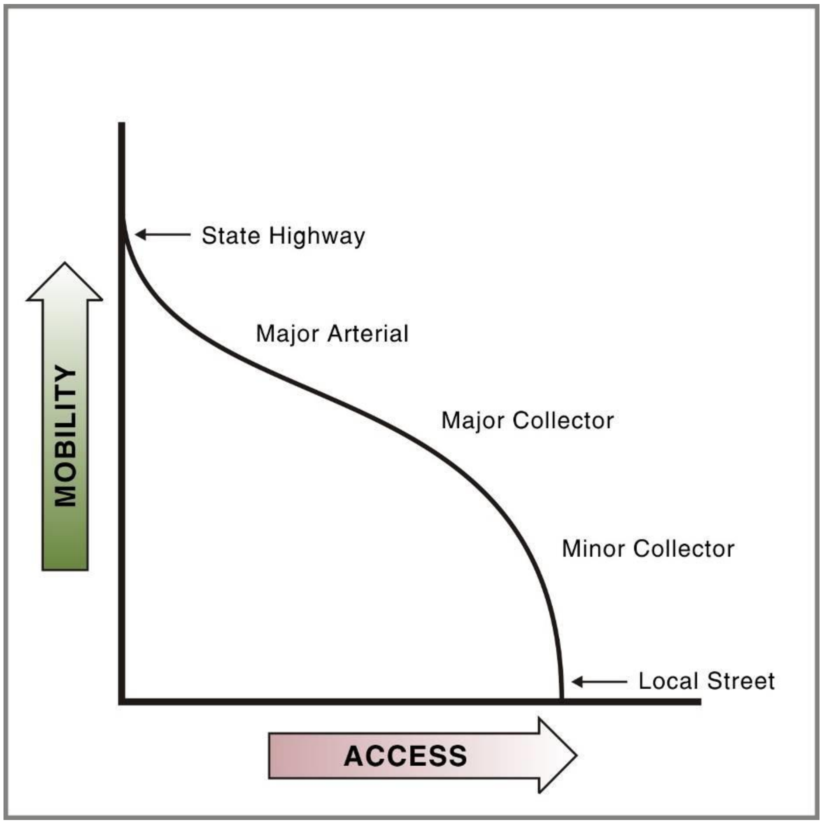


Exhibit 3-2. Relationship between Access, Mobility, and Functional Classification

State Facilities

ODOT specifies access management spacing standards for the state facilities in the Oregon Highway Plan (OHP, Reference 1). The corresponding access management spacing standards for state facilities within Sherman County are summarized in Table 3-6 and Table 3-7. On non-interstate facilities, these standards are based on the 2012 AADT (Annual Average Daily Traffic volume), posted speed limit, proximity to urban areas, and functional classification. Interchange spacing for interstates is not dependent on traffic volume or posted speed limit.

Table 3-6. Interchange Spacing Standards for Interstate Highways

Route Name	Facility Extents	Facility Designation	Area	Access Spacing Standard (feet)
Interstate 84	Entire Section within County Limits	Interstate	Rural	6 miles (interchange)
	Rufus City Limits	Interstate	Urban	3 miles (interchange)

Source: Oregon Highway Plan, Appendix C Revisions to Address Senate Bill 264 (2011) Table 12

Table 3-7. Access Management Spacing Standards for Highway Segments

Route Name	Facility Extents	Facility Designation	2012 ADT	Posted Speed Limit (mph)	Access Spacing Standard (feet)
US 97 *(Freight Route)*	Outside City Limits	Statewide Highway	<5000	40/45/55	990/990/1,320
	Moro	Statewide Highway	<5000	25/30/45	150/250/360
	Grass Valley	Statewide Highway	<5000	30/45	250/360
	Biggs Junction (Unincorporated Community)	Statewide Highway	<5000	35/45	425/750
	Kent (Unincorporated Community)	Statewide Highway	<5000	55	1,320
OR 206	Outside of Wasco City Limits, East of Wasco	Regional Highway	<5000	55	650
	Within Wasco City Limits, East of Clark Road	Regional Highway	<5000	30/40/55	250/360/650
	Within Wasco City Limits, West of Clark Road	District Highway	<5000	35/45	250/360
	Outside Wasco City Limits, West of Wasco	District Highway	<5000	55	650
OR 216	Within Grass Valley City Limits	District Highway	<5000	25	150
	Outside of Grass Valley City Limits		<5000	55	650
Biggs – Rufus Highway (from OR 206 to Biggs Junction)	OR 206 to Biggs Junction	District Highway	<5000	35/45/55	250/360/650

AADT = Average Annual Daily Traffic
MPH = miles per hour

Source: Oregon Highway Plan, Appendix C Revisions to Address Senate Bill 264 (2011) Table 13

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 Sherman County Segments

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

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 B* contains the traffic count data obtained from ODOT and used in the analysis. *Appendix C* contains the Methodology Memorandum documenting the analysis method applied. *Appendix E* 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 C*) 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 3-9 and Table 3-10, to assess performance and identify potential areas for improvement. Sherman 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 3-9. Volume to Capacity Ratio Targets for Peak Hour Operation Conditions

			Inside UGB			Outside UGB	
Route Name	**Facility Extents**	**Facility Designation**	**Non-STAs where posted speed <= 35 mph**	**Non-STAs where speed > 35 mph but <45 mph**	**Where speed limit >= 45 mph**	**Unincorporated Communities**	**Rural Lands**
Interstate 84	Entire Section within County Limits	Interstate	N/A	N/A	0.80	0.70	**0.70**
	Rufus City Limits	Interstate	N/A	N/A	**0.80**	0.70	0.70
US 97 *(Freight Route)*	Outside City Limits	Statewide Highway	0.85	0.80	**0.80**	0.70	0.70
	Moro	Statewide Highway	**0.85**	**0.80**	**0.80**	0.70	0.70
	Grass Valley	Statewide Highway	**0.85**	**0.80**	**0.80**	0.70	0.70
	Biggs Junction & Kent (Unincorporated Communities)	Statewide Highway	0.85	0.80	0.80	**0.70**	0.70
OR 206	Outside of Wasco City Limits, East of Wasco	Regional Highway	0.90	0.85	**0.85**	0.75	0.70
	Within Wasco City Limits, East of Clark Road	Regional Highway	**0.90**	**0.85**	**0.85**	0.75	0.70
	Within Wasco City Limits, West of Clark Road	District Highway	**0.95**	**0.90**	**0.90**	0.80	0.75
	Outside Wasco City Limits, West of Wasco	District Highway	0.95	0.90	**0.90**	0.80	0.75
OR 216	Within Grass Valley City Limits	District Highway	**0.95**	0.90	0.90	0.80	0.75
	Outside of Grass Valley City Limits		0.95	0.90	**0.90**	0.80	0.75
Biggs – Rufus Highway	OR 206 to Biggs Junction	District Highway	**0.95**	**0.90**	**0.90**	0.80	0.75

Source: OHP, Table 6, modified for relevance

Table 3-10. Intersection Performance Standards

ID	Intersection Name	Location	Jurisdiction	Type of Intersection Control*	Performance Standard (v/c ratio)**
1	Van Gilder Rd / OR 206	Wasco	ODOT	TWSC	0.80 (OR 206)
2	Klondike / OR 206	Wasco	ODOT	TWSC	0.75 (OR 206)
3	Biggs-Rufus Hwy / US 97	Biggs Junction	ODOT	TWSC	0.70 for all approaches
4	I-84 WB / US 97	Biggs Junction	ODOT	TWSC	0.70 for all approaches
5	I-84 EB / US 97	Biggs Junction	ODOT	TWSC	0.70 for all approaches
6	OR 206 / US 97 NB	Wasco	ODOT	TWSC	0.75 for OR 206 approaches, 0.70 for US 97 approaches
7	OR 206 / US 97 SB	Wasco	ODOT	TWSC	0.75 for OR 206 approaches, 0.70 for US 97 approaches
8	Clark St / OR 206/Old Wasco-Heppner Hwy	Wasco	ODOT	TWSC	0.90 for EB (OR 206) approach; 0.85 for NB and SB approaches (OR 206)
9	Clark St / OR 206	Wasco	ODOT	TWSC	0.85 for WB approach; 0.85 for SB approach
10	I-84 WB / John Day Dam Rd	Rufus	ODOT	TWSC	0.70 for I-84 ramp approaches
11	I-84 EB / John Day Dam Rd	Rufus	ODOT	TWSC	0.70 for I-84 ramp approaches
12	Krusow St / OR 216	Grass Valley	ODOT	TWSC	0.90 for OR 216 approach; 0.80 for US 97 approaches
13	Lone Rock Rd / US 97	Moro	ODOT	TWSC	0.85 for US 97 approaches
14	4^{th} St / US 97	Moro	ODOT	TWSC	0.85 for US 97 approaches

*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

Two study segments were identified throughout the County. Traffic volumes were collected for 48 hours between Tuesday October 21, 2014 and Thursday, October 23, 2014. These traffic volumes were used to conduct capacity analysis to determine how the facility operates under peak hour conditions. No vehicle classification information was collected during these counts. In addition, they were used to illustrate the demand profile of the roadway by the time of day. *Appendix D* summarizes the hourly traffic volume profiles for the two 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 3-11 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 3-11. Roadway Segment Operations Analysis

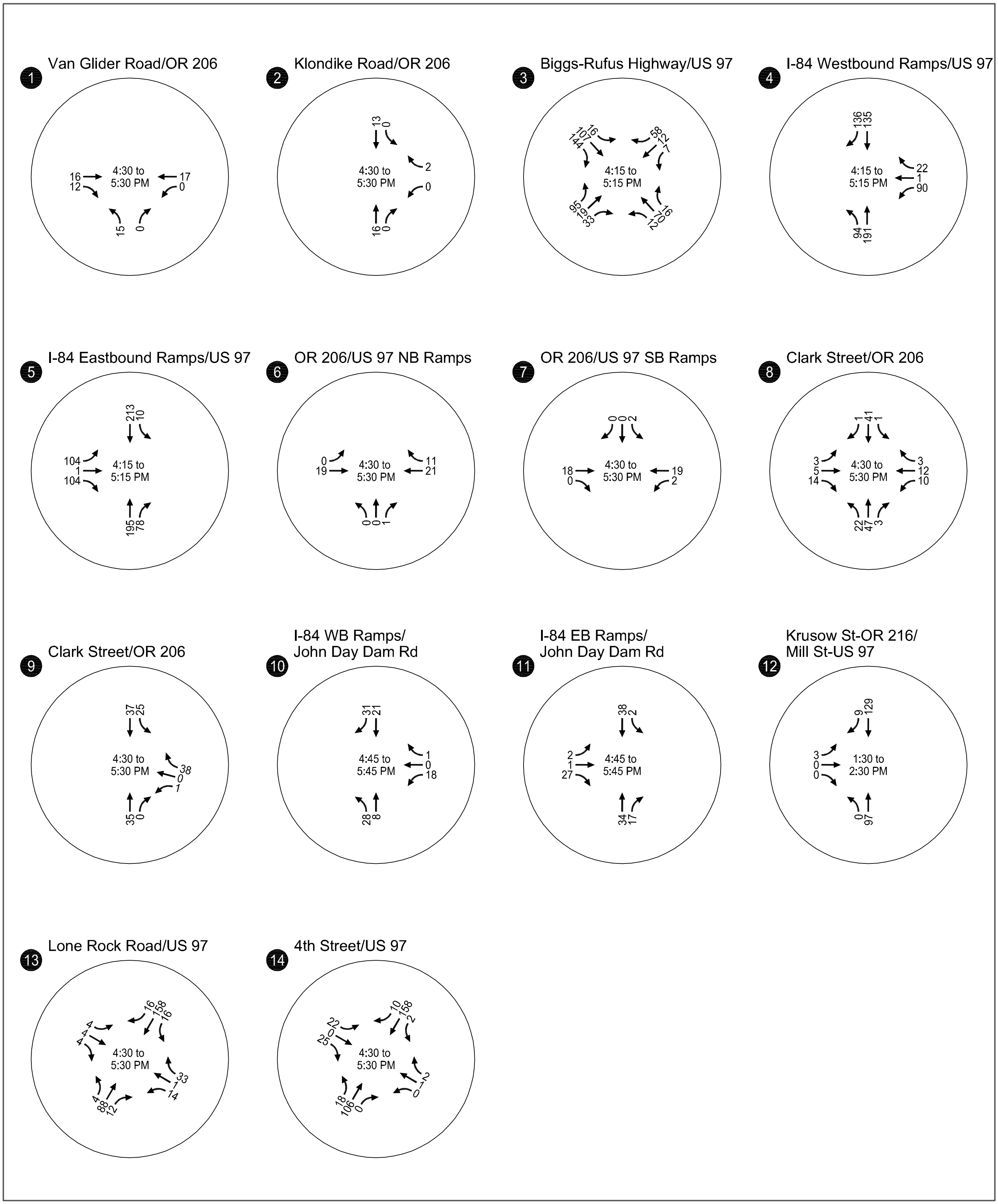
ID	Roadway	ADT from 2014 Traffic Counts	Peak Hour Time Period	Seasonally-Adjusted Peak Hour Count	PHF*	Two-Way Demand Flow	Critical Flow Rate	Units	Calculated V/C Ratio
A	Herin Lane, East of Scott Canyon Road	90	6:00 - 7:00 a.m.	16	0.67	26	3200	pc/h	0.0079
B	Main Street, South of 1st Street in Rufus	558	4:45 – 5:45 PM	58	0.83	74	3200	pc/h	0.0230

*PHF = peak hour factor

Weekday Peak Hour Development for Intersections

Traffic counts at the fourteen study intersections were completed on Tuesday, October 21, 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. System-wide peak hours were developed for each community rather than using a system-wide peak hour for the entire County due to the long distances between study intersections throughout the County.

As summarized in the Methodology Memo (see *Appendix C*), traffic volumes were adjusted to reflect seasonal fluctuation in traffic patterns. Figure 3-4 shows the existing intersection traffic control and lane configurations. Figure 3-5 summarizes the existing peak hour traffic volumes after seasonal adjustments were applied and the peak hour time period for each intersection.



Existing Traffic Volumes and Peak Hours
Sherman County, Oregon

Figure **3-5**

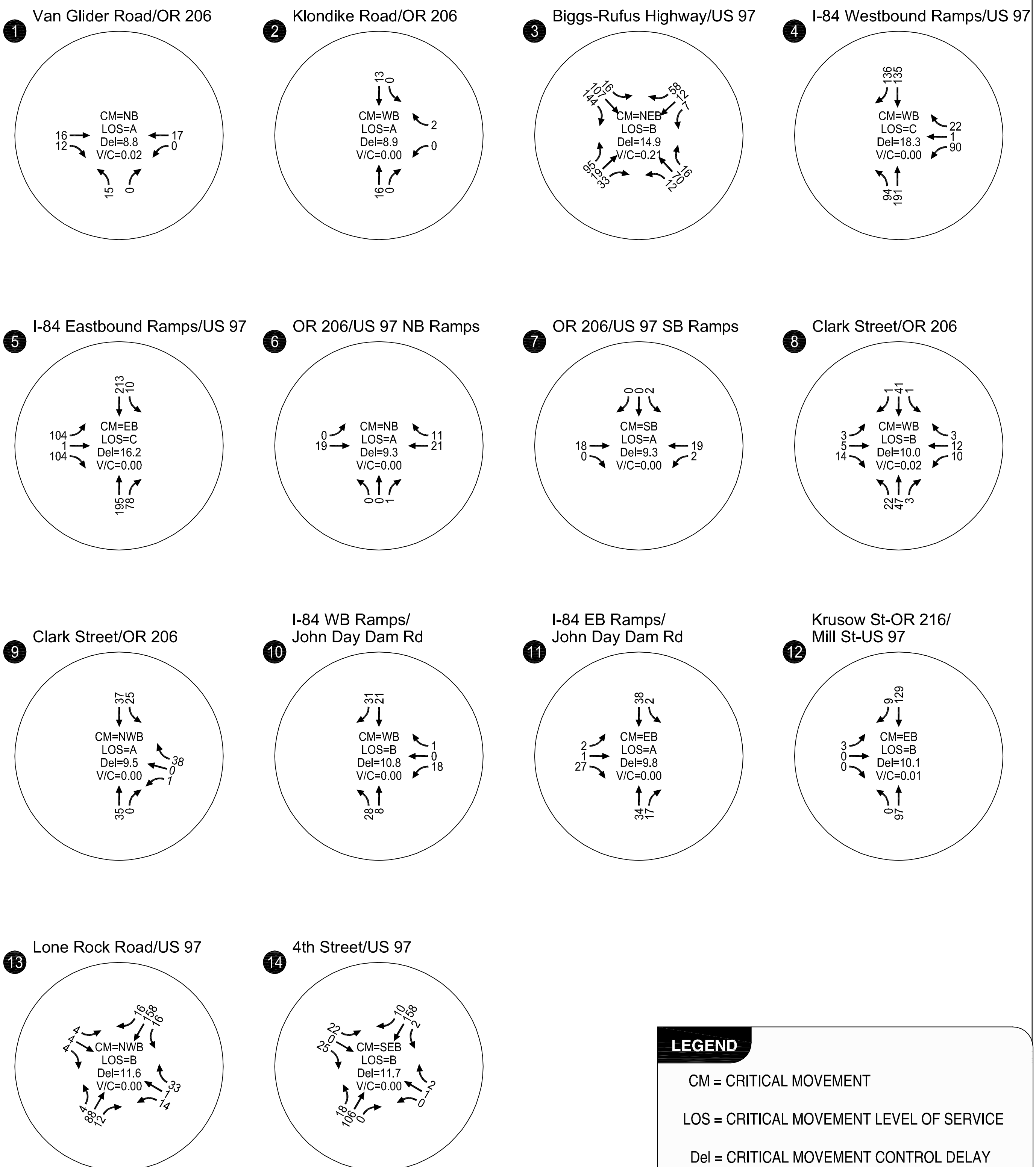
Intersection Traffic Operations Analysis Results

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 Sherman 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 software. Table 3-12 summarizes the results of this analysis as well as whether the corresponding operational targets for the study intersections are met. Figure 3-6 summarizes the turning movement volumes and resulting operations at each intersection. As shown in the table, all fourteen study intersections currently operate acceptably. The 95th percentile queue lengths reflect the maximum queue length expected during the peak 15 minutes. The 95th percentile queue lengths do not exceed two vehicles in length at all study intersections.

Table 3-12. Existing Conditions Intersection Operational Analysis Results

ID	Name	Critical Movement	V/C Ratio	LOS	Delay (sec)	95th % Queue (# vehicles)	Performance Standard Met
1	Van Gilder/OR 206	NBL	0.021	A	8.8	1	Yes
2	Klondike Rd/OR 206	WBL	0.000	A	8.9	1	Yes
3	Biggs-Rufus Hwy/US 97	NEBL	0.211	B	14.9	1	Yes
4	I-84 WB/US 97	WBT	0.003	C	18.3	2	Yes
5	I-84 EB/US 97	EBT	0.002	C	16.2	2	Yes
6	OR 206/US 97 NB	NBT	0.000	A	9.3	1	Yes
7	OR 206/US 97 SB	SBT	0.000	A	9.3	1	Yes
8	Clark St/OR 206/Old Wasco-Heppner Hwy	WBT	0.018	B	10.0	1	Yes
9	Clark St/OR 206	NWBL	0.001	A	9.5	1	Yes
10	I-84 WB/John Day Dam Road	WBT	0.000	B	10.8	1	Yes
11	I-84 EB/John Day Dam Road	EBT	0.001	A	9.8	1	Yes
12	Krusow St/OR 216/Mill St/ US 97	EBL	0.006	B	10.1	1	Yes
13	Lonerock Rd/US 97	NWBT	0.002	B	11.7	1	Yes
14	4th St/US 97	SEBT	0.000	B	11.7	1	Yes

v/c = volume-to-capacity



LEGEND

CM = CRITICAL MOVEMENT

LOS = CRITICAL MOVEMENT LEVEL OF SERVICE

Del = CRITICAL MOVEMENT CONTROL DELAY

V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Existing Traffic Operations Analysis Results
Sherman County, Oregon

Figure
3-6

Summary of Existing Traffic Conditions

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

- The existing demand volume at the two study segments is below capacity.
- The fourteen study intersections currently operate within their performance targets.
- 95th percentile queue lengths are not expected to exceed two vehicles at any of the study intersections 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 Sherman County. Figure 3-7 illustrates reported crash locations throughout the County. As shown in Figure 3-7, the majority of reported crashes are located along state highways, particularly US 97 and I-84. Crash data is provided in *Appendix F*.

County Crash Patterns

A total of 334 crashes were reported in Sherman County between 2009 and 2013. Table 3-13 summarizes the reported crashes by severity. Almost half of the reported crashes involved an injury, with 13 crashes resulting in an incapacitating injury and eight crashes resulting in a fatality. Of the 21 reported severe injury or fatal crashes, several trends were noted:

- Of the 21 severe crashes, 11 were fixed-object crashes, four were non-collision crashes, two were head-on collisions, one was a rear-end crash, one was a turning movement crash, one was a sideswipe crash, and one was not recorded.
- The roadway conditions were recorded as ice during four crashes, snow during one crash, wet during three crashes, and dry for the remainder.
- Six of the 21 severe crashes involved alcohol-impaired drivers.
- Ten of the 21 crashes occurred on Saturday or Sunday.
- Eight crashes occurred during dark light conditions.

The severe injury crashes were located throughout the County on the interstate, state highways, and County and local roads. Exhibit 3-3 shows the number of crashes reported by month and severity.

Table 3-13. Reported Crashes by Severity in Sherman County (2009 – 2013)

	Crash Severity					
	Fatal	Injury A	Injury B	Injury C	PDO	Total
Number of Reported Crashes	8	13	67	61	185	334
Percentage of Total Crashes	2.4%	3.9%	20.0%	18.3%	55.4%	100%

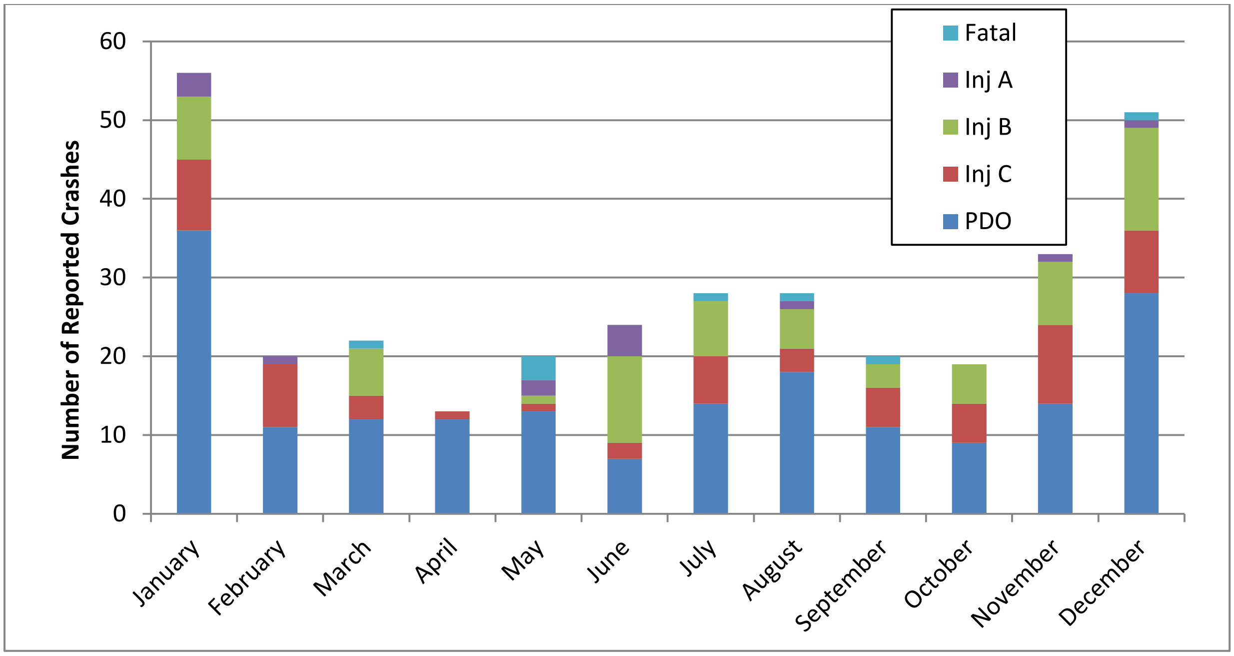
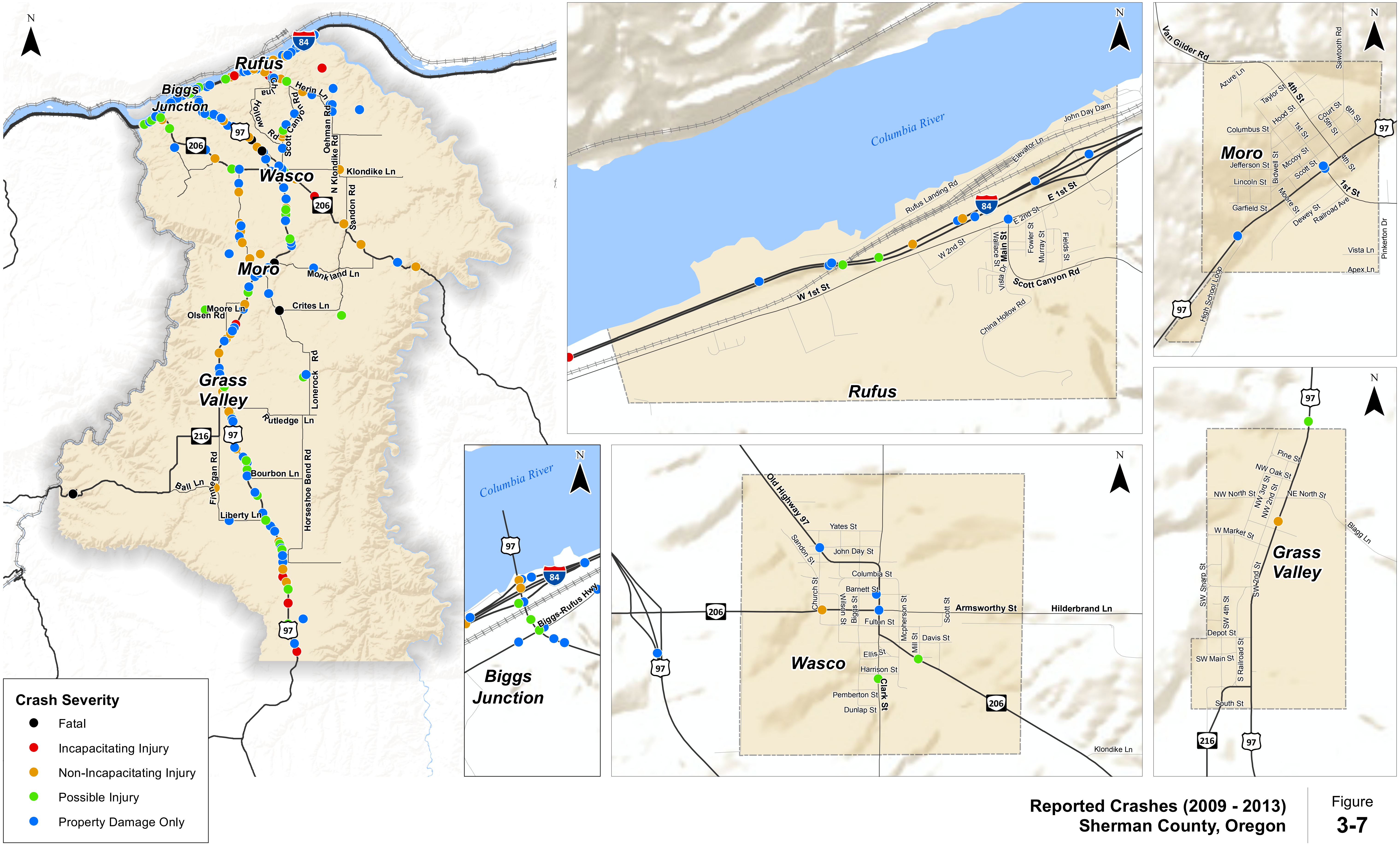


Exhibit 3-3. Reported Crashes by Month (2009-2013)



Reported Crashes (2009 - 2013)
Sherman County, Oregon

Figure
3-7

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Kittelson & Associates, Inc.
Transportation Engineering/Planning

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

As shown in Exhibit 3-3, the highest crash frequency occurred during winter months, from November through January. Winter months in Sherman County can include inclement weather conditions producing wet, icy, and/or snowy conditions. Further review of crashes in November, December, and January (140 crashes) indicate that 73% (102 crashes) occurred on roadway surfaces that were wet, icy, or snow-covered. Just over 43% (61 crashes) occurred in dark, dawn, or dusk lighting conditions. Just over 73% of the crashes between November and January (103 crashes) were reported as fixed-object or non-collision crashes.

Over the study period, approximately 65% of crashes (217 crashes) were reported as fixed object or non-collision crashes. The most commonly reported crash cause (40% of crashes) was drivers traveling at speeds too fast for conditions. Over 40% (135 crashes) occurred on roadway surfaces that were wet, icy, or snow-covered. Approximately 36% (121 crashes) occurred in dark, dawn, or dusk lighting conditions.

Just over 22% of the crashes (75 crashes) occurred on I-84 in the County. Of the 259 crashes that occurred on non-interstate facilities, 173 crashes (52%) occurred on other rural principal arterials, 12 crashes (4%) occurred on rural minor arterials, 40 crashes (12%) occurred on rural major collectors, 12 crashes (4%) occurred on rural minor collectors, and 22 crashes (7%) 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 3-14. 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 3-14. The ODOT APM indicates that intersections that exceed the 90th percentile should be further analyzed. Two of the study intersections in Sherman County exceeded the 90th percentile crash rates:

- Van Gilder Road / OR 206: This intersection is a 3-leg, two-way stop-controlled intersection with no turn lanes present. It is located just east of the City of Wasco. One crash occurred during the five-year study period, and no injuries were reported with the crash. According to crash reports, it was a turning movement crash that involved a piece of farm equipment as one of the vehicles. The high crash rate at this intersection was due to the low traffic volumes rather than a crash pattern.
- Biggs – Rufus Highway / US 97: This intersection is a 4-leg, two-way stop-controlled intersection with left-turn lanes present on three legs. The intersection is adjacent to a Pilot

Center gas station and truck rest area. There were 23 crashes at this intersection, resulting in a crash rate of 2.275 crashes per million entering vehicles (MEV), which is substantially higher than the 90th percentile crash rate of 1.08 crashes per MEV. The majority of these crashes, as shown in Table 3-14, were turning movement or angle crashes. Nineteen of the 23 crashes occurred during daylight conditions. At least 11 of the 23 crashes involved large trucks. Among these crashes, the most commonly reported crash level cause was “did not yield right-of-way,” which accounted for 19 of the crashes. This intersection will be further evaluated for safety treatments during the TSP Update process.

Table 3-14. Reported Crashes at Study Intersections

ID	Intersection Name	TEV[1]	# Reported Crashes (2009-2013)	Crash Rate per MEV[3]	Statewide 90th Percentile Crash Rates	Crash Type					Crash Severity				
						Angle	Rear-End	Turning	Fixed-Object	Other	PDO[2]	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal
1	Van Gilder Rd/ OR 206	56	1	**0.98**	0.46	0	0	1	0	0	1	0	0	0	0
2	Klondike / OR 206	29	0	0.00	0.46	0	0	0	0	0	0	0	0	0	0
3	Biggs-Rufus Highway / US 97	554	23	**2.28**	1.08	8	1	14	0	0	16	5	2	0	0
4	I-84 WB / US 97	530	7	0.72	1.08	0	5	1	1	0	3	1	2	1	0
5	I-84 EB / US 97	554	8	0.79	1.08	0	3	3	1	1	5	3	0	0	0
6	OR 206 / US 97 NB	46	0	0.00	1.08	0	0	0	0	0	0	0	0	0	0
7	OR 206 / US 97 SB	37	0	0.00	1.08	0	0	0	0	0	0	0	0	0	0
8	Clark St / OR 206 / Old Wasco-Heppner Highway	154	1	0.36	0.41	1	0	0	0	0	1	0	0	0	0
9	Clark St / OR 206	128	0	0.00	0.29	0	0	0	0	0	0	0	0	0	0
10	I-84 WB / John Day Dam Rd	91	0	0.00	0.41	0	0	0	0	0	0	0	0	0	0
11	I-84 EB / John Day Dam Rd	103	0	0.00	0.41	0	0	0	0	0	0	0	0	0	0
12	Krusow St / OR 216 / Mill St / US 97	194	0	0.00	0.29	0	0	0	0	0	0	0	0	0	0
13	Lonerock Road / US 97	277	2	0.40	0.41	2	0	0	0	0	2	0	0	0	0
14	4th St / US 97	280	0	0.00	0.41	0	0	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 3-15. 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 and urban collectors are provided in Table 3-15 for comparison to calculated crash rates for highways in Sherman County. Four crashes were reported on the Herin Lane segment during the five-year study period, and one crash was reported at the intersection of Main Street/1st Street in Rufus, where the Main Street segment began. The crash rate for the Main Street segment was below state average for urban collectors, but the crash rate for the Herin Lane segment was above state average.

Further review of the four crashes on Herin Lane showed that two of the crashes were fixed object crashes and two were reported as non-collision crashes. Two crashes occurred during dark light conditions on icy roadways, and two occurred during the daylight in clear weather. Three of the crashes were property-damage only crashes, and one resulted in a non-incapacitating injury.

Table 3-15. Reported Crashes at Study Roadway Segments

Segment Name	Segment Boundaries	Segment Length (miles)	Number of Crashes	ADT	Crash Rate (2009 – 2013 average)	State Average
Herin Lane	Scott Canyon Road to Oehman Road	3.65	4	90	**6.672**	1.300
Main Street in Rufus	1st Street to East City Limits	0.6	1	558	1.637	1.882

Findings from the crash analysis indicate the following:

- The intersection of US 97 / Biggs-Rufus Highway had the highest number of crashes during the study period, and its resulting crash rate was higher than the state average. Many of the crashes involved trucks, and the majority of crashes were turning movement or angle crashes.
- The intersection of Van Gilder / OR 206 had a crash rate higher than the state average, but there was only one crash at the intersection which did not result in an injury. The high crash rate at this location is likely due to low traffic volumes.
- The Herin Lane segment from Scott Canyon Road to Oehman Road had four crashes during the five-year study period, resulting in an average crash rate above the statewide average. All four crashes were fixed object or non-collision crashes, and two occurred during dark and icy conditions. One crash resulted in an injury.

- Approximately 65% of crashes in the County were fixed object or non-collision crashes.
- Approximately 42% of crashes in the County occurred between November and January, and many of these occurred on roadways that were wet, icy, or snow covered.
- The most commonly reported contributing cause was vehicles traveling at speeds that were too fast for conditions.
- A high number of fatal (8) and injury A (13) crashes occurred in the County. Of these, 15 were fixed object or non-collision crashes.

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 Sherman County were identified in the top ten percent of the 2014, 2013, and 2012 SPIS lists (which use crash data from 2011 to 2013, 2010 to 2012, and 2009 to 2011, respectively).

Observed Safety Issues

The issues described above document safety needs based on crash data. Observations of conditions from the Project Advisory Committee may highlight safety concerns or issues that may not have a documented crash history but may have roadway designs that are associated with a perceived safety issue. These issues will also be reviewed as part of the TSP process and are summarized below.

- The Project Management Team noted that crashes frequently occur on US 97 between Grass Valley and Kent, especially during inclement weather.
- The Project Advisory Committee indicated that there is concern about the high traffic speeds and high truck volumes traveling through towns in Sherman County.
- The Project Advisory Committee also indicated that there is concern about the lack of turn lanes and deceleration lanes at key intersections on US 97 throughout the County.
- The Project Advisory Committee expressed concern at the lack of passing lanes on US 97 throughout Sherman County. Observations indicate that this may result in drivers attempting passing movements in locations without adequate sight distance to do so.

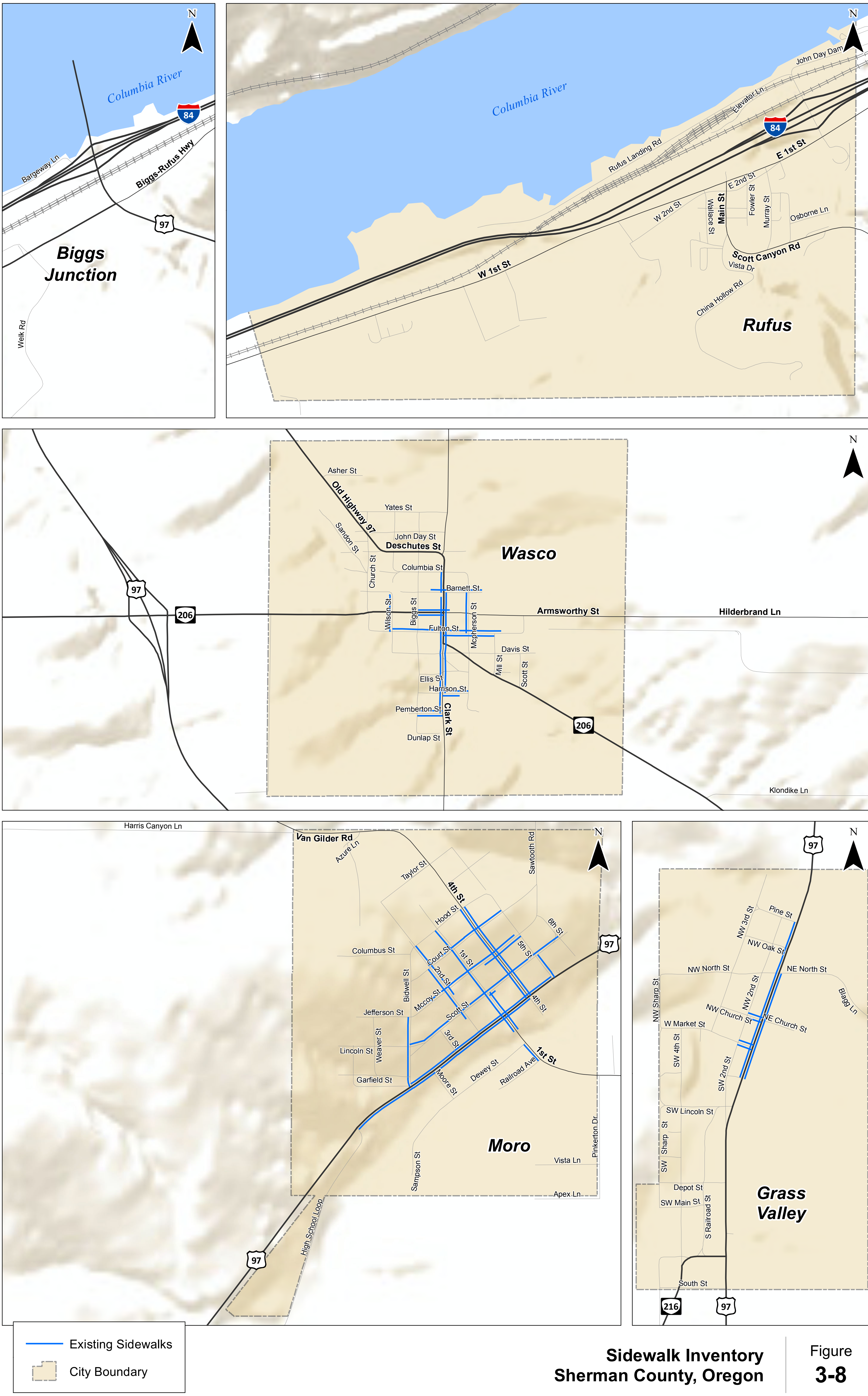
PEDESTRIAN SYSTEM

The pedestrian system in the Cities within Sherman County is summarized in Figure 3-8. The inventory was completed based on maps from the current TSP, a list of projects provided by the County that summarizes new sidewalks or treatments completed since the last TSP update, and a review of Google Earth imagery. No sidewalks are located within the City of Rufus.

The pedestrian facilities inventory map shows the location of existing sidewalks within the Cities of Wasco, Moro, and Grass Valley. With the exception of new sidewalks in Moro and Grass Valley along US 97, the sidewalks in the County are generally in poor condition or of narrow width. In Wasco, sidewalks are primarily located along Clark Street, Fulton Street, and OR 206 west of Clark Street. In Moro, sidewalks extend along the majority of US 97 and many of the connecting streets. In Grass Valley, sidewalks are located along the northern section of US 97 through the City, but they do not extend far off of the highway.

Both County schools, the Sherman Elementary School in Grass Valley and the Sherman High School in Moro, are not connected with sidewalks to the rest of the pedestrian system. In Grass Valley, a short gap of approximately 0.05 mile in length exists between the school and the sidewalks along US 97. The Sherman High School is located approximately 0.6 miles south of the Moro City Limits. There are no sidewalks connecting the school with the rest of the City.

Many recreational walkers use the track at the Sherman High School in Moro to exercise. Others use the local roads leading out of the cities to for recreational walks. Commuters who walk to work are generally located in the towns and use the sidewalks or the streets to commute to work.



Sidewalk Inventory
Sherman County, Oregon

Figure
3-8

K:\H_Portland\projfile\18054 - Sherman County TSP\gis\memo 3\3-8 Sidewalk Inventory Cities.mxd - agriffin - 10:54 AM 3/5/2015

BICYCLE SYSTEM

The only existing bicycle facilities in Sherman County are located in Moro. Within the City limits of Moro, striped bicycle lanes are located along both sides of US 97. Exhibit 3-4 illustrates the bike lanes along US 97 in Moro. The local, lower speed and lower volume residential streets within cities are typically not marked for bicyclists as the bicyclists can share the roadway with the slower vehicles.

Exhibit 3-4. Image illustrating the bicyclist and pedestrian facilities along US 97 in Moro

Recreational bicyclists commonly ride along US 97 and the local County roads. Occasionally larger groups of bicyclists pass through the County. Sherman County developed a marketing brochure of activities the County offers, and the brochure included a map with cyclist routes. The number of residents that commute via bicycle is small due to the rural nature of the County, the distances between towns, and the lack of bicycle lanes on state and local roads. Many cyclists do not feel comfortable riding on US 97 and will take alternate routes along County roads, sometimes out of direction, to avoid the highway.

PUBLIC TRANSPORTATION SYSTEM

Sherman County Community Transit provides a dial-a-ride transit service to residents for a fare of $5 per rider. This service is available on Monday and Thursday each week. Residents must request a pick-up 24-hours in advance and can be picked up anywhere in the County or Cities. The bus typically takes residents to The Dalles for shopping, business, and medical appointments. They also travel to Hood River and Portland for medical trips. Since July 2013, a total of 7,480 rides had been provided. Of these, 6,031 rides were for Seniors, and a total of 133,962 miles were traveled.

Sherman County Community Transit owns nine vehicles. ODOT is the lien holder for these vehicles. Drivers are paid for their time rather than operating on a volunteer basis. Currently, the funding that Sherman County Community Transit receives from ODOT meets their transit needs. Beginning in August 2014 and extending until August 2015, the County is being reimbursed for Veteran medical trips by the Veteran's Administration. This funding is provided by a highly rural transportation grant that was awarded in early 2015.

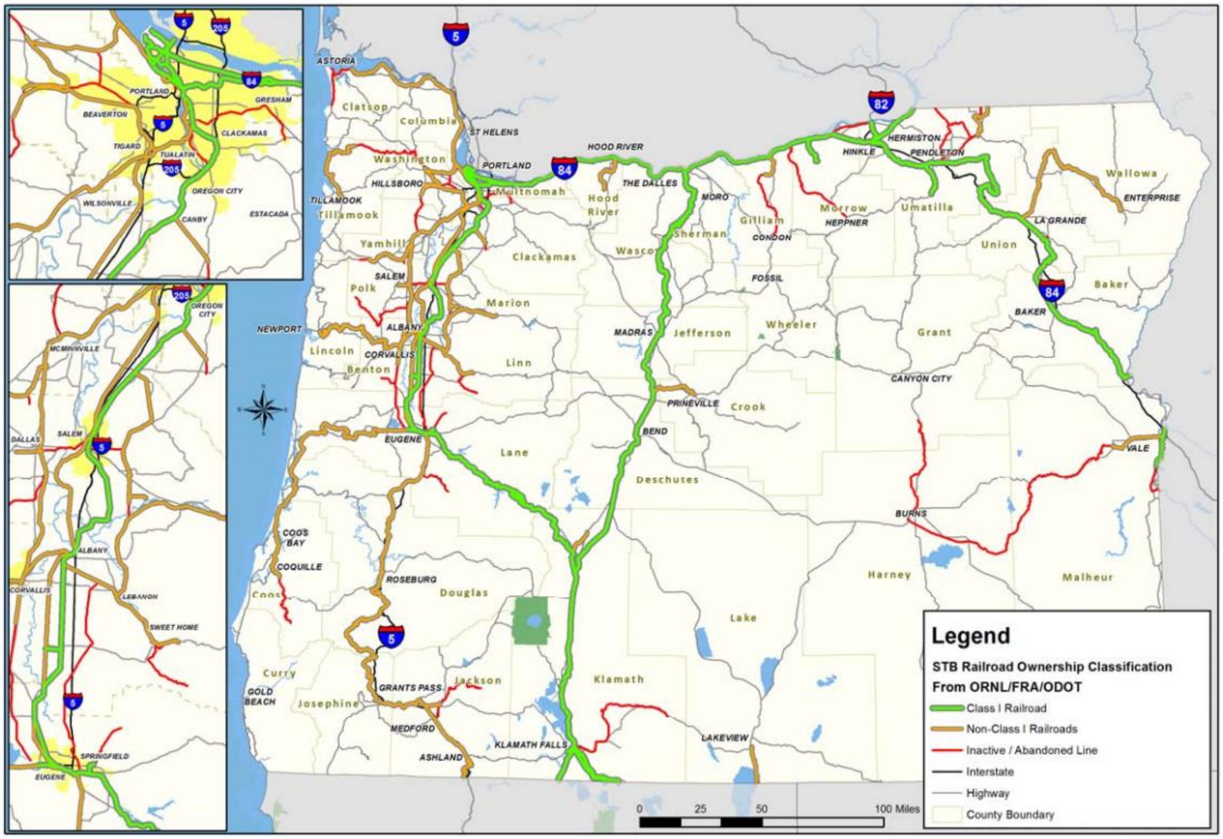
TRUCK FREIGHT ROUTES

I-84 and US 97 are the only state facilities in Sherman County designated as state truck freight routes. National and regional truck freight movements are intended to occur via I-84, which is part of the National Highway System. US 97 runs north-south through Central Oregon and serves as an important regional connection for Oregon as well as between California and Washington.

RAIL SYSTEM

The Union Pacific Main Line (UP) and the Burlington Northern/Santa Fe Bend Branch (BNSF) serve Sherman County at Biggs Junction. The UP line includes a spur serving the Mid-Columbia Grain Growers Terminal at Biggs. However no grain has been hauled from this spur for approximately 10 years. Therefore, there are no train stops in Sherman County today. There is currently no passenger rail service in the County.

As shown in Exhibit 3-5, the UP railroad that runs along the Columbia River through Sherman County is designated as a Class I Railroad.



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

Exhibit 3-5. State of Oregon Railroads

AIR TRANSPORTATION SYSTEM

The Wasco State Airport is located on the east side of Wasco in Sherman County. The airport dates back to 1946 and has been continuously operated by the State of Oregon since it acquired it in 1958. The airport accommodates general aviation and agricultural users serving the local community and the surrounding region. The Airport was relocated to the east of Wasco in approximately 1987-1988. The original runway terminated inside the City Limits. Wasco State Airport has a land area of approximately 66 acres and is zoned Airport Development (A-D) by Sherman 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). Both the City of Wasco and Sherman County have adopted the FAA Part 77 Imaginary Surfaces Plan for the Airport.

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 Sherman County, with energy and agriculture being key industries in the County. Therefore, the intermodal connections for freight are important for the County.

Biggs Junction serves as an important terminal for trucks in the County and within the State. A high number of trucks travel through the state on US 97 and pass through Biggs Junction. However, current intermodal connections between trucks, rail, and river cargo operations are limited at this location. The existing rail service does not stop within Sherman County. As traffic at Biggs Junction continues to grow, the ability for more intermodal connections in this location may be evaluated.

Passenger Transportation

ODOT completed a Park and Ride Plan for Region 4 in 2012. As part of this process, four stakeholders from Sherman County were interviewed about the demand for park and ride in the County as well as existing information lot locations and activities. The results of these surveys indicated that park and ride is a medium priority for Sherman County, as residents are unlikely to change behavior but they acknowledge that gas prices are increasing and there may be a need for more options. The primary demand is for trips to and from The Dalles. There are no existing formal park and ride lots in the County, but several locations are used as informal park and ride lots:

- Fulton Canyon and Highway 30 Junction;
- Biggs Junction;
- Wasco Triangle (across from Wasco City Hall, Junction of Highway 206 and old 97);
- Sherman County Senior Center;
- Moro City Hall; and
- Rufus Community Center.

These existing informal lots would be the priority locations for formal park and ride lots in the future.

BRIDGE CONDITIONS

ODOT maintains an inventory of bridge conditions within the County. This inventory is provided in Appendix G. This table includes State, County, and City owned facilities.

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 four bridges with sufficiency ratings below 50 within Sherman County:

- The Columbia River, Highway 42, Bridge 00849A (ODOT's jurisdiction): US 97 where it crosses the Columbia River at Biggs Junction.
- Spanish Hollow Creek, Highway 42 at MP 2.18, Bridge 08892 (ODOT's jurisdiction): Mud Hollow Road where it crosses Spanish Hollow Creek.
- Finnegan Creek, Finnegan Road, Bridge 5SC003 (County's jurisdiction): Finnegan Road where it crosses Finnegan Creek.

These four structures are all open today. No structures in Sherman County are currently posted for load.

MARINE TRANSPORTATION SYSTEM

Sherman County is located on the Columbia River, a major water transportation route. The only river cargo operations that currently exist in the County are located at Biggs Junction, where Mid-Columbia Producers export much of their grain in the region.

Rufus also has access to the river which could be developed for recreational or industrial purposes in the future if the demand exists.

PIPELINE TRANSPORTATION SYSTEM

Two natural gas pipelines run through Sherman County although they do not currently serve the County. If larger commercial or industrial development came to the County, the County may support the development of pipeline access for the County.

FUNDING INVENTORY & ANALYSIS

Roadways within Sherman 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 3-16, Sherman County has had an annual revenue of approximately $2.2 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 3-16 and vary by year. ODOT has historically been able to fund the County's transportation operations and maintenance activities for state facilities.

Table 3-17 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 system preservation projects throughout the County. The average annual expenditures over the past ten years was approximately $2.0 million per year, leaving the County with approximately $200,000 extra on average each year to invest in additional capital projects.

Table 3-16. Ten Year Sherman County Transportation Revenue Budget

	STATE REVENUE					FEDERAL REVENUE			LOCAL REVENUE					
Fiscal Year	**State Hwy Fund App**	**Special Co Allotment**	**State Hwy Fund Exchange**	**ODOT Permit Fees**	**Other State Funds-SB 994**	**BLM Mineral Leases**	**Federal Flood Control**	**ARRA Stimulus Funds**	**Property Tax**	**Special Road Bond**	**Misc Local Revenue**	**SIP Revenue**	**Interest Income**	**TOTAL REVENUE**
2004-05	137,621	472,026	87,349	6,016	-	200	-	-	609,579	236,270	49,577	-	16,741	**1,615,379**
2005-06	140,862	472,877	96,825	3,616	-	113	983	-	490,221	185,521	100,625	-	36,411	**1,528,054**
2006-07	138,123	469,544	91,336	11,065	-	211	66,861	-	547,619	-	73,178	-	50,648	**1,448,586**
2007-08	132,194	461,347	100,834	19,719	-	6,012	282	-	565,112	-	901,781	-	53,430	**2,240,711**
2008-09	120,561	151,239	124,143	17,561	761,973	1,228	29,027	-	663,775	-	107,022	241,802	37,605	**2,255,936**
2009-10	136,163	107,777	113,027	17,883	-	2,299	14,655	267,095	1,061,808	-	95,016	703,766	12,709	**2,532,198**
2010-11	163,216	110,295	117,890	7,206	-	1,859	14,628	-	927,776	-	115,389	564,451	9,651	**2,032,361**
2011-12	189,965	68,475	135,832	5,808	-	1,900	14,629	-	1,082,374	-	159,872	855,294	11,721	**2,525,870**
2012-13	196,868	101,240	134,794	6,027	-	1,371	13,165	-	1,064,854	-	225,336	2,233,527	14,317	**3,991,499**
2013-14	209,650	98,016	160,576	11,023	-	-	-	-	1,128,331	-	124,833	659,620	13,369	**2,405,417**

Table 3-17. Ten Year Sherman County Transportation Expenditures Budget

	OPERATIONS & MAINTENANCE				CAPITAL PROJECTS							
Fiscal Year	**General Maintenance**	**Safety & Traffic Mntc**	**Snow & Ice Removal**	**Extraordinary Mntc (FEMA)**	**New Facilities**	**System Preservation**	**System Enhancement**	**Admin & Engineering**	**Payments to Other Local Govts**	**Reimbursed Expenses for Work on Others' Roads**	**Debt Service**	**TOTAL EXPENDITURES**
2004-05	687,170	23,250	1,000	0	0	550,394	0	85,000	51,687	0	0	**1,398,501**
2005-06	569,623	21,780	1,000	85,195	0	452,758	0	85,000	162,304	0	0	**1,377,660**
2006-07	841,666	24,428	10,198	0	0	275,945	0	80,000	41,079	56,712	156,610	**1,486,638**
2007-08	652,576	25,650	13,879	0	0	607,882	0	80,000	43,795	67,002	156,609	**1,647,393**
2008-09	799,399	28,450	21,115	0	0	501,491	0	114,467	43,245	76,036	0	**1,584,203**
2009-10	1,307,919	32,681	9,590	0	0	1,348,541	0	154,270	51,719	68,276	0	**2,972,996**
2010-11	850,646	31,592	11,493	0	0	704,494	93,589	179,946	46,651	93,725	0	**2,012,136**
2011-12	1,037,443	9,854	13,066	0	106,560	787,041	0	8,189	57,011	112,556	0	**2,131,720**
2012-13	3,130,316	14,576	13,667	0	0	809,961	0	49,030	58,066	95,583	0	**4,171,199**
2013-14	950,223	51,786	17,691	0	0	649,114	0	63,013	62,219	80,712	0	**1,874,758**

DEVELOPMENT OF YEAR 2035 TRAFFIC FORECASTS

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 1.3 percent for all Sherman County roadways (Reference 3).The same growth rate was used on state and county roadways.

The Methodology Memo, which is included as Appendix C, provides the traffic volumes 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.

Year 2035 Forecast Traffic Volumes

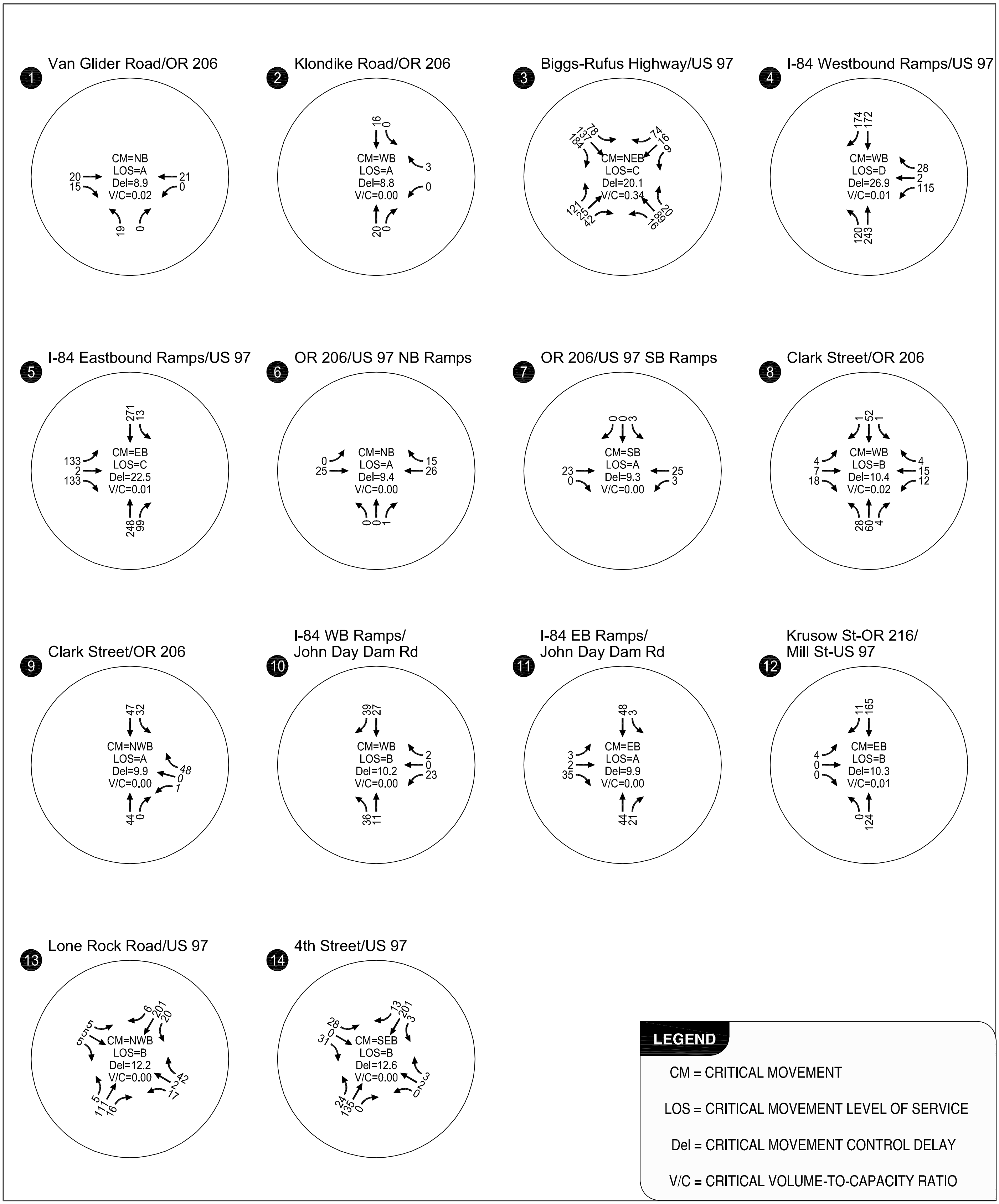
The projected 1.3 percent annual growth rate was applied to existing 2014 volumes to estimate forecast year 2035 traffic volumes.

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. No changes to the existing lane configurations and traffic control devices were incorporated in this analysis because there are no planned improvements at the intersections.

Figure 3-9 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 0.4. All intersections are expected to meet their performance standards in 2035. *Appendix H includes the operational analysis worksheets for all study intersections*.



2035 Traffic Volumes and Operations Analysis Results
Sherman County, Oregon

Figure
3-9

FUTURE NEEDS

Based on the assessment of existing and future conditions, Table 3-18 documents future transportation needs within the County and Cities.

Table 3-18. Future Transportation Needs in Sherman County

Category	Name	Description
Safety	US 97 / Biggs - Rufus Highway Intersection	High frequency of crashes, particularly turning movement/angle crashes involving trucks. Crash rate is above the statewide 90th percentile.
Safety	Herin Lane	High frequency of crashes, particularly fixed object and non-collision crashes as well as icy road conditions. Crash rate is above the statewide 90th percentile.
Safety	Fixed-object and non-collision crashes	High frequency of fixed-object and non-collision crashes.
Safety	US 97 from Grass Valley to Kent	Observations from the County indicate that there is a high frequency of crashes in this location.
Safety	Weather-related crashes	High frequency of weather-related crashes.
Safety	US 97 Passing Lanes	Observations from the County indicate that there is desire for additional passing lanes on US 97 to discourage unsafe passing movements.
Safety	US 97 Turn Lanes and Deceleration Lanes	Observations indicate that turn lanes and/or deceleration lanes may be needed at some key intersections on US 97 in Sherman County.
Safety	Traffic Speeds and Volumes on US 97	Residents have concerns about the high traffic speeds on US 97 within communities and the high truck volumes.
Active Transportation	Sidewalks to Elementary School in Grass Valley	No sidewalks exist. However, there are plans to relocate this school to Moro.
Active Transportation	Sidewalks to High School south of Moro	No sidewalks exist.
Active Transportation	Recreational Walking Routes	No recreational walking paths exist. Potential locations may include from Moro to the fairgrounds, Fulton Canyon Road, and to the high school.
Active Transportation	Sidewalks along Lonerock Road	No sidewalks exist.
Active Transportation	Bicyclist Routes	Bicyclists are uncomfortable riding on US 97.
Bridge	Columbia River, Hwy 42 (Biggs Rapids, Sam Hill)	Review bridge characteristics to determine contributing factors to low sufficiency rating and determine whether repair or upgrade is needed.
Bridge	Spanish Hollow Cr, Hwy 42 Rt @ MP2.18 (Mud Hollow)	Review bridge characteristics to determine contributing factors to low sufficiency rating and determine whether repair or upgrade is needed.

Category	Name	Description
Bridge	Finnegan Creek, Finnegan Rd Bridge	Review bridge characteristics to determine contributing factors to low sufficiency rating and determine whether repair or upgrade is needed.
Bridge	Rufus Bridges	Residents expressed concern about the condition of several bridges in Rufus, including two on Biggs-Rufus Highway.
Modernization	Roadway Design Guidelines	Roadway design guidelines for cities are not reflective of the rural character of the communities.
Roadway	Fulton Canyon Road Truck Access	Fulton Canyon Road access is restricted; trucks cannot use this road due to limited width. This is a popular alternate route to I-84 to avoid Biggs Junction.
Roadway	Scott Canyon Road Truck Access	Scott Canyon Road is difficult for trucks to traverse; trucks are discouraged from using this route. This is a popular alternate route to I-84 to avoid Biggs Junction.
Intermodal	Intermodal connections at Biggs Junction	Intermodal connections are limited at Biggs Junction – opportunities for improved connections between trucks, rail, and river cargo may be evaluated.

CONCLUSION

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

- Multiple jurisdictions own and manage the public roadway system within Sherman County, including the Oregon Department of Transportation (ODOT), Sherman County, and the cities of Moro, Rufus, Wasco, and Grass Valley.
- Sherman County is connected to the national and statewide highway network via one Interstate Highway (I-84), one Statewide Highway (US 97), one Regional Highway (OR 206), and two District Highways (OR 206 and OR 216).
- Population projections for Sherman County show a decrease in population over the next 20 years. The County would like to promote economic development.
- Existing traffic volumes do not exceed capacity, and future traffic volumes are not expected to exceed capacity at the fourteen study intersections.
- County two-lane roads are not subject to ODOT standards; however, both County roadways studied operate well below ODOT standards in terms of delay under existing conditions as well as projected future volumes.
- The intersection of Biggs-Rufus Highway / US 97 and the segment of Herin Lane both have crash rates above the 90th percentile statewide crash rate for similar facilities. Both locations will be further evaluated during the TSP update to determine if opportunities for safety treatments are available.

- General County-wide trends indicate that fixed object crashes and weather related crashes are common in Sherman County. Low-cost systemic treatments will be considered.
- Both County schools lack continuous sidewalks connecting the school with the surrounding areas. The City of Rufus does not have any existing sidewalks.
- Four bridges in the County were identified as having low sufficiency ratings. Further evaluation will determine whether the reason for these ratings is structural or functional.
- There is no fixed route transit service in the County. The County operates a dial-a-ride service, available to all residents, twice a week.
- The County's largest industries are agriculture and wind energy. There is an industrial ready piece of land in Rufus.
- Freight traffic travel occurs by truck, rail, and boat. Biggs Junction is a major hub for the trucking industry and experiences high truck volumes. Better intermodal connections between rail, freight, and marine transportation may further encourage economic development of the region.
- Historically, the County and ODOT have funded the general maintenance and upkeep of the Sherman County roadways. No additional funds are available for large capital projects.

The needs documented in this memorandum were reviewed by the Project Advisory Committee and will be used to develop project alternatives. *Appendix I provides the meeting minutes from the Project Advisory Committee meeting.*

REFERENCES

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

APPENDICES

Appendix A Current Roadway Cross-Section Guidelines for Cities

Appendix B Traffic Count Data

Appendix C Methodology Memorandum

Appendix D Roadway Segment Traffic Volume Profiles

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

Appendix F ODOT Crash Data (2009-2013)

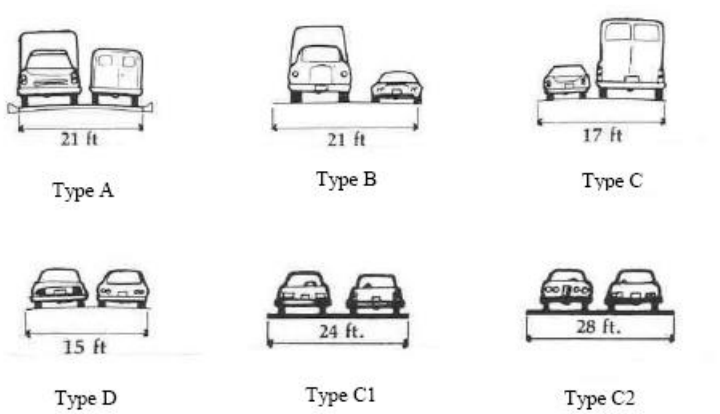
Appendix G Bridge Inventory

Appendix H 2035 Operational Analysis Worksheets & Queue Length Calculations

Appendix I Project Advisory Committee Meeting Minutes

Appendix A Current Roadway Cross-Section Guidelines for Cities

Recommended Street Standards For Rufus



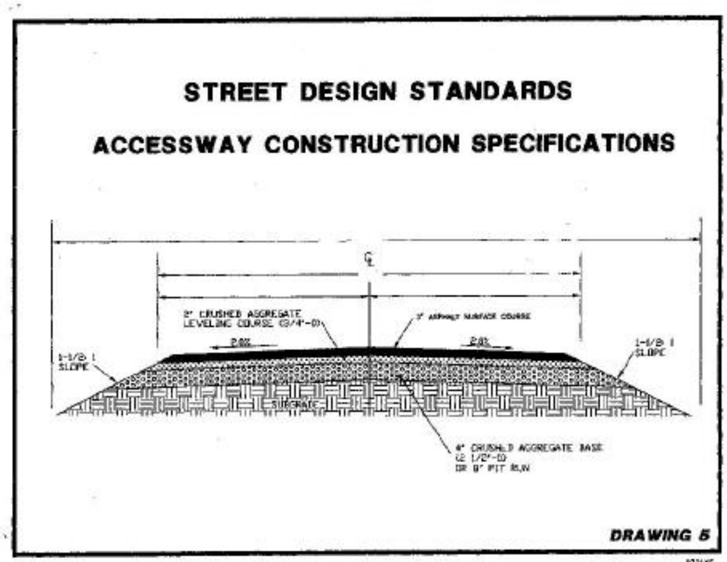


Figure 7-3

Exhibit A-1.Street Design Standards for Rufus

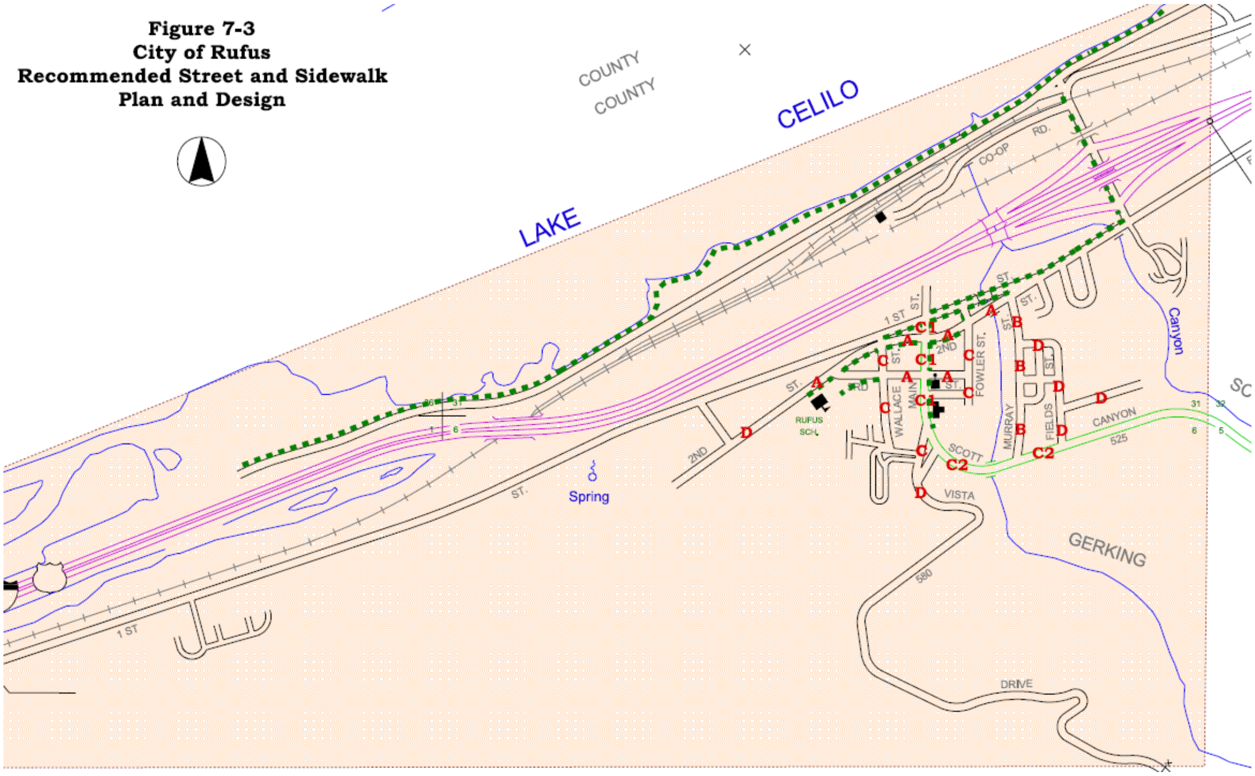
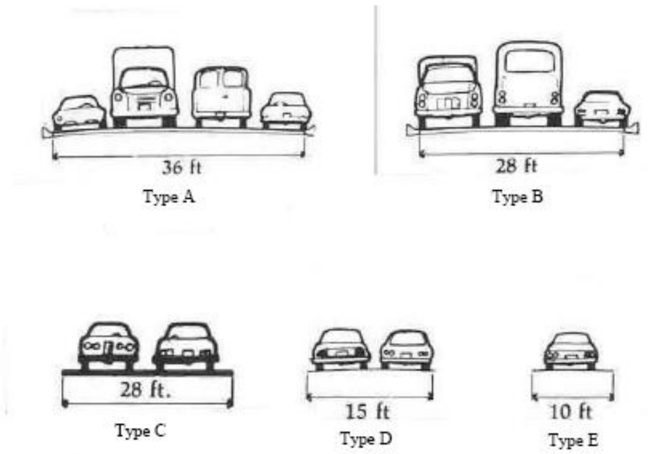


Exhibit A-2. Map of Street Design Standards for Rufus

Recommended Street Standards
For
City of Wasco



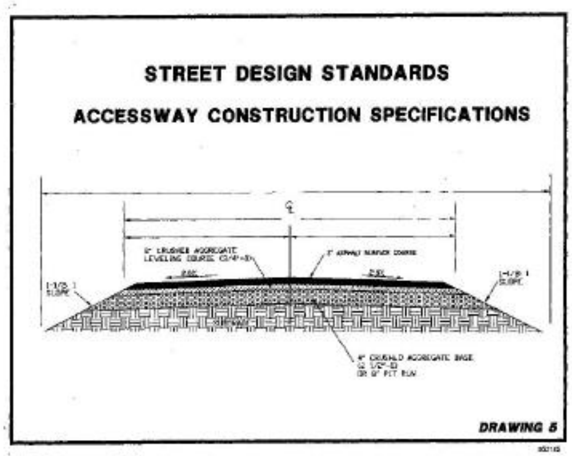


Figure 7-4

Exhibit A-3. Street Design Standards for Wasco

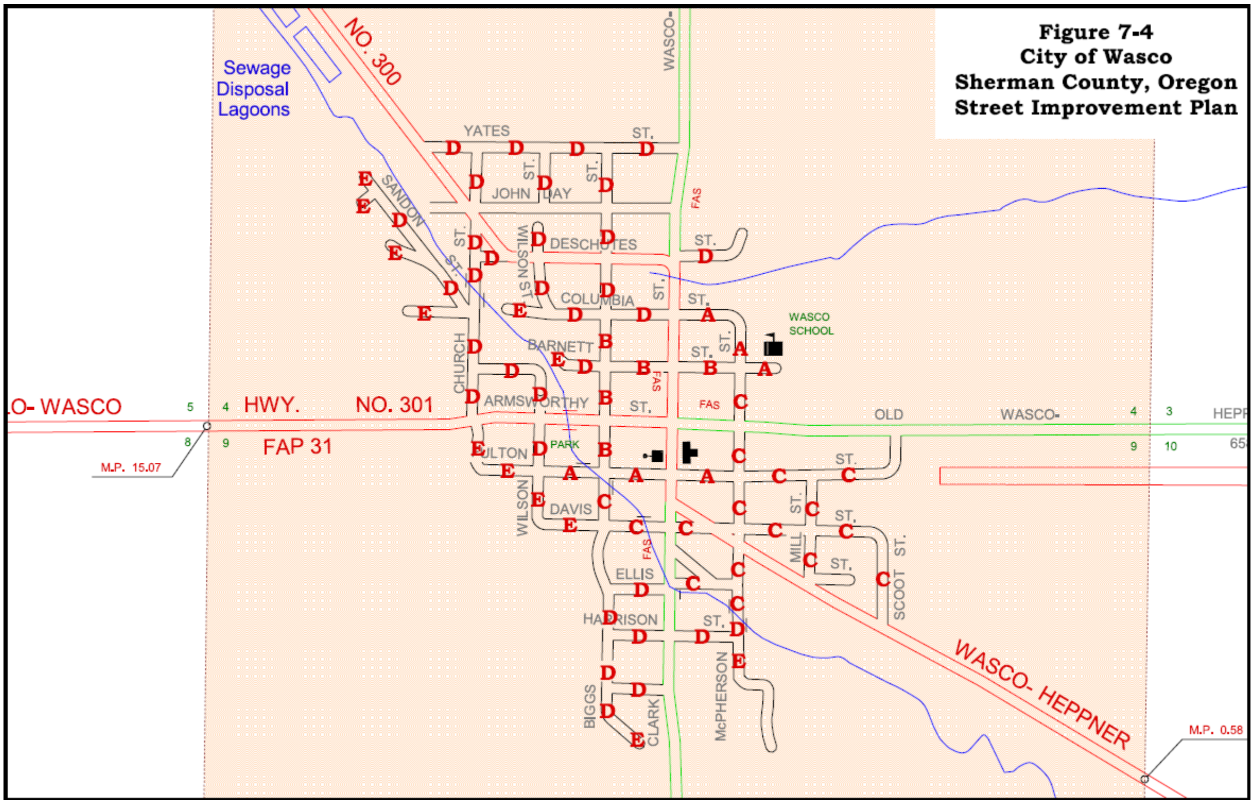
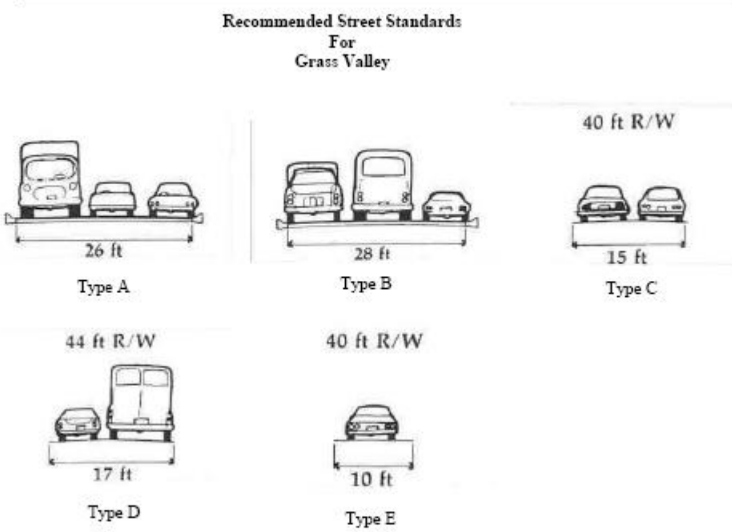


Exhibit A-4. Map of Street Design Standards for Wasco

TYPE OF STREET	RIGHT-OF-WAY WIDTH	PAVING WIDTH BETWEEN CURBS	CURB RETURN RADIUS	MAXIMUM PERCENT OF GRADE	MINIMUM RADIUS OF CURVATURE
Arterial (4)	60'	36-42'	35'	10%	400'
Collector (4)	50'	24-28	35'	10%	300'
Residential (4)	50'	20-24	25'	10%	150'
Half Street (4)	50'	18-20	25'	10%	150'
Cul-de-sac (4)	50-60' (1)	26'-36' (1)	25'	10%	150'
Alley	20'	15-20	15'	10%	150'

1. The paving radius at the turn-around of a cul-de-sac shall be 38' on a right-of-way radius of 50'.
2. Minimum grade of 0.3%. If unavoidable conditions exist, a grade of 2% steeper than that shown will be allowed.
3. One street name sign shall be provided at each intersection for each street.
4. Curbs and gutters shall be provided on both sides of the street on Arterial and Collector Streets, Curbs, Gutters, pedestrian walkways and bike lanes may be required on Residential, Half Street, and Cul-de-sac streets

Exhibit A-5. Street Design Standards for Moro (Note: Moro has updated their street design guidelines since the previous TSP was completed, resulting in a different methodology than the other three cities.)



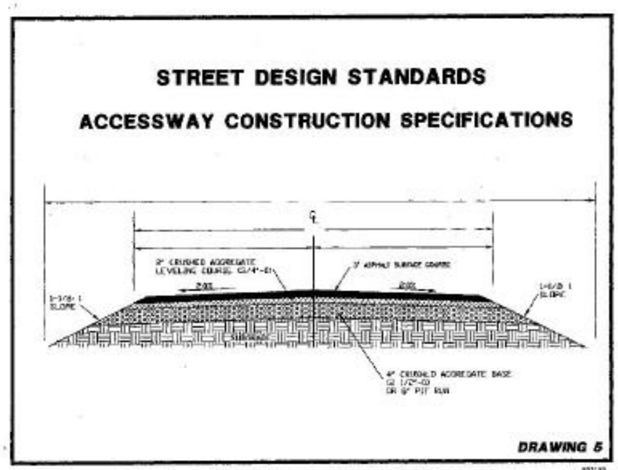


Figure 7-6

Exhibit A-6.Street Design Standards for Grass Valley

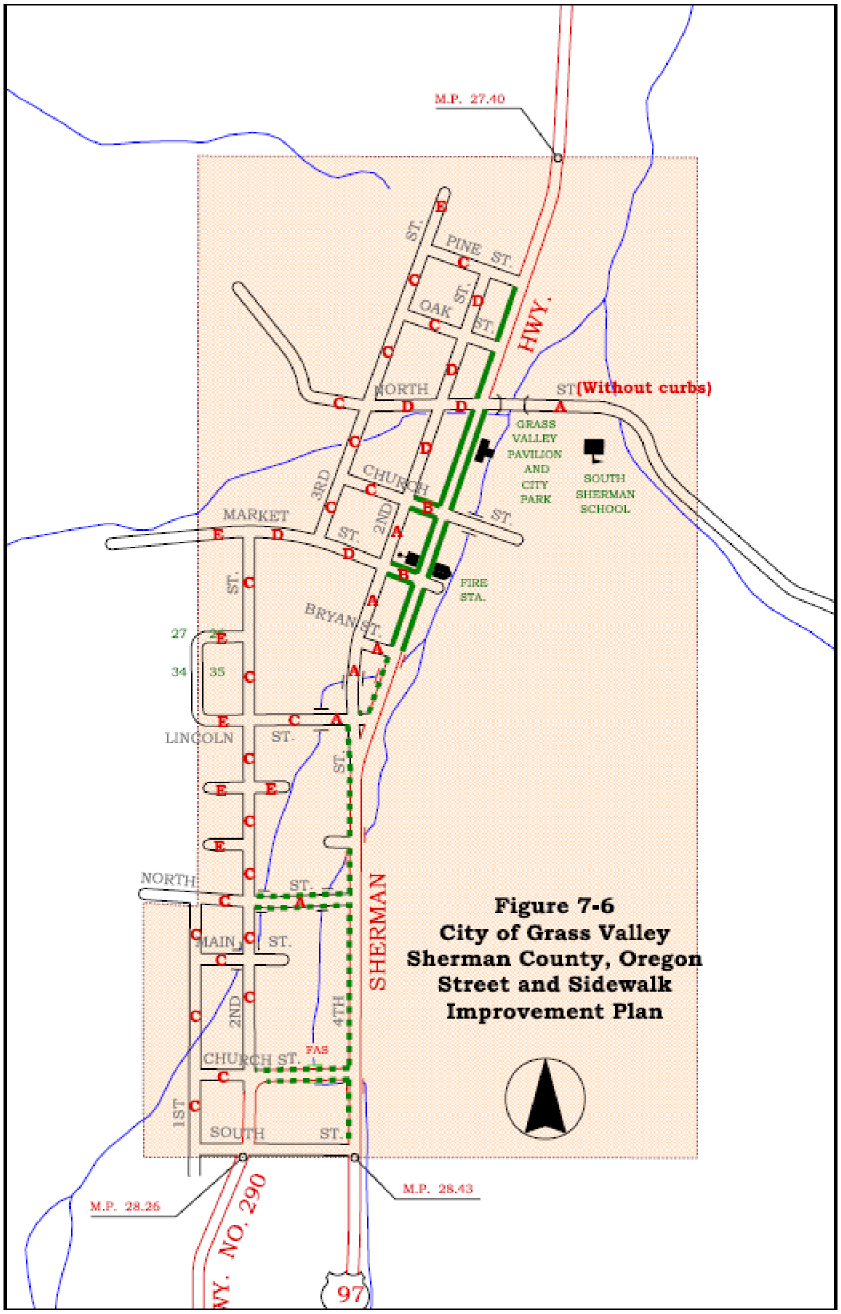


Exhibit A-7. Map of Street Design Standards for Grass Valley

Appendix B Traffic Count Data

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www.alltrafficdata.net

File Name : #1 VANGILDER&OR206
Site Code : 48044
Start Date : 10/21/2014
Page No : 1

Groups Printed- Lights - Mediums - HV

	VAN GILDER RD Southbound				OR 206 Westbound				VAN GILDER RD Northbound				OR 206 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	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	4
05:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	4	0	0	0	5
05:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	2	0	0	0	2	0	5	2	0	0	11
06:00 AM	0	0	0	0	0	2	0	0	1	0	1	0	1	1	0	0	6
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
06:30 AM	0	0	0	0	0	2	0	0	0	0	1	0	2	3	0	0	8
06:45 AM	0	0	0	0	0	3	0	0	0	0	1	0	1	2	0	0	7
Total	0	0	0	0	0	7	0	0	1	0	3	0	4	8	0	0	23
07:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	1	0	0	7
07:15 AM	0	0	0	0	0	3	0	0	1	0	5	0	2	1	0	0	12
07:30 AM	0	0	0	0	0	5	1	0	0	0	6	0	9	2	0	0	23
07:45 AM	0	0	0	0	0	5	1	0	0	0	2	0	5	0	0	0	13
Total	0	0	0	0	0	13	2	0	1	0	16	0	19	4	0	0	55
08:00 AM	0	0	0	0	0	4	0	0	0	0	3	0	1	0	0	0	8
08:15 AM	0	0	0	0	0	4	1	0	5	0	8	0	2	1	0	0	21
08:30 AM	0	0	0	0	0	4	2	0	1	0	4	0	0	1	0	0	12
08:45 AM	0	0	0	0	0	4	1	0	0	0	1	0	2	0	0	0	8
Total	0	0	0	0	0	16	4	0	6	0	16	0	5	2	0	0	49
09:00 AM	0	0	0	0	0	6	1	0	0	0	6	0	0	0	0	0	13
09:15 AM	0	0	0	0	0	2	0	0	0	0	2	0	0	3	0	0	7
09:30 AM	0	0	0	0	0	2	0	0	1	0	1	0	2	0	0	0	6
09:45 AM	0	0	0	0	0	1	1	0	1	0	1	0	1	4	0	0	9
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10:00 AM	0	0	0	0	0	1	0	0	2	0	2	0	3	0	0	0	8
10:15 AM	0	0	0	0	0	4	1	0	2	0	3	0	1	3	0	0	14
10:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	2	3	0	0	8
10:45 AM	0	0	0	0	0	2	0	0	0	0	2	0	3	1	0	0	8
Total	0	0	0	0	0	7	1	0	4	0	10	0	9	7	0	0	38
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11:30 AM	0	0	0	0	0	1	0	0	3	0	3	0	4	1	0	0	12
11:45 AM	0	0	0	0	0	1	0	0	0	0	2	0	0	1	0	0	4
Total	0	0	0	0	0	5	0	0	3	0	9	0	7	6	0	0	30
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12:30 PM	0	0	0	0	0	8	0	0	0	0	0	0	2	3	0	0	13
12:45 PM	0	0	0	0	0	3	0	0	0	0	4	0	2	3	0	0	12
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01:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	4	1	0	0	6

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02:15 PM	0	0	0	0	0	5	1	0	0	0	1	0	1	3	0	0	11
02:30 PM	0	0	0	0	0	3	0	0	0	0	1	0	0	2	0	0	6
02:45 PM	0	0	0	0	0	7	0	0	1	0	4	0	1	5	0	0	18
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04:30 PM	0	0	0	0	0	2	0	0	0	0	2	0	1	8	0	0	13
04:45 PM	0	0	0	0	0	3	0	0	0	0	6	0	4	6	0	0	19
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05:15 PM	0	0	0	0	0	3	0	0	0	0	3	0	3	1	0	0	10
05:30 PM	0	0	0	0	0	0	0	0	2	0	2	0	4	4	0	0	12
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06:15 PM	0	0	0	0	0	3	0	0	0	0	1	0	0	2	0	0	6
06:30 PM	0	0	0	0	0	1	1	0	0	0	1	0	3	5	0	0	11
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07:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	3	2	0	0	6
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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08:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	2	0	0	6
08:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	4
08:45 PM	0	0	0	0	0	2	0	0	0	0	3	0	1	0	0	0	6
Total	0	0	0	0	0	4	0	0	0	0	10	0	3	3	0	0	20
Grand Total	0	0	0	0	0	140	17	0	25	0	142	0	141	132	0	0	597
Apprch %	0	0	0	0	0	89.2	10.8	0	15	0	85	0	51.6	48.4	0	0	
Total %	0	0	0	0	0	23.5	2.8	0	4.2	0	23.8	0	23.6	22.1	0	0	
Lights	0	0	0	0	0	137	16	0	25	0	135	0	134	124	0	0	571
% Lights	0	0	0	0	0	97.9	94.1	0	100	0	95.1	0	95	93.9	0	0	95.6
Mediums	0	0	0	0	0	3	1	0	0	0	7	0	7	8	0	0	26
% Mediums	0	0	0	0	0	2.1	5.9	0	0	0	4.9	0	5	6.1	0	0	4.4
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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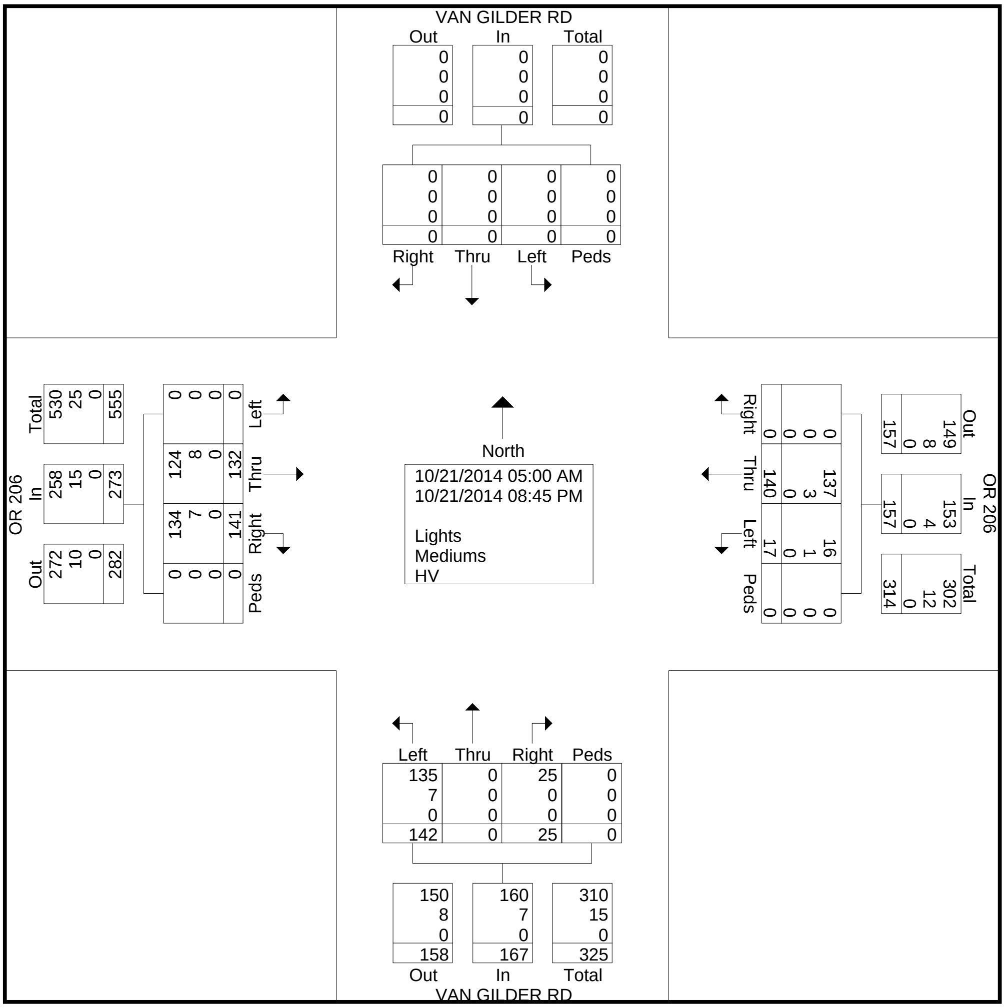

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Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	**5**	**1**	0	**6**	0	0	6	0	6	**9**	**2**	0	0	**11**	**23**
07:45 AM	0	0	0	0	0	0	5	1	0	6	0	0	2	0	2	5	0	0	0	5	13
08:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	3	0	3	1	0	0	0	1	8
08:15 AM	0	0	0	0	0	0	4	1	0	5	**5**	0	**8**	0	**13**	2	1	0	0	3	21
Total Volume	0	0	0	0	0	0	18	3	0	21	5	0	19	0	24	17	3	0	0	20	65
% App. Total	0	0	0	0		0	85.7	14.3	0		20.8	0	79.2	0		85	15	0	0		
PHF	.000	.000	.000	.000	.000	.000	.900	.750	.000	.875	.250	.000	.594	.000	.462	.472	.375	.000	.000	.455	.707

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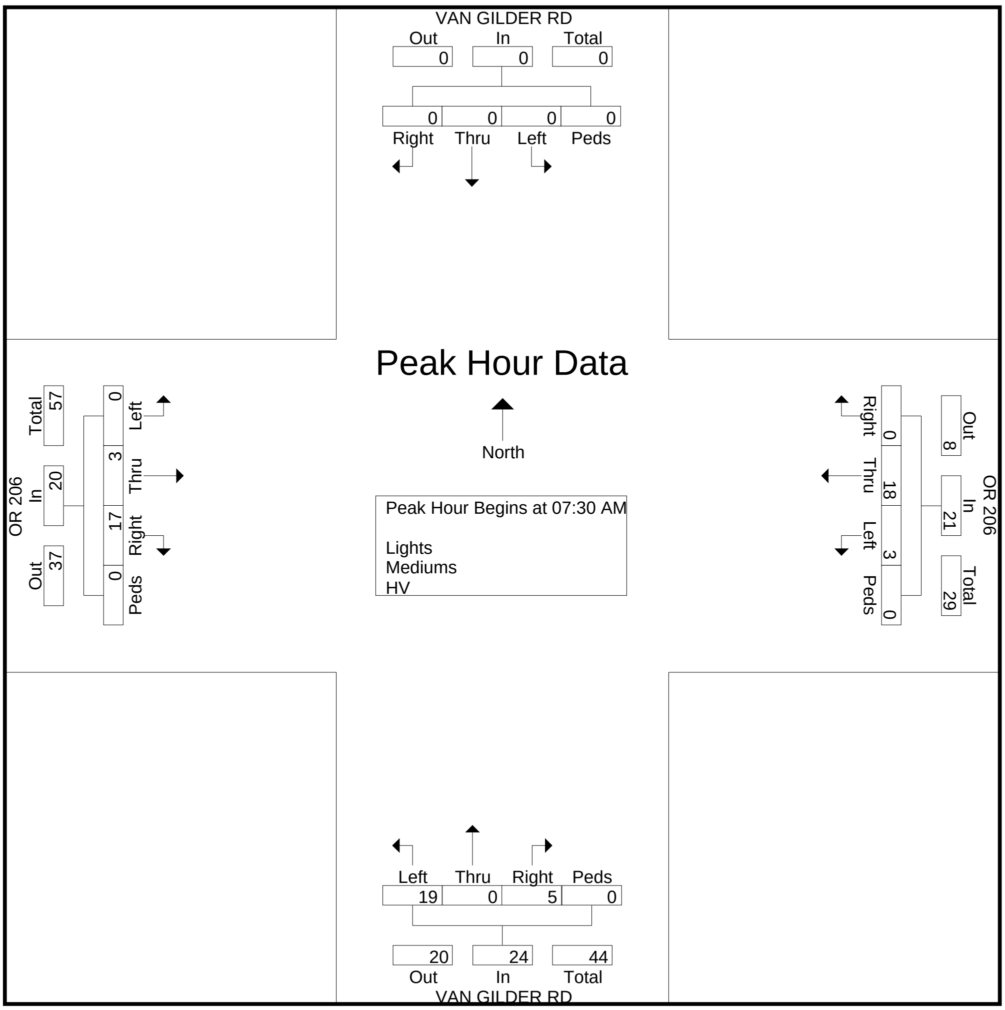

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:00 PM

12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	0	0	4	6
12:15 PM	0	0	0	0	0	0	1	**2**	0	3	0	0	3	0	3	**3**	**3**	0	0	**6**	12
12:30 PM	0	0	0	0	0	0	**8**	0	0	**8**	0	0	0	0	0	2	3	0	0	5	**13**
12:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	**4**	0	**4**	2	3	0	0	5	12
Total Volume	0	0	0	0	0	0	12	2	0	14	0	0	9	0	9	9	11	0	0	20	43
% App. Total	0	0	0	0		0	85.7	14.3	0		0	0	100	0		45	55	0	0		
PHF	.000	.000	.000	.000	.000	.000	.375	.250	.000	.438	.000	.000	.563	.000	.563	.750	.917	.000	.000	.833	.827

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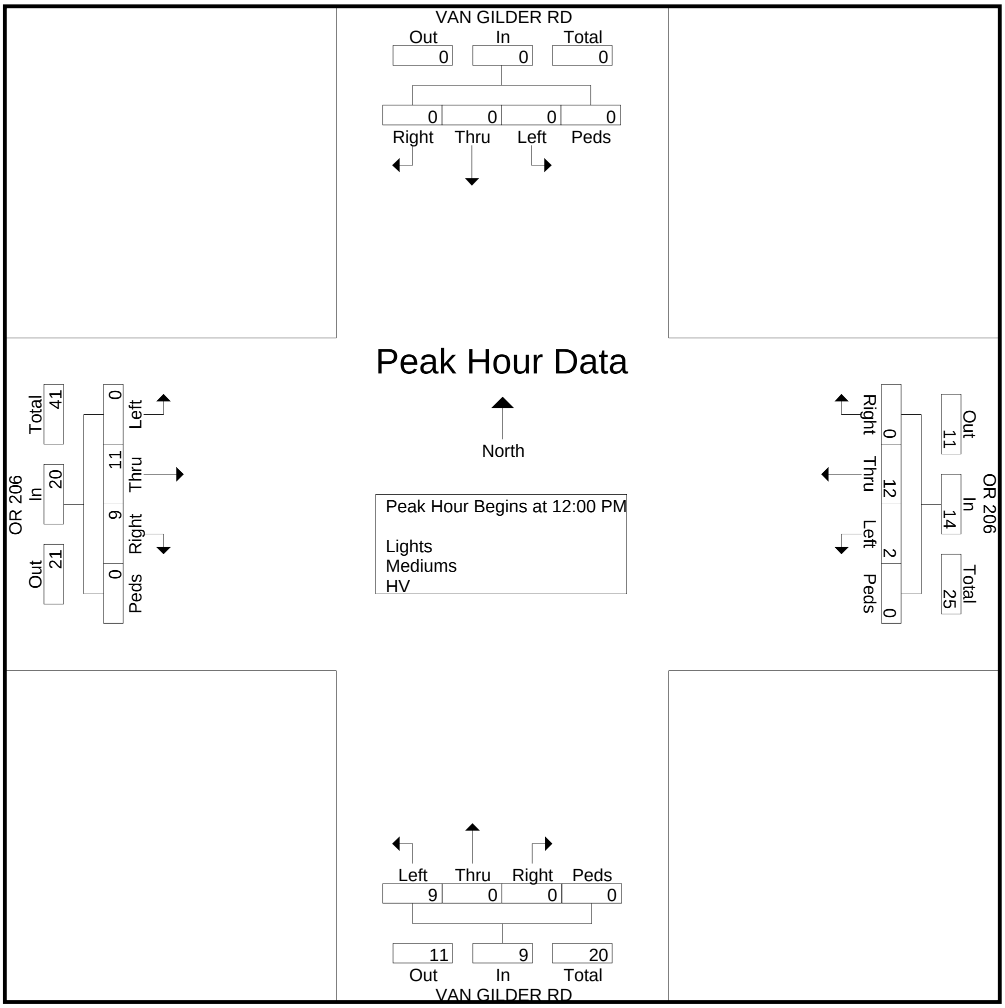

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:45 PM

02:45 PM	0	0	0	0	0	0	**7**	0	0	**7**	**1**	0	4	0	5	1	**5**	0	0	6	**18**
03:00 PM	0	0	0	0	0	0	1	0	0	1	1	0	**5**	0	**6**	5	3	0	0	8	15
03:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	2	0	2	**6**	3	0	0	**9**	15
03:30 PM	0	0	0	0	0	0	3	0	0	3	1	0	3	0	4	5	2	0	0	7	14
Total Volume	0	0	0	0	0	0	15	0	0	15	3	0	14	0	17	17	13	0	0	30	62
% App. Total	0	0	0	0		0	100	0	0		17.6	0	82.4	0		56.7	43.3	0	0		
PHF	.000	.000	.000	.000	.000	.000	.536	.000	.000	.536	.750	.000	.700	.000	.708	.708	.650	.000	.000	.833	.861

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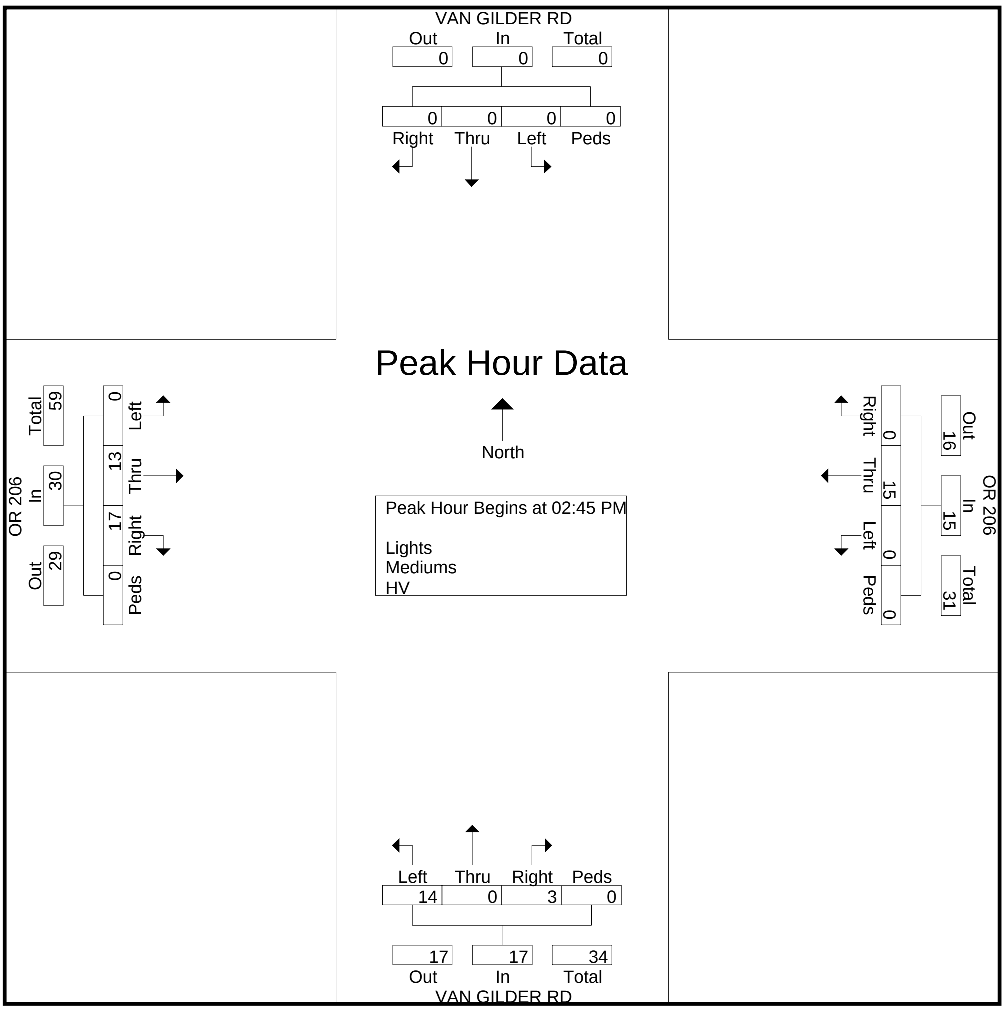

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File Name : #2 OR206&KLONDIKE
Site Code : 48050
Start Date : 10/21/2014
Page No : 1

Groups Printed- Lights - Mediums - HV

	OR 206 Southbound				KLONDIKE RD Westbound				OR 206 Northbound				KLONDIKE RD 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	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	4
Total	0	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	6
06:00 AM	0	5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	6
06:15 AM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
06:30 AM	0	8	1	0	0	0	0	0	0	2	0	0	0	0	0	0	11
06:45 AM	0	4	0	0	1	0	0	0	0	3	0	0	0	0	0	0	8
Total	0	19	1	0	1	0	0	0	0	7	0	0	0	0	0	0	28
07:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:15 AM	0	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	6
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:45 AM	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4
Total	0	8	0	0	0	0	0	0	0	6	0	0	0	0	0	0	14
08:00 AM	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	0	7
08:15 AM	0	2	1	0	1	0	0	0	0	4	0	0	0	0	0	0	8
08:30 AM	0	3	0	0	0	0	0	0	0	6	0	0	0	0	0	0	9
08:45 AM	0	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	8
Total	0	11	1	0	1	0	0	0	0	19	0	0	0	0	0	0	32
09:00 AM	0	6	1	0	0	0	0	0	0	3	0	0	0	0	0	0	10
09:15 AM	0	1	0	0	1	0	0	0	0	4	0	0	0	0	0	0	6
09:30 AM	0	4	0	0	0	0	0	0	0	6	0	0	0	0	0	0	10
09:45 AM	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	0	7
Total	0	13	1	0	1	0	0	0	0	18	0	0	0	0	0	0	33
10:00 AM	0	4	0	0	2	0	0	0	0	4	0	0	0	0	0	0	10
10:15 AM	0	7	0	0	0	0	0	0	0	2	0	0	0	0	0	0	9
10:30 AM	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	6
10:45 AM	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	4
Total	0	15	0	0	2	0	0	0	0	12	0	0	0	0	0	0	29
11:00 AM	0	3	1	0	1	0	0	0	0	2	0	0	0	0	0	0	7
11:15 AM	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	5
11:30 AM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
11:45 AM	0	2	0	0	2	0	0	0	0	3	0	0	0	0	0	0	7
Total	0	9	1	0	3	0	0	0	0	9	0	0	0	0	0	0	22
12:00 PM	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	7
12:15 PM	0	5	0	0	1	0	0	0	0	1	0	0	0	0	0	0	7
12:30 PM	0	9	1	0	1	0	0	0	0	1	0	0	0	0	0	0	12
12:45 PM	0	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	6
Total	0	20	3	0	2	0	0	0	0	7	0	0	0	0	0	0	32
01:00 PM	0	1	2	0	1	0	0	0	0	4	0	0	0	0	0	0	8

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Groups Printed- Lights - Mediums - HV

	OR 206 Southbound				KLONDIKE RD Westbound				OR 206 Northbound				KLONDIKE RD Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	0	6	0	0	0	0	0	0	0	5	0	0	0	0	0	0	11
01:30 PM	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	5
01:45 PM	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	6
Total	0	11	2	0	1	0	0	0	0	16	0	0	0	0	0	0	30
02:00 PM	0	6	0	0	0	0	0	0	0	5	0	0	0	0	0	0	11
02:15 PM	0	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	8
02:30 PM	0	5	0	0	1	0	0	0	0	2	0	0	0	0	0	0	8
02:45 PM	0	7	0	0	0	0	0	0	0	8	0	0	0	0	0	0	15
Total	0	22	0	0	1	0	0	0	0	19	0	0	0	0	0	0	42
03:00 PM	0	4	0	0	0	0	0	0	0	6	0	0	0	0	0	0	10
03:15 PM	0	3	0	0	0	0	0	0	0	7	0	0	0	0	0	0	10
03:30 PM	0	3	0	0	0	0	0	0	0	8	0	0	0	0	0	0	11
03:45 PM	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	5
Total	0	13	0	0	0	0	0	0	0	23	0	0	0	0	0	0	36
04:00 PM	0	5	0	0	0	0	0	0	0	9	0	0	0	0	0	0	14
04:15 PM	0	4	0	0	0	0	0	0	0	6	0	0	0	0	0	0	10
04:30 PM	0	2	0	0	0	0	0	0	0	8	0	0	0	0	0	0	10
04:45 PM	0	7	0	0	1	0	0	0	0	4	0	0	0	0	0	0	12
Total	0	18	0	0	1	0	0	0	0	27	0	0	0	0	0	0	46
05:00 PM	0	2	0	0	1	0	0	0	0	3	0	0	0	0	0	0	6
05:15 PM	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4
05:30 PM	0	2	0	0	1	0	0	0	0	8	0	0	0	0	0	0	11
05:45 PM	0	6	0	0	0	0	0	0	0	6	0	0	0	0	0	0	12
Total	0	12	0	0	2	0	0	0	0	19	0	0	0	0	0	0	33
06:00 PM	0	5	1	0	0	0	0	0	0	3	0	0	0	0	0	0	9
06:15 PM	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5
06:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45 PM	0	5	0	0	0	0	0	0	0	4	0	0	0	0	0	0	9
Total	0	16	1	0	0	0	0	0	0	8	0	0	0	0	0	0	25
07:00 PM	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
07:45 PM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
Total	0	6	0	0	0	0	0	0	0	3	0	0	0	0	0	0	9
08:00 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	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	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4
Total	0	6	0	0	0	0	0	0	0	3	0	0	0	0	0	0	9
Grand Total	0	201	10	0	15	0	0	0	0	200	0	0	0	0	0	0	426
Apprch %	0	95.3	4.7	0	100	0	0	0	0	100	0	0	0	0	0	0	
Total %	0	47.2	2.3	0	3.5	0	0	0	0	46.9	0	0	0	0	0	0	
Lights	0	178	10	0	13	0	0	0	0	180	0	0	0	0	0	0	381
% Lights	0	88.6	100	0	86.7	0	0	0	0	90	0	0	0	0	0	0	89.4
Mediums	0	23	0	0	2	0	0	0	0	20	0	0	0	0	0	0	45
% Mediums	0	11.4	0	0	13.3	0	0	0	0	10	0	0	0	0	0	0	10.6
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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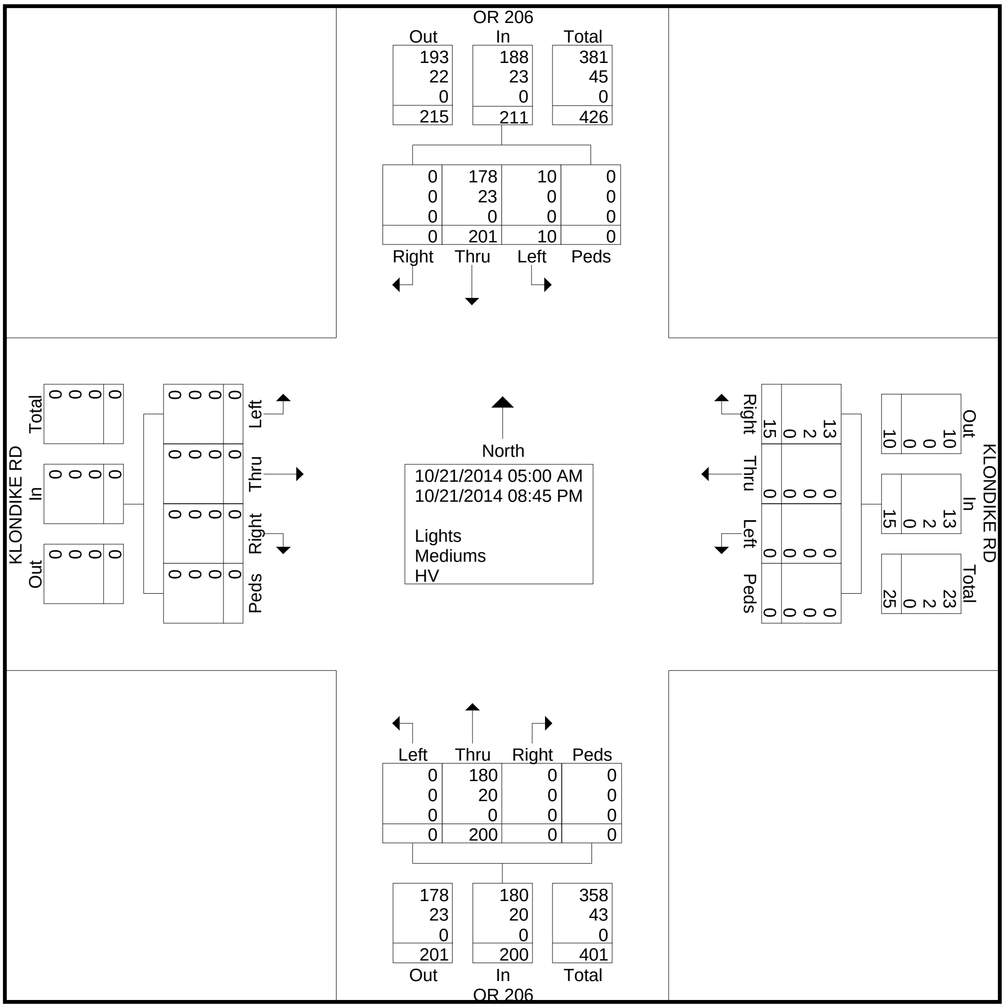

	OR 206 Southbound					KLONDIKE RD Westbound					OR 206 Northbound					KLONDIKE RD Eastbound					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**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 08:15 AM																					
08:15 AM	0	2	**1**	0	3	**1**	0	0	0	**1**	0	4	0	0	4	0	0	0	0	0	8
08:30 AM	0	3	0	0	3	0	0	0	0	0	0	**6**	0	0	**6**	0	0	0	0	0	9
08:45 AM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	8
09:00 AM	0	**6**	1	0	**7**	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	**10**
Total Volume	0	15	2	0	17	1	0	0	0	1	0	17	0	0	17	0	0	0	0	0	35
% App. Total	0	88.2	11.8	0		100	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.625	.500	.000	.607	.250	.000	.000	.000	.250	.000	.708	.000	.000	.708	.000	.000	.000	.000	.000	.875

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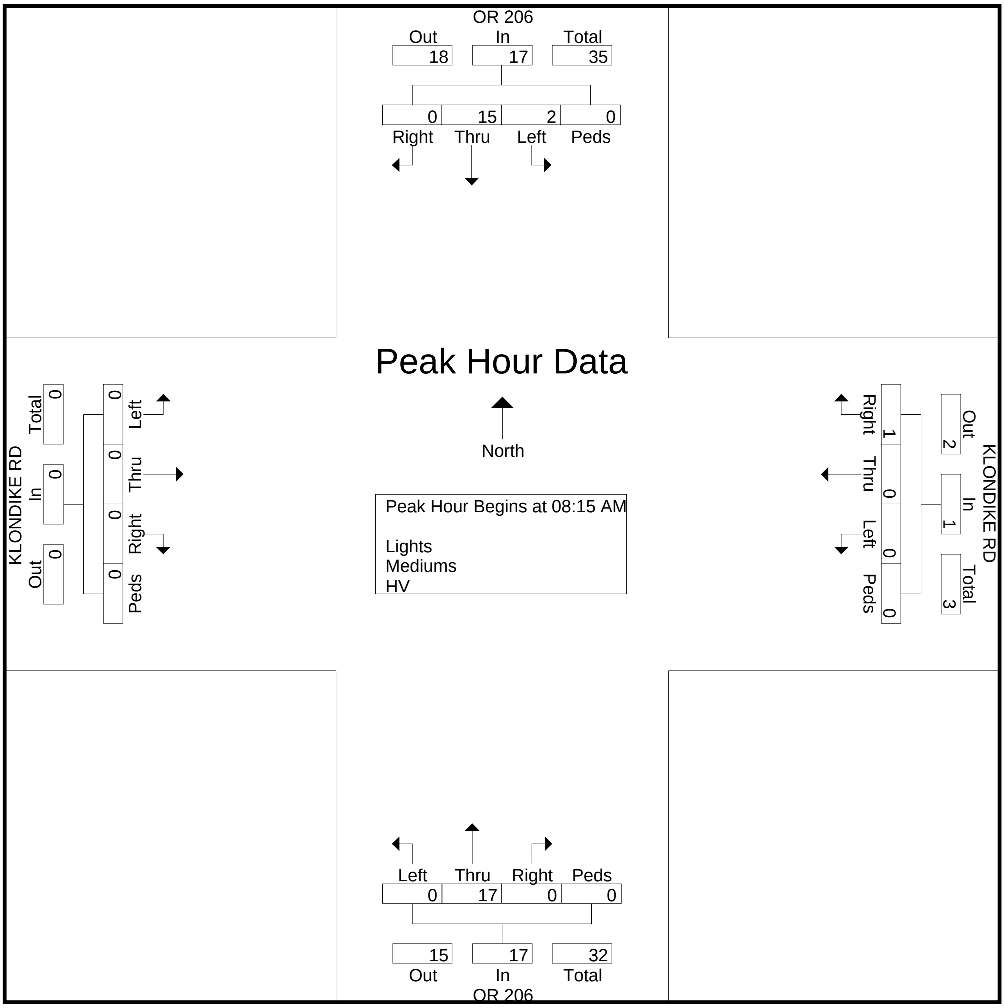

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:30 PM

12:30 PM	0	**9**	1	0	**10**	**1**	0	0	0	**1**	0	1	0	0	1	0	0	0	0	0	**12**
12:45 PM	0	1	0	0	1	0	0	0	0	0	0	**5**	0	0	**5**	0	0	0	0	0	6
01:00 PM	0	1	**2**	0	3	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	8
01:15 PM	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	11
Total Volume	0	17	3	0	20	2	0	0	0	2	0	15	0	0	15	0	0	0	0	0	37
% App. Total	0	85	15	0		100	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.472	.375	.000	.500	.500	.000	.000	.000	.500	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.771

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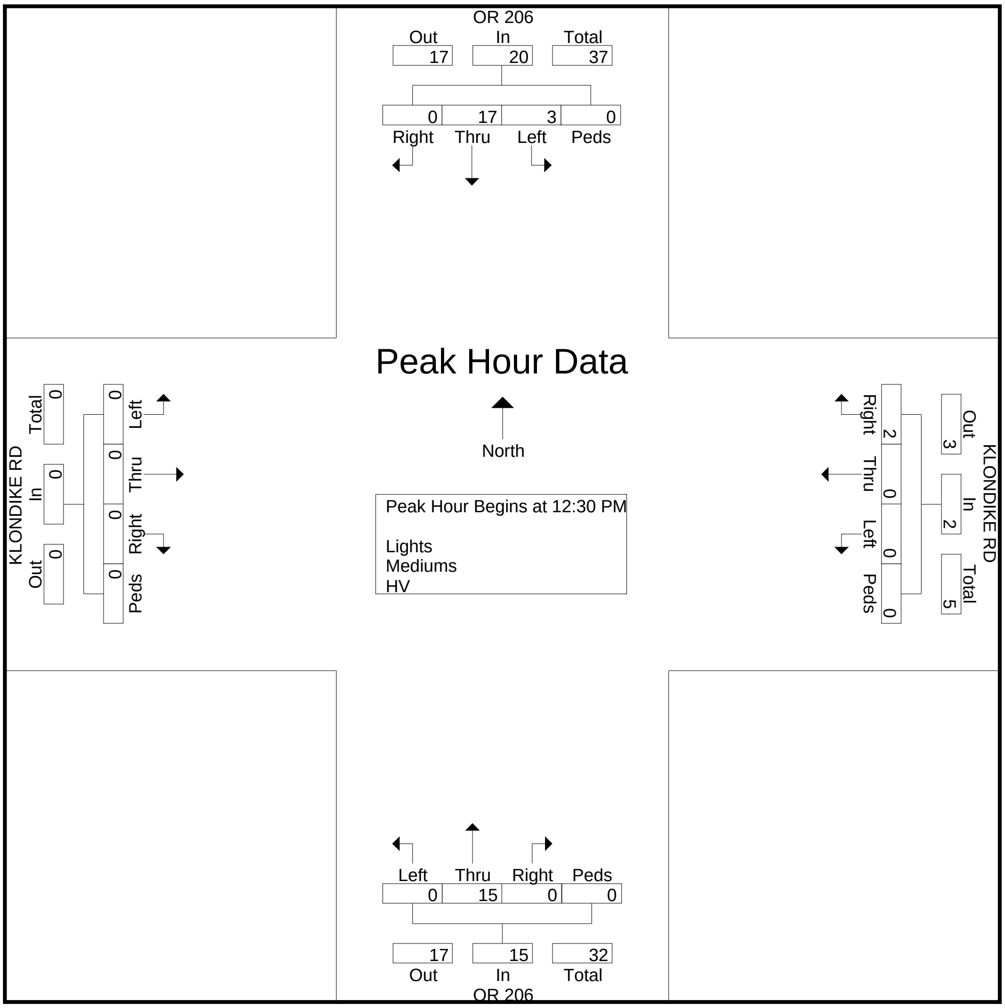

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:45 PM

02:45 PM	0	**7**	0	0	**7**	0	0	0	0	0	0	**8**	0	0	**8**	0	0	0	0	0	**15**
03:00 PM	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	10
03:15 PM	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	10
03:30 PM	0	3	0	0	3	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	11
Total Volume	0	17	0	0	17	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	46
% App. Total	0	100	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.607	.000	.000	.607	.000	.000	.000	.000	.000	.000	.906	.000	.000	.906	.000	.000	.000	.000	.000	.767

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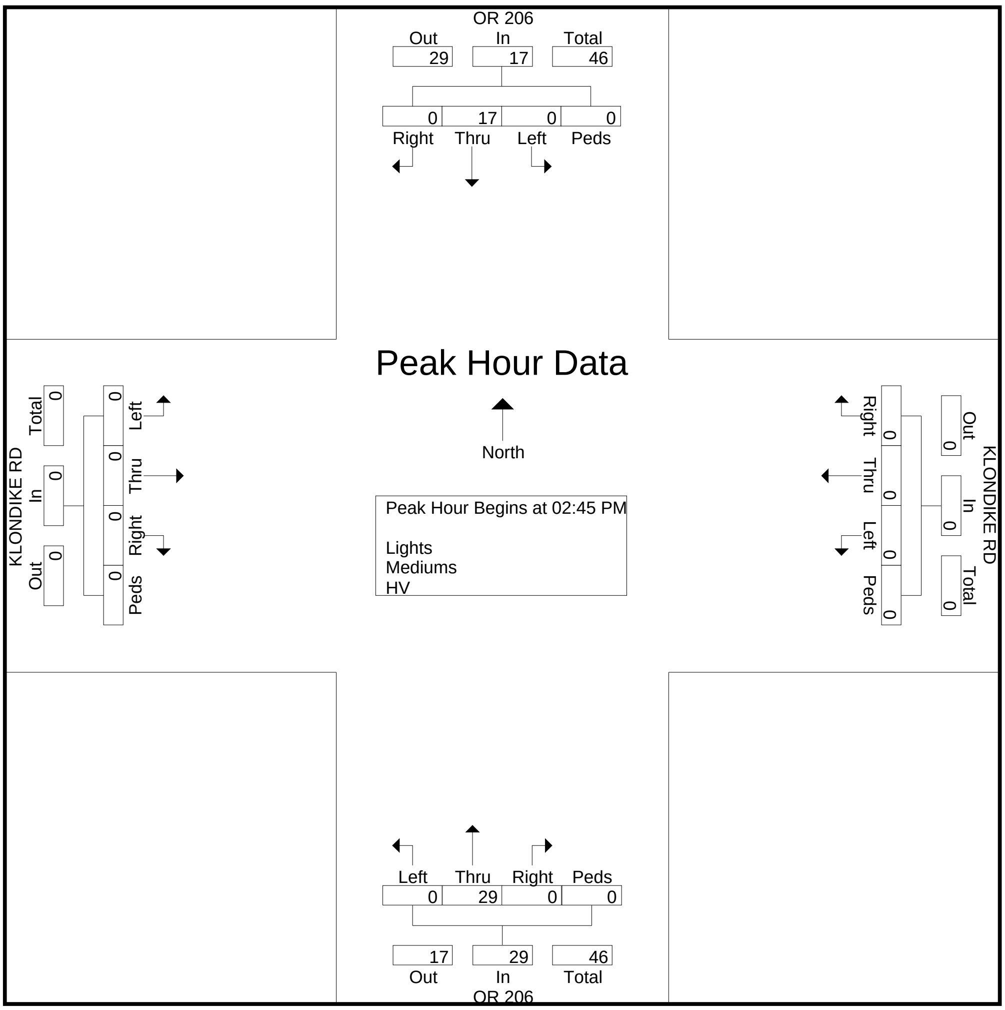

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File Name : #3 BIGGS&US97
Site Code : 48061
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Groups Printed- Lights - Medium - HV

	US97 Southbound				Biggs-Rufus Hwy Westbound				US97 Northbound				Biggs-Rufus Hwy Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
05:00 AM	11	4	8	0	1	0	1	0	1	3	0	1	5	1	12	0	48
05:15 AM	7	5	4	0	3	0	4	0	3	0	0	1	2	2	16	0	47
05:30 AM	11	3	10	0	10	0	0	0	2	7	2	1	3	1	11	0	61
05:45 AM	15	4	9	0	6	3	1	0	1	4	2	0	6	3	12	2	68
Total	44	16	31	0	20	3	6	0	7	14	4	3	16	7	51	2	224
06:00 AM	7	3	4	0	6	5	0	0	0	2	2	1	3	1	18	0	52
06:15 AM	12	16	10	0	8	4	2	2	1	7	1	1	3	5	13	0	85
06:30 AM	17	10	9	0	14	6	2	0	0	7	1	0	1	2	15	4	88
06:45 AM	25	7	8	0	12	5	1	0	1	7	4	0	6	3	21	0	100
Total	61	36	31	0	40	20	5	2	2	23	8	2	13	11	67	4	325
07:00 AM	15	10	6	2	10	0	1	0	2	7	1	0	9	0	27	0	90
07:15 AM	14	5	6	0	7	7	2	0	0	5	3	0	4	1	13	0	67
07:30 AM	15	8	8	0	5	0	2	1	2	8	5	1	3	3	17	0	78
07:45 AM	21	9	11	0	3	1	6	5	0	8	2	4	3	2	24	0	99
Total	65	32	31	2	25	8	11	6	4	28	11	5	19	6	81	0	334
08:00 AM	20	16	9	0	11	0	1	1	1	3	0	0	7	2	24	0	95
08:15 AM	25	14	9	1	8	3	2	1	4	11	3	0	7	1	25	0	114
08:30 AM	27	11	3	2	16	1	2	0	1	13	1	2	5	7	10	0	101
08:45 AM	24	14	5	0	7	3	2	0	2	7	3	0	6	5	17	0	95
Total	96	55	26	3	42	7	7	2	8	34	7	2	25	15	76	0	405
09:00 AM	26	15	14	0	9	3	3	0	1	13	2	0	6	1	20	0	113
09:15 AM	25	15	15	0	10	3	5	0	0	9	3	1	6	7	21	0	120
09:30 AM	26	11	11	0	14	3	2	0	0	8	8	2	7	3	20	3	118
09:45 AM	22	16	12	0	10	6	1	0	0	11	6	0	2	7	25	0	118
Total	99	57	52	0	43	15	11	0	1	41	19	3	21	18	86	3	469
10:00 AM	31	12	11	0	13	4	3	4	4	7	6	3	8	2	26	0	134
10:15 AM	23	10	13	0	16	1	2	0	3	17	4	2	10	2	31	1	135
10:30 AM	27	13	6	0	14	5	0	0	4	16	6	0	7	3	15	0	116
10:45 AM	21	14	13	1	17	3	1	0	1	2	5	1	9	2	32	0	122
Total	102	49	43	1	60	13	6	4	12	42	21	6	34	9	104	1	507
11:00 AM	34	14	16	1	15	4	2	0	2	12	5	1	15	1	21	0	143
11:15 AM	22	14	18	1	16	2	0	0	2	9	5	0	7	3	23	0	122
11:30 AM	34	20	13	0	14	5	1	0	1	10	3	0	7	3	17	0	128
11:45 AM	21	15	11	0	23	0	2	0	2	22	6	0	9	4	36	0	151
Total	111	63	58	2	68	11	5	0	7	53	19	1	38	11	97	0	544
12:00 PM	32	17	18	0	15	3	2	0	1	8	10	0	10	3	28	0	147
12:15 PM	28	22	15	0	15	2	3	0	1	10	4	0	6	5	30	0	141
12:30 PM	36	21	13	1	16	2	2	0	1	8	4	0	8	4	23	0	139
12:45 PM	35	15	20	0	12	6	1	0	1	13	4	0	6	4	30	0	147
Total	131	75	66	1	58	13	8	0	4	39	22	0	30	16	111	0	574
01:00 PM	35	18	13	0	23	1	3	0	3	12	10	0	7	5	21	0	151

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File Name : #3 BIGGS&US97
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Groups Printed- Lights - Medium - HV

	US97 Southbound				Biggs-Rufus Hwy Westbound				US97 Northbound				Biggs-Rufus Hwy Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	34	20	10	0	18	5	3	0	2	11	4	1	9	2	25	0	144
01:30 PM	25	8	17	0	18	1	4	0	3	17	2	1	11	3	28	0	138
01:45 PM	35	17	11	0	22	1	3	0	2	17	1	0	10	5	30	0	154
Total	129	63	51	0	81	8	13	0	10	57	17	2	37	15	104	0	587
02:00 PM	29	24	13	2	16	1	3	0	2	13	3	0	6	3	17	0	132
02:15 PM	29	13	12	0	23	2	2	0	2	13	4	1	10	4	27	0	142
02:30 PM	28	25	21	1	18	4	2	0	1	11	4	0	10	2	25	0	152
02:45 PM	27	13	6	0	13	7	2	0	2	15	5	0	10	5	23	0	128
Total	113	75	52	3	70	14	9	0	7	52	16	1	36	14	92	0	554
03:00 PM	23	18	15	0	10	3	2	0	3	17	2	2	4	5	25	0	129
03:15 PM	30	19	13	0	16	4	4	0	0	13	3	0	6	3	24	0	135
03:30 PM	25	15	10	0	12	3	5	0	5	13	5	3	5	3	23	0	127
03:45 PM	34	12	13	0	10	5	4	0	5	21	6	1	7	4	23	0	145
Total	112	64	51	0	48	15	15	0	13	64	16	6	22	15	95	0	536
04:00 PM	36	10	11	0	15	7	4	0	2	12	4	2	6	3	24	0	136
04:15 PM	30	19	16	0	15	4	2	0	3	15	3	0	3	4	23	0	137
04:30 PM	26	18	7	0	15	1	0	0	5	24	6	3	11	2	26	0	144
04:45 PM	32	29	13	0	10	4	1	0	3	10	0	5	8	7	24	0	146
Total	124	76	47	0	55	16	7	0	13	61	13	10	28	16	97	0	563
05:00 PM	29	21	14	0	17	3	4	0	2	8	1	2	10	6	20	0	137
05:15 PM	28	13	16	1	18	4	1	0	0	16	3	2	6	5	17	1	131
05:30 PM	16	15	10	0	8	0	3	1	3	13	8	5	9	2	26	0	119
05:45 PM	21	16	9	1	15	3	1	2	2	15	6	1	7	5	19	0	123
Total	94	65	49	2	58	10	9	3	7	52	18	10	32	18	82	1	510
06:00 PM	22	13	12	1	4	6	3	0	2	11	4	6	5	6	16	0	111
06:15 PM	25	11	6	1	14	4	0	3	0	16	2	6	1	6	14	2	111
06:30 PM	13	21	6	0	4	3	4	4	0	7	5	0	10	6	17	0	100
06:45 PM	11	14	5	0	14	3	3	3	3	12	2	0	5	2	11	0	88
Total	71	59	29	2	36	16	10	10	5	46	13	12	21	20	58	2	410
07:00 PM	6	3	3	0	5	4	0	0	0	2	2	1	2	1	13	0	42
07:15 PM	9	12	7	0	6	4	2	2	1	5	1	1	3	4	9	0	66
07:30 PM	12	7	6	0	10	5	2	0	0	5	1	0	1	2	11	3	65
07:45 PM	18	5	6	0	9	4	1	0	1	5	4	0	5	2	15	0	75
Total	45	27	22	0	30	17	5	2	2	17	8	2	11	9	48	3	248
08:00 PM	11	7	4	2	7	0	1	0	2	5	1	0	6	0	21	0	67
08:15 PM	11	4	5	0	6	5	2	0	0	4	2	0	3	1	9	0	52
08:30 PM	11	6	6	0	4	0	2	1	2	6	4	1	3	3	13	0	62
08:45 PM	16	6	8	0	3	1	4	4	0	6	2	3	2	2	18	0	75
Total	49	23	23	2	20	6	9	5	4	21	9	4	14	6	61	0	256
Grand Total	1446	835	662	18	754	192	136	34	106	644	221	69	397	206	1310	16	7046
Apprch %	48.8	28.2	22.4	0.6	67.6	17.2	12.2	3	10.2	61.9	21.2	6.6	20.6	10.7	67.9	0.8	
Total %	20.5	11.9	9.4	0.3	10.7	2.7	1.9	0.5	1.5	9.1	3.1	1	5.6	2.9	18.6	0.2	
Lights	840	406	552	18	547	149	90	34	83	409	120	69	193	170	765	14	4459
% Lights	58.1	48.6	83.4	100	72.5	77.6	66.2	100	78.3	63.5	54.3	100	48.6	82.5	58.4	87.5	63.3
Medium	606	429	110	0	207	43	46	0	23	235	101	0	204	36	545	0	2585
% Medium	41.9	51.4	16.6	0	27.5	22.4	33.8	0	21.7	36.5	45.7	0	51.4	17.5	41.6	0	36.7
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.5	0

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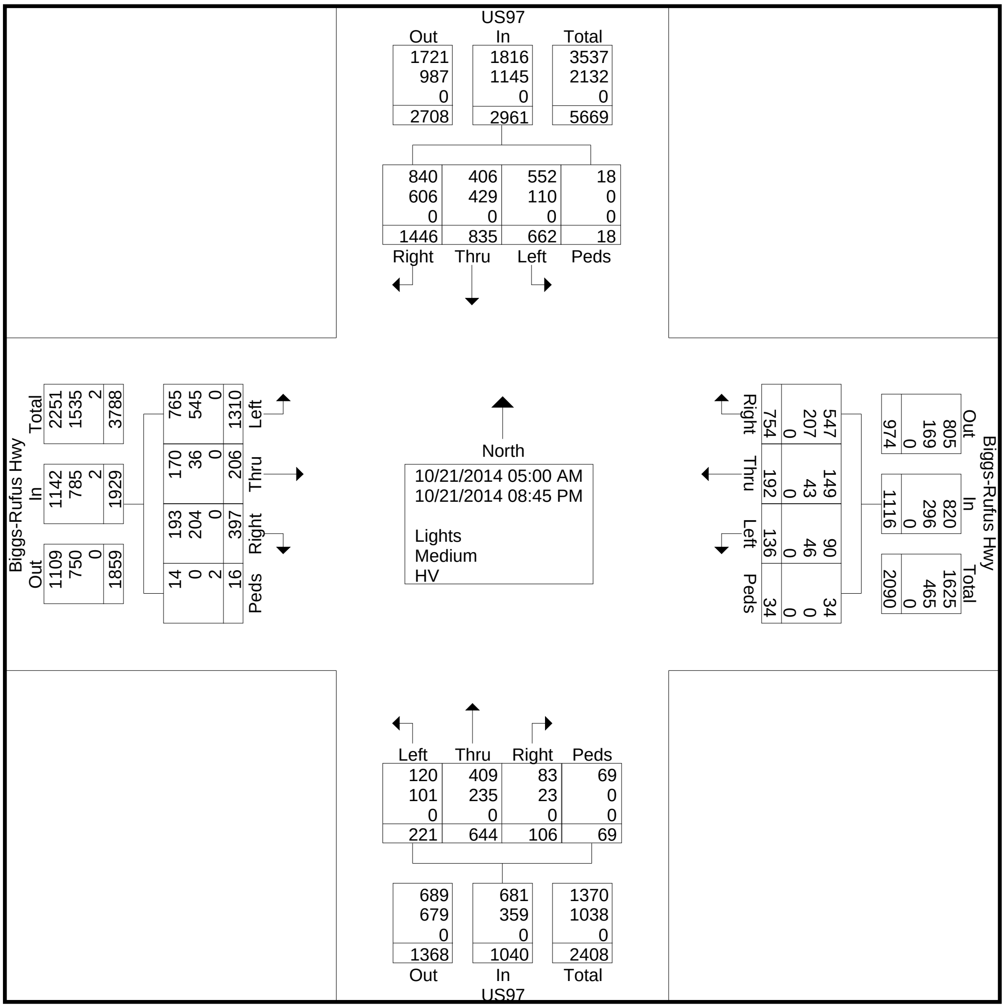

	US97 Southbound					Biggs-Rufus Hwy Westbound					US97 Northbound					Biggs-Rufus Hwy Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	**26**	15	14	0	**55**	9	3	3	0	15	**1**	**13**	2	0	16	6	1	20	0	27	113
09:15 AM	25	15	**15**	0	55	10	3	**5**	0	18	0	9	3	1	13	6	**7**	21	0	**34**	**120**
09:30 AM	26	11	11	0	48	**14**	3	2	0	**19**	0	8	**8**	**2**	**18**	**7**	3	20	**3**	33	118
09:45 AM	22	**16**	12	0	50	10	**6**	1	0	17	0	11	6	0	17	2	7	**25**	0	34	118
Total Volume	99	57	52	0	208	43	15	11	0	69	1	41	19	3	64	21	18	86	3	128	469
% App. Total	47.6	27.4	25	0		62.3	21.7	15.9	0		1.6	64.1	29.7	4.7		16.4	14.1	67.2	2.3		
PHF	.952	.891	.867	.000	.945	.768	.625	.550	.000	.908	.250	.788	.594	.375	.889	.750	.643	.860	.250	.941	.977

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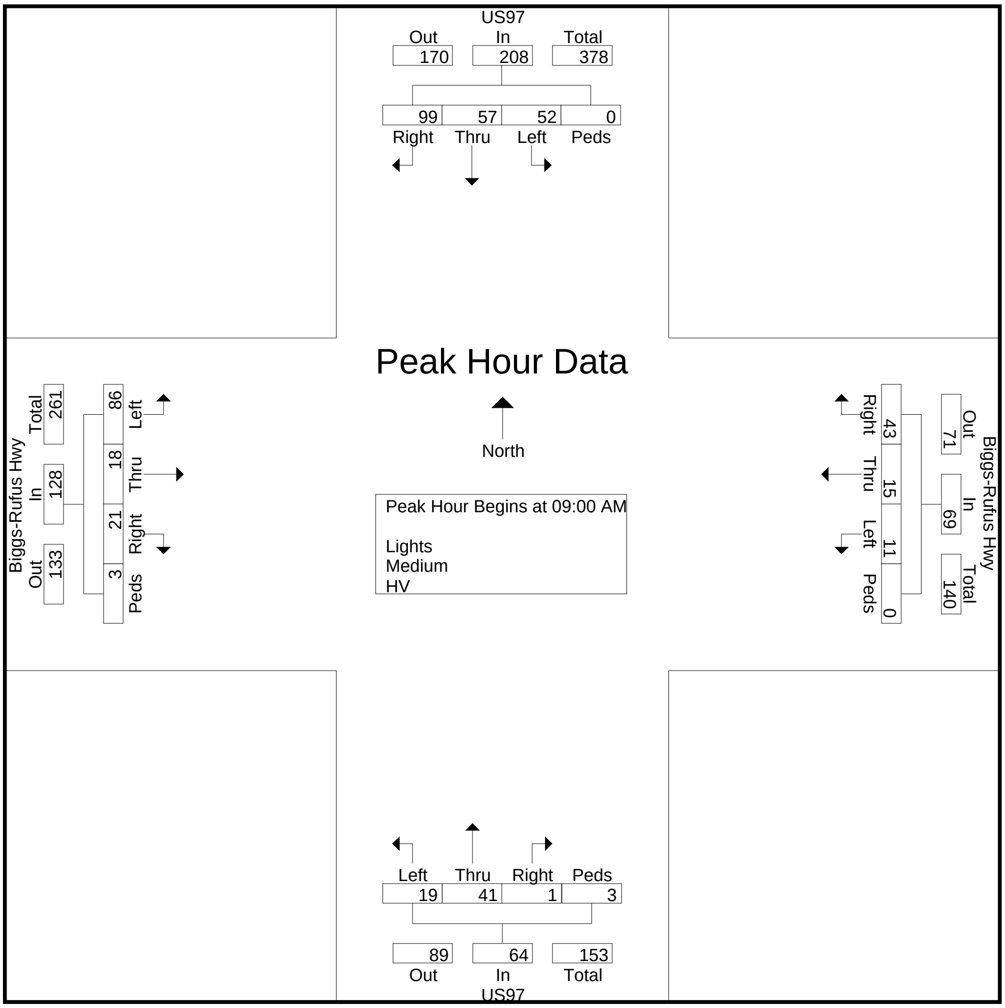

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	**35**	18	13	0	**66**	**23**	1	3	0	**27**	**3**	12	**10**	0	**25**	7	**5**	21	0	33	151
01:15 PM	34	**20**	10	0	64	18	**5**	3	0	26	2	11	4	**1**	18	9	2	25	0	36	144
01:30 PM	25	8	**17**	0	50	18	1	**4**	0	23	3	**17**	2	1	23	**11**	3	28	0	42	138
01:45 PM	35	17	11	0	63	22	1	3	0	26	2	17	1	0	20	10	5	**30**	0	**45**	**154**
Total Volume	129	63	51	0	243	81	8	13	0	102	10	57	17	2	86	37	15	104	0	156	587
% App. Total	53.1	25.9	21	0		79.4	7.8	12.7	0		11.6	66.3	19.8	2.3		23.7	9.6	66.7	0		
PHF	.921	.788	.750	.000	.920	.880	.400	.813	.000	.944	.833	.838	.425	.500	.860	.841	.750	.867	.000	.867	.953

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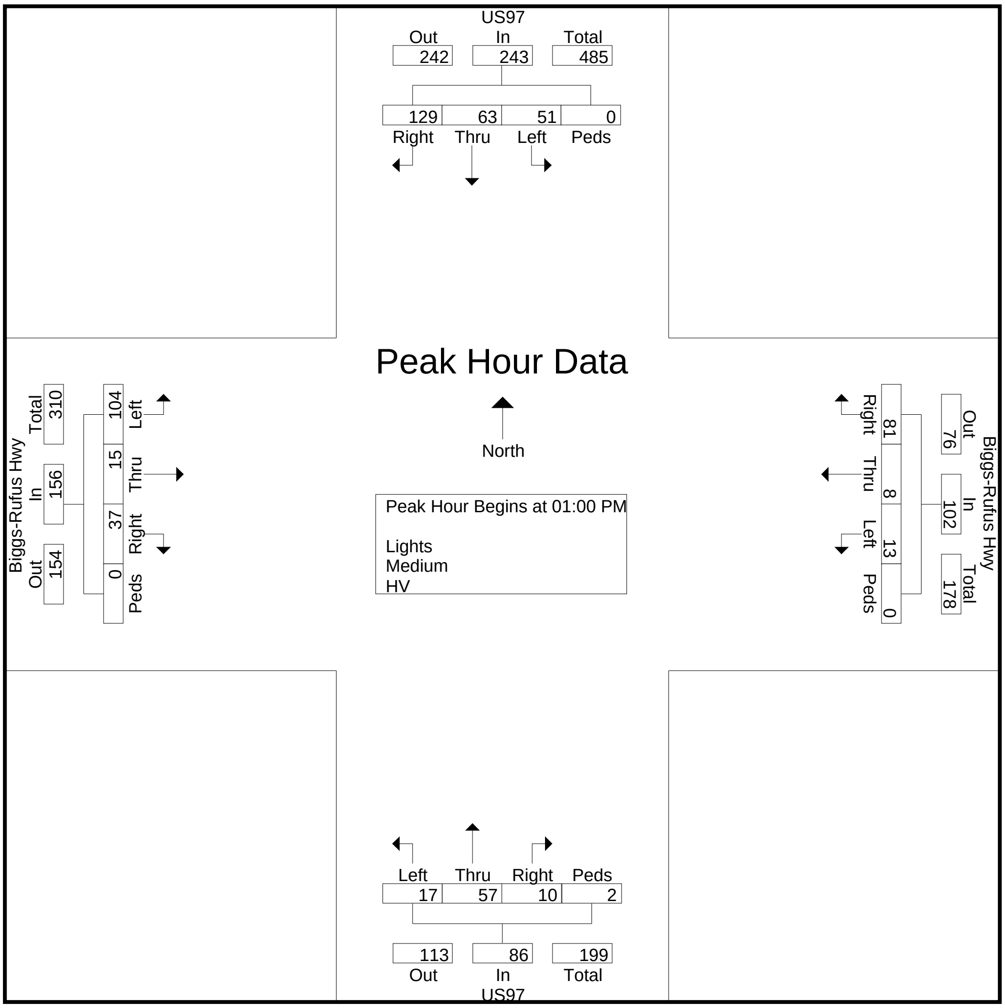

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:15 PM

04:15 PM	30	19	**16**	0	65	15	**4**	2	0	21	3	15	3	0	21	3	4	23	0	30	137
04:30 PM	26	18	7	0	51	15	1	0	0	16	**5**	**24**	**6**	3	**38**	**11**	2	**26**	0	**39**	144
04:45 PM	**32**	**29**	13	0	**74**	10	4	1	0	15	3	10	0	**5**	18	8	**7**	24	0	39	**146**
05:00 PM	29	21	14	0	64	**17**	3	**4**	0	**24**	2	8	1	2	13	10	6	20	0	36	137
Total Volume	117	87	50	0	254	57	12	7	0	76	13	57	10	10	90	32	19	93	0	144	564
% App. Total	46.1	34.3	19.7	0		75	15.8	9.2	0		14.4	63.3	11.1	11.1		22.2	13.2	64.6	0		
PHF	.914	.750	.781	.000	.858	.838	.750	.438	.000	.792	.650	.594	.417	.500	.592	.727	.679	.894	.000	.923	.966

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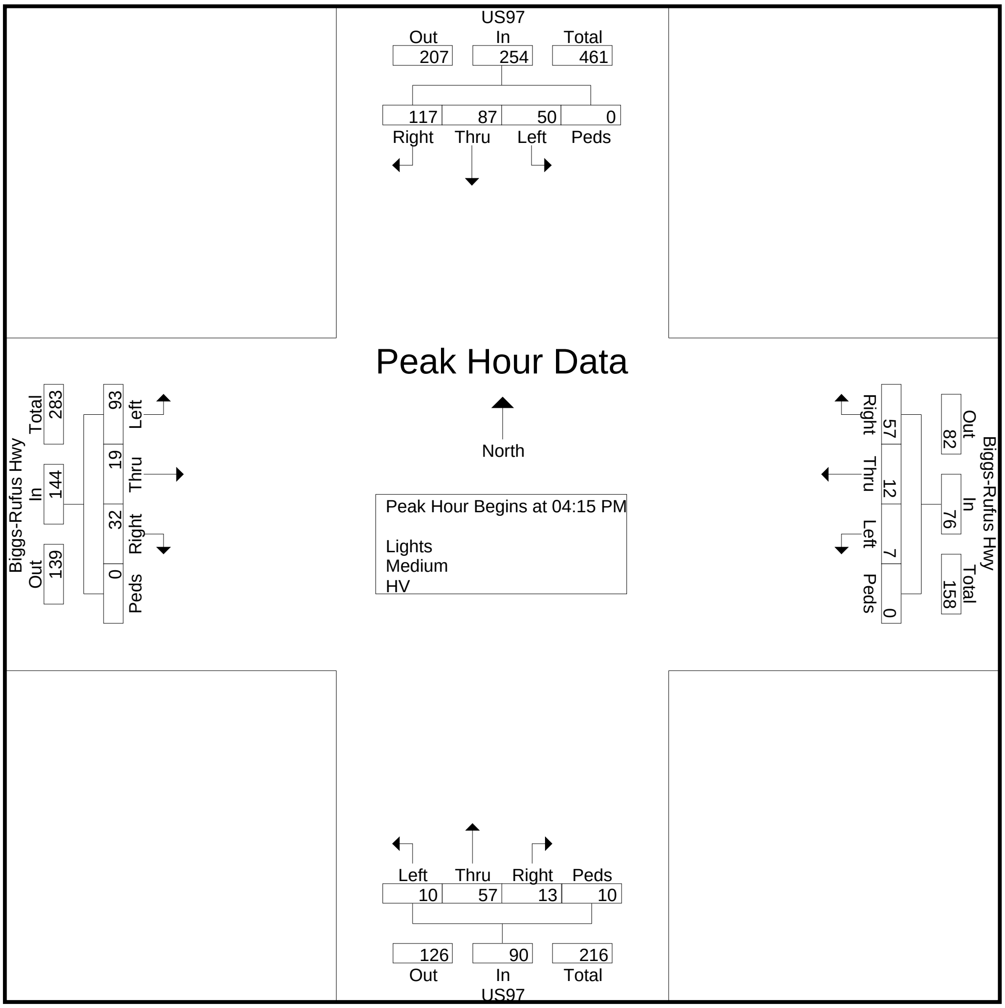

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File Name : #4 US97&I84WBRAMPS
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Groups Printed- Lights - Mediums - HV

	US 97 Southbound				I-84 WB RAMPS Westbound				US 97 Northbound				I-84 WB 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	8	13	0	0	0	0	8	0	0	9	7	0	0	0	0	0	45
05:15 AM	11	14	0	0	0	0	4	0	0	7	17	0	1	0	0	0	54
05:30 AM	8	15	0	0	0	0	1	0	0	14	14	0	0	0	0	0	52
05:45 AM	5	13	0	0	0	0	2	0	0	19	7	0	0	0	0	0	46
Total	32	55	0	0	0	0	15	0	0	49	45	0	1	0	0	0	197
06:00 AM	9	4	0	0	2	0	6	0	0	16	8	0	0	0	0	0	45
06:15 AM	11	14	0	0	0	0	6	0	2	20	8	0	0	0	0	0	61
06:30 AM	20	16	0	0	0	0	6	0	0	24	13	0	0	0	0	0	79
06:45 AM	12	12	0	0	1	0	5	0	0	23	16	0	0	0	0	0	69
Total	52	46	0	0	3	0	23	0	2	83	45	0	0	0	0	0	254
07:00 AM	20	9	0	0	1	0	1	0	4	26	14	0	1	0	0	0	76
07:15 AM	17	7	0	0	0	0	7	0	3	21	9	0	0	0	0	0	64
07:30 AM	16	10	0	0	0	0	8	0	4	27	15	0	0	0	0	0	80
07:45 AM	25	19	0	0	3	1	8	0	2	27	10	0	0	0	0	0	95
Total	78	45	0	0	4	1	24	0	13	101	48	0	1	0	0	0	315
08:00 AM	18	8	0	0	1	0	11	0	0	25	15	0	1	0	0	0	79
08:15 AM	24	14	0	0	0	1	11	0	0	28	14	0	1	0	0	0	93
08:30 AM	20	16	0	0	0	0	13	0	0	21	18	0	1	0	0	0	89
08:45 AM	19	7	0	0	2	0	22	0	0	31	12	0	0	0	0	0	93
Total	81	45	0	0	3	1	57	0	0	105	59	0	3	0	0	0	354
09:00 AM	16	18	0	0	0	0	15	0	0	27	20	0	0	0	0	0	96
09:15 AM	23	27	0	0	1	0	13	0	0	26	16	0	0	0	0	0	106
09:30 AM	23	15	0	0	0	0	19	0	0	22	22	0	2	0	0	0	103
09:45 AM	17	13	0	0	3	1	15	0	0	38	11	0	0	0	0	0	98
Total	79	73	0	0	4	1	62	0	0	113	69	0	2	0	0	0	403
10:00 AM	26	16	0	0	1	0	19	0	0	35	21	0	0	0	0	0	118
10:15 AM	19	11	0	0	2	1	14	0	0	38	27	0	1	0	0	0	113
10:30 AM	18	10	0	0	0	0	21	0	0	22	17	0	2	0	0	0	90
10:45 AM	17	20	0	0	0	0	17	0	0	35	15	0	1	0	0	0	105
Total	80	57	0	0	3	1	71	0	0	130	80	0	4	0	0	0	426
11:00 AM	27	21	0	0	0	0	16	0	0	35	15	0	2	0	0	0	116
11:15 AM	25	16	0	0	0	0	18	0	0	37	24	0	1	0	0	0	121
11:30 AM	24	30	0	0	0	0	28	0	0	37	16	0	0	0	0	0	135
11:45 AM	34	20	0	0	0	1	17	0	0	49	31	0	1	0	0	0	153
Total	110	87	0	0	0	1	79	0	0	158	86	0	4	0	0	0	525
12:00 PM	21	28	0	0	0	0	17	0	0	33	25	0	1	0	1	0	126
12:15 PM	28	25	0	0	3	0	31	0	1	40	22	0	0	0	0	0	150
12:30 PM	26	15	0	0	0	0	21	0	1	31	14	0	0	0	0	0	108
12:45 PM	20	28	0	0	0	0	20	0	0	49	16	0	1	0	0	0	134
Total	95	96	0	0	3	0	89	0	2	153	77	0	2	0	1	0	518
01:00 PM	19	16	0	0	0	0	21	0	0	49	26	0	17	0	0	0	148

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Groups Printed- Lights - Mediums - HV

	US 97 Southbound				I-84 WB RAMPS Westbound				US 97 Northbound				I-84 WB RAMPS Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	28	20	0	0	2	3	32	0	0	34	11	0	0	0	0	0	130
01:30 PM	30	9	0	0	0	0	20	0	1	51	9	0	0	0	0	0	120
01:45 PM	24	22	0	0	1	1	22	0	0	41	10	0	0	0	0	0	121
Total	101	67	0	0	3	4	95	0	1	175	56	0	17	0	0	0	519
02:00 PM	22	18	0	0	2	0	19	0	1	45	17	0	0	0	0	0	124
02:15 PM	22	25	0	0	3	0	20	0	1	58	25	0	0	0	0	0	154
02:30 PM	25	32	0	0	2	5	21	0	1	31	28	0	0	0	0	0	145
02:45 PM	26	17	0	0	1	0	15	0	2	45	18	0	2	0	1	0	127
Total	95	92	0	0	8	5	75	0	5	179	88	0	2	0	1	0	550
03:00 PM	24	23	0	0	2	1	21	0	0	41	14	0	2	0	0	0	128
03:15 PM	18	21	0	0	3	0	20	0	0	33	26	0	0	0	0	0	121
03:30 PM	28	25	0	0	1	0	13	0	2	30	22	0	1	0	0	1	123
03:45 PM	12	21	0	0	3	0	10	0	1	41	17	0	0	0	0	0	105
Total	82	90	0	0	9	1	64	0	3	145	79	0	3	0	0	1	477
04:00 PM	23	21	0	0	3	0	14	0	1	39	9	0	4	1	0	0	115
04:15 PM	35	17	0	0	2	0	23	0	0	45	12	0	1	0	0	0	135
04:30 PM	26	24	0	0	4	0	13	0	1	33	33	0	0	0	0	0	134
04:45 PM	19	39	0	0	2	0	19	0	1	29	17	0	1	0	0	0	127
Total	103	101	0	0	11	0	69	0	3	146	71	0	6	1	0	0	511
05:00 PM	27	26	0	0	9	1	16	0	0	43	12	0	0	0	0	0	134
05:15 PM	23	22	0	0	2	0	14	0	0	50	27	0	2	0	0	0	140
05:30 PM	23	13	0	0	1	0	8	0	0	35	12	0	2	0	0	0	94
05:45 PM	17	22	0	0	1	0	14	0	0	40	22	0	0	0	0	0	116
Total	90	83	0	0	13	1	52	0	0	168	73	0	4	0	0	0	484
06:00 PM	16	14	0	0	2	0	12	0	0	39	9	0	0	0	0	0	92
06:15 PM	17	14	0	0	3	0	11	0	0	33	13	0	0	0	0	0	91
06:30 PM	16	24	0	0	1	0	12	0	0	17	10	0	0	0	0	0	80
06:45 PM	10	19	0	0	1	1	9	0	0	26	12	0	0	0	0	0	78
Total	59	71	0	0	7	1	44	0	0	115	44	0	0	0	0	0	341
07:00 PM	7	18	0	0	1	0	7	0	2	34	10	0	0	0	0	0	79
07:15 PM	16	14	0	0	0	0	14	0	0	28	6	0	0	0	0	0	78
07:30 PM	11	10	0	0	1	0	11	0	1	24	12	0	0	0	0	0	70
07:45 PM	11	5	0	0	0	0	9	0	0	27	7	0	0	0	0	0	59
Total	45	47	0	0	2	0	41	0	3	113	35	0	0	0	0	0	286
08:00 PM	7	12	0	0	2	0	10	0	0	16	10	0	0	0	0	0	57
08:15 PM	7	18	0	0	1	0	9	0	0	19	5	0	0	0	0	0	59
08:30 PM	4	8	0	0	0	0	14	0	1	15	3	0	0	0	0	0	45
08:45 PM	5	7	0	0	0	0	3	0	5	16	12	0	0	0	0	0	48
Total	23	45	0	0	3	0	36	0	6	66	30	0	0	0	0	0	209
Grand Total	1205	1100	0	0	76	17	896	0	38	1999	985	0	49	1	2	1	6369
Apprch %	52.3	47.7	0	0	7.7	1.7	90.6	0	1.3	66.1	32.6	0	92.5	1.9	3.8	1.9	
Total %	18.9	17.3	0	0	1.2	0.3	14.1	0	0.6	31.4	15.5	0	0.8	0	0	0	
Lights	887	649	0	0	66	6	512	0	14	1424	695	0	33	1	1	1	4289
% Lights	73.6	59	0	0	86.8	35.3	57.1	0	36.8	71.2	70.6	0	67.3	100	50	100	67.3
Mediums	318	451	0	0	10	11	384	0	24	575	290	0	16	0	1	0	2080
% Mediums	26.4	41	0	0	13.2	64.7	42.9	0	63.2	28.8	29.4	0	32.7	0	50	0	32.7
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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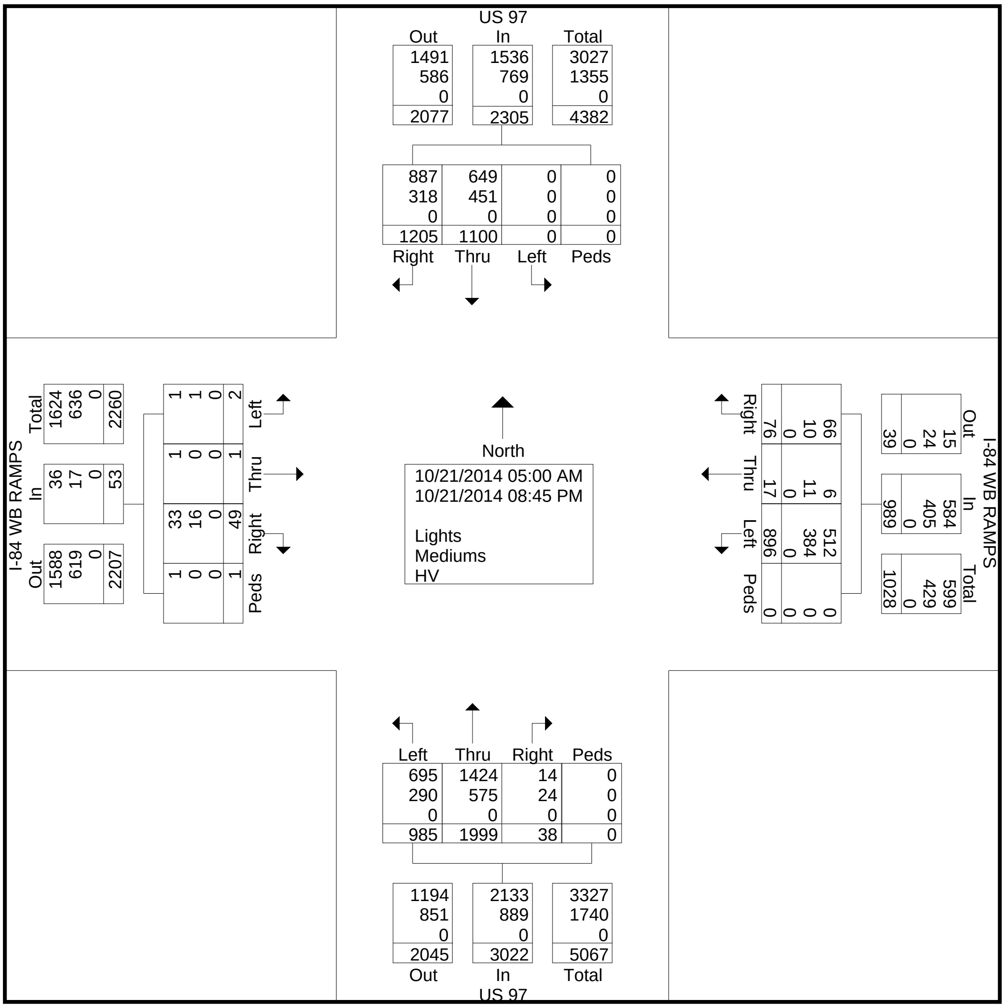

	US 97 Southbound					I-84 WB RAMPS Westbound					US 97 Northbound					I-84 WB RAMPS Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	16	18	0	0	34	0	0	15	0	15	0	27	20	0	47	0	0	0	0	0	96
09:15 AM	**23**	**27**	0	0	**50**	1	0	13	0	14	0	26	16	0	42	0	0	0	0	0	**106**
09:30 AM	23	15	0	0	38	0	0	**19**	0	**19**	0	22	**22**	0	44	**2**	0	0	0	**2**	103
09:45 AM	17	13	0	0	30	**3**	**1**	15	0	19	0	**38**	11	0	**49**	0	0	0	0	0	98
Total Volume	79	73	0	0	152	4	1	62	0	67	0	113	69	0	182	2	0	0	0	2	403
% App. Total	52	48	0	0		6	1.5	92.5	0		0	62.1	37.9	0		100	0	0	0		
PHF	.859	.676	.000	.000	.760	.333	.250	.816	.000	.882	.000	.743	.784	.000	.929	.250	.000	.000	.000	.250	.950

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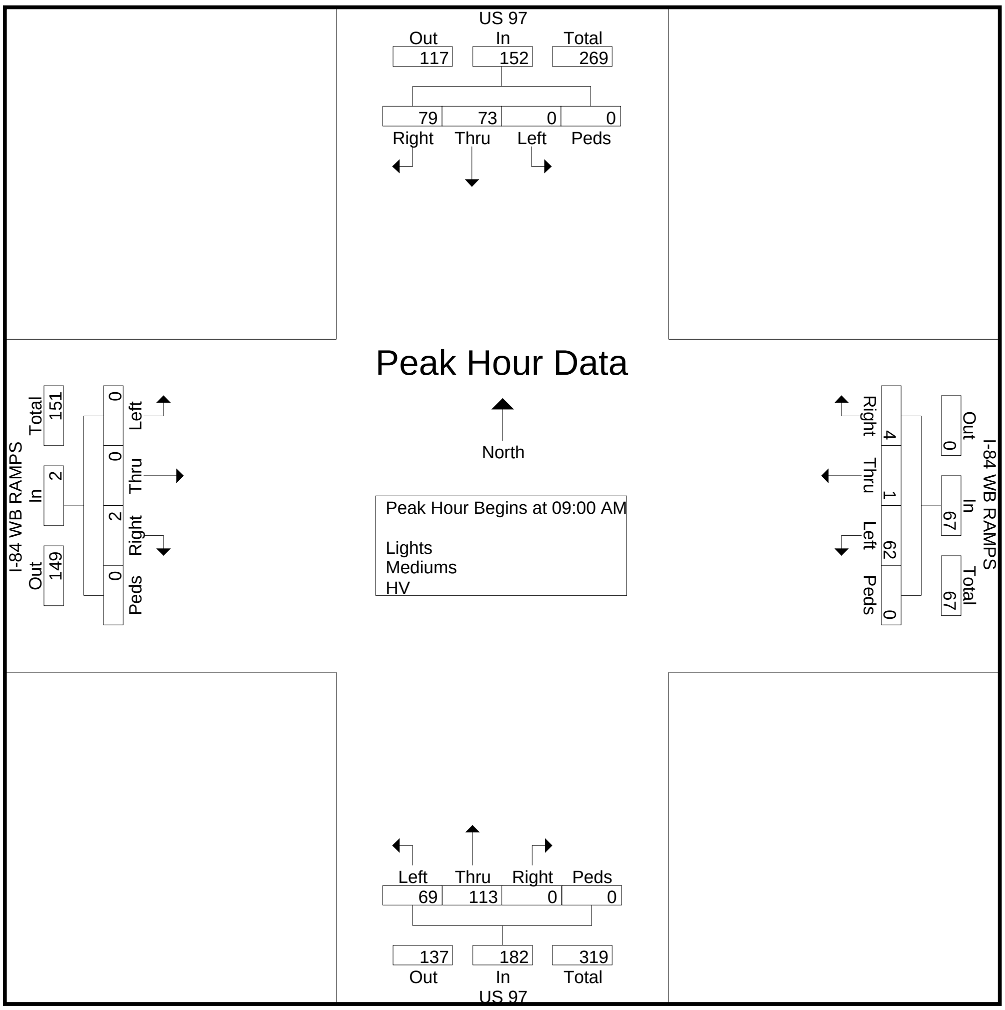

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:30 AM

11:30 AM	24	**30**	0	0	**54**	0	0	28	0	28	0	37	16	0	53	0	0	0	0	0	135
11:45 AM	**34**	20	0	0	54	0	**1**	17	0	18	0	**49**	**31**	0	**80**	**1**	0	0	0	1	**153**
12:00 PM	21	28	0	0	49	0	0	17	0	17	0	33	25	0	58	1	0	**1**	0	**2**	126
12:15 PM	28	25	0	0	53	**3**	0	**31**	0	**34**	**1**	40	22	0	63	0	0	0	0	0	150
Total Volume	107	103	0	0	210	3	1	93	0	97	1	159	94	0	254	2	0	1	0	3	564
% App. Total	51	49	0	0		3.1	1	95.9	0		0.4	62.6	37	0		66.7	0	33.3	0		
PHF	.787	.858	.000	.000	.972	.250	.250	.750	.000	.713	.250	.811	.758	.000	.794	.500	.000	.250	.000	.375	.922

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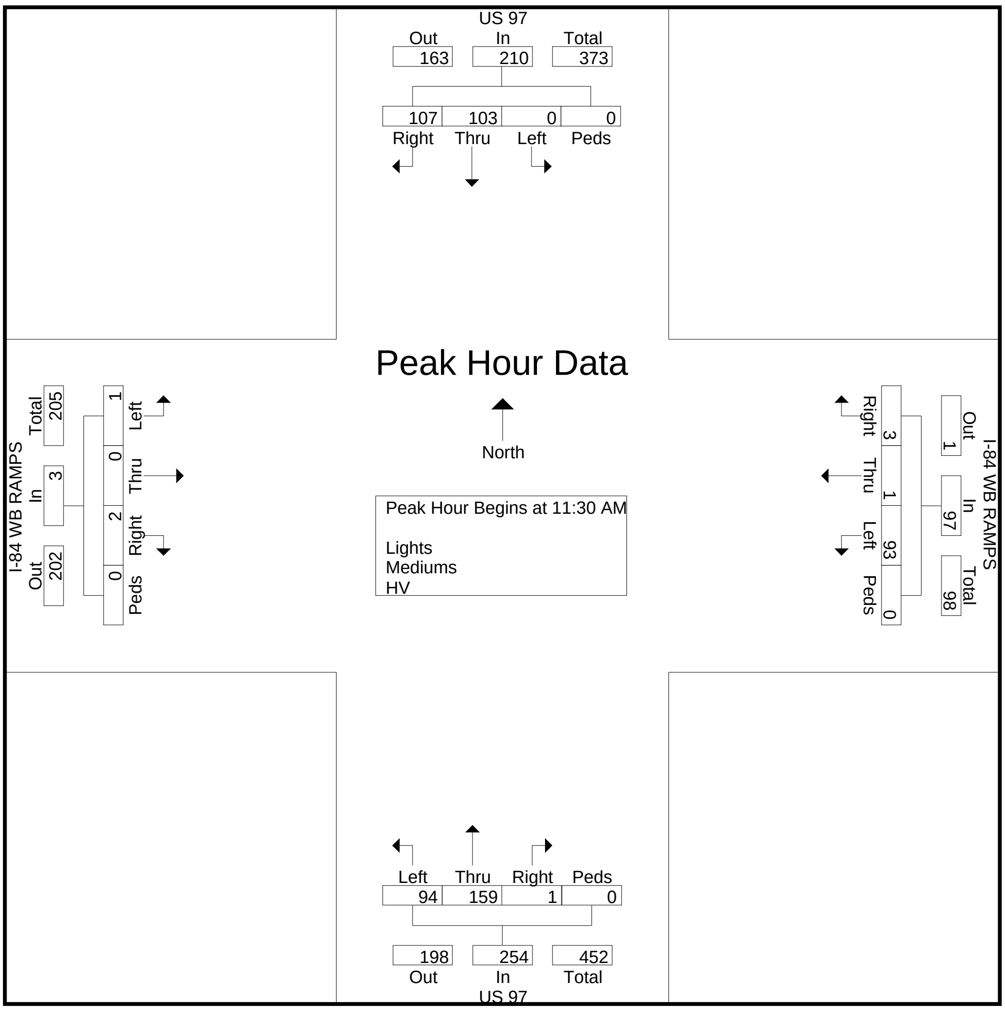

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:15 PM

02:15 PM	22	25	0	0	47	**3**	0	20	0	23	1	**58**	25	0	**84**	0	0	0	0	0	**154**
02:30 PM	25	**32**	0	0	**57**	2	**5**	**21**	0	**28**	1	31	**28**	0	60	0	0	0	0	0	145
02:45 PM	**26**	17	0	0	43	1	0	15	0	16	**2**	45	18	0	65	**2**	0	**1**	0	**3**	127
03:00 PM	24	23	0	0	47	2	1	21	0	24	0	41	14	0	55	2	0	0	0	2	128
Total Volume	97	97	0	0	194	8	6	77	0	91	4	175	85	0	264	4	0	1	0	5	554
% App. Total	50	50	0	0		8.8	6.6	84.6	0		1.5	66.3	32.2	0		80	0	20	0		
PHF	.933	.758	.000	.000	.851	.667	.300	.917	.000	.813	.500	.754	.759	.000	.786	.500	.000	.250	.000	.417	.899

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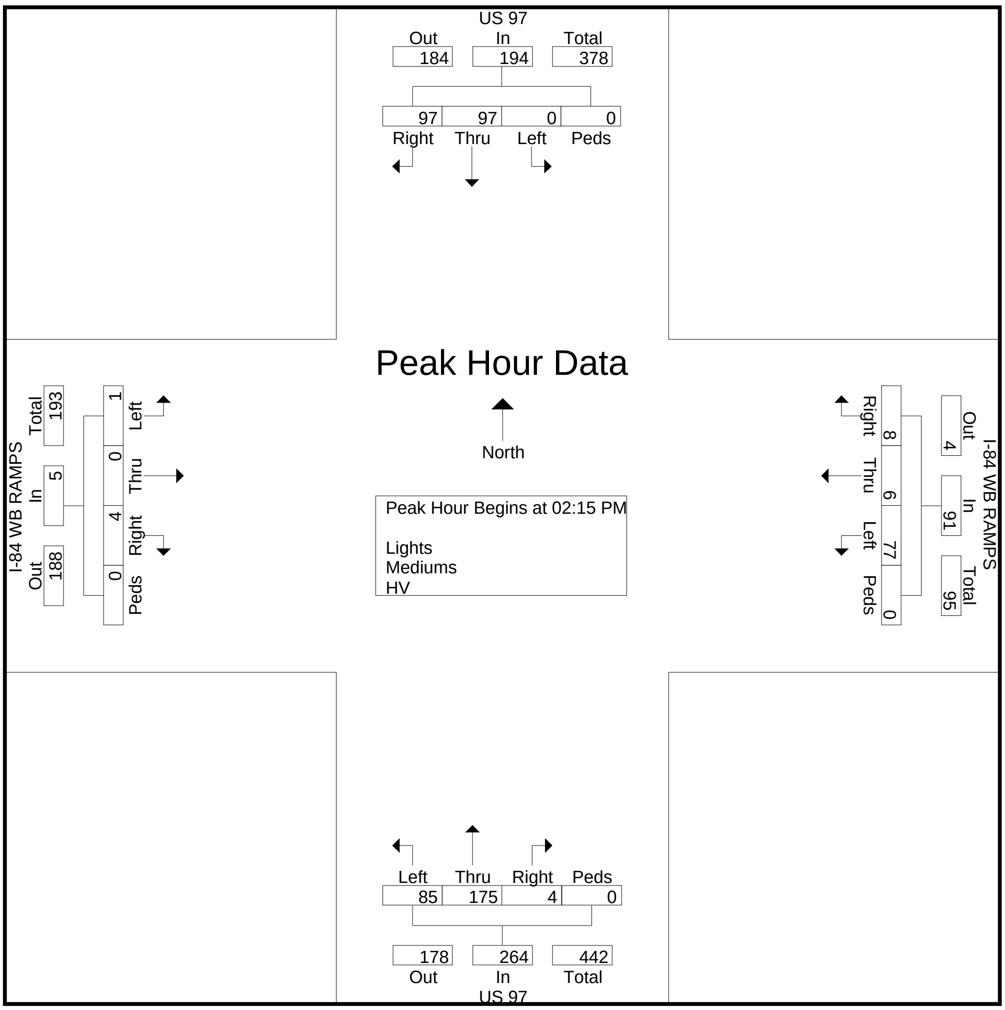

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File Name : #5 US97&I84EBRAMPS
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Groups Printed- Lights - Mediums - HV

	US 97 Southbound				I-84 EB RAMPS Westbound				US 97 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	23	0	0	0	0	0	0	5	13	0	0	5	0	4	0	50
05:15 AM	0	22	1	0	0	0	0	0	2	19	0	0	4	0	2	0	50
05:30 AM	0	13	4	0	0	0	0	0	11	21	0	0	10	0	6	0	65
05:45 AM	0	11	3	0	0	0	0	0	8	14	0	0	13	0	12	0	61
Total	0	69	8	0	0	0	0	0	26	67	0	0	32	0	24	0	226
06:00 AM	0	9	2	0	0	0	0	0	9	13	0	0	11	0	13	0	57
06:15 AM	0	14	6	0	0	0	0	0	13	18	0	0	24	0	12	0	87
06:30 AM	0	19	5	0	0	0	0	0	7	29	0	0	15	0	13	0	88
06:45 AM	0	20	0	0	0	0	0	0	12	29	0	0	20	0	11	0	92
Total	0	62	13	0	0	0	0	0	41	89	0	0	70	0	49	0	324
07:00 AM	0	14	1	1	0	0	0	1	13	33	0	2	17	0	15	2	99
07:15 AM	0	15	1	0	0	0	0	0	10	16	0	0	10	2	11	0	65
07:30 AM	0	20	0	0	0	0	0	0	7	28	0	0	11	1	21	0	88
07:45 AM	0	30	5	0	0	0	0	0	9	25	0	0	19	0	13	0	101
Total	0	79	7	1	0	0	0	1	39	102	0	2	57	3	60	2	353
08:00 AM	0	23	0	0	0	0	0	0	17	23	0	0	19	0	19	0	101
08:15 AM	0	35	1	0	0	0	0	0	14	34	0	1	21	1	11	1	119
08:30 AM	0	29	0	0	0	0	0	0	12	28	0	1	14	0	15	1	100
08:45 AM	0	30	0	0	0	0	0	0	7	24	0	0	16	0	20	0	97
Total	0	117	1	0	0	0	0	0	50	109	0	2	70	1	65	2	417
09:00 AM	0	32	3	0	0	0	0	0	12	29	0	0	20	0	16	0	112
09:15 AM	0	33	4	0	0	0	0	0	10	28	0	0	21	0	14	0	110
09:30 AM	0	35	1	0	0	0	0	0	18	29	0	0	7	0	18	2	110
09:45 AM	0	30	1	0	0	0	0	0	11	30	0	0	21	0	26	0	119
Total	0	130	9	0	0	0	0	0	51	116	0	0	69	0	74	2	451
10:00 AM	0	32	2	0	0	0	0	0	14	36	0	0	18	0	24	0	126
10:15 AM	0	26	1	0	0	0	0	0	18	45	0	0	22	0	22	0	134
10:30 AM	0	33	2	0	0	0	0	0	19	28	0	0	14	0	9	0	105
10:45 AM	0	30	1	0	0	0	0	0	13	36	0	0	16	0	18	0	114
Total	0	121	6	0	0	0	0	0	64	145	0	0	70	0	73	0	479
11:00 AM	0	37	3	0	0	0	0	1	14	39	0	0	29	0	19	0	142
11:15 AM	0	35	2	0	0	0	0	0	13	34	0	1	15	0	16	0	116
11:30 AM	0	57	5	0	0	0	0	0	13	32	0	0	17	0	20	0	144
11:45 AM	0	34	2	0	0	0	0	0	24	50	0	0	10	0	26	0	146
Total	0	163	12	0	0	0	0	1	64	155	0	1	71	0	81	0	548
12:00 PM	0	45	2	0	0	0	0	0	14	41	0	0	19	0	17	0	138
12:15 PM	0	57	3	0	0	0	0	0	11	42	0	0	23	1	22	0	159
12:30 PM	0	35	3	1	0	0	0	2	19	28	0	0	23	0	17	0	128
12:45 PM	0	48	1	4	0	0	0	1	17	45	0	0	29	1	26	0	172
Total	0	185	9	5	0	0	0	3	61	156	0	0	94	2	82	0	597
01:00 PM	0	41	1	0	0	0	0	0	14	42	0	0	21	0	30	2	151

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File Name : #5 US97&I84EBRAMPS
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Groups Printed- Lights - Mediums - HV

	US 97 Southbound				I-84 EB RAMPS Westbound				US 97 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
01:15 PM	0	55	2	0	0	0	0	0	25	29	0	0	14	0	25	2	152
01:30 PM	0	29	0	0	0	0	0	0	28	37	0	0	15	0	44	0	153
01:45 PM	0	47	1	0	0	0	0	0	17	48	0	0	25	0	20	1	159
Total	0	172	4	0	0	0	0	0	84	156	0	0	75	0	119	5	615
02:00 PM	0	33	4	0	0	0	0	0	17	41	0	0	23	1	34	0	153
02:15 PM	0	45	3	0	0	0	0	0	15	51	0	0	16	0	28	0	158
02:30 PM	0	45	5	0	0	0	0	0	14	38	0	0	24	0	19	0	145
02:45 PM	0	36	1	0	0	0	0	0	21	35	0	0	12	0	31	0	136
Total	0	159	13	0	0	0	0	0	67	165	0	0	75	1	112	0	592
03:00 PM	0	41	6	0	0	0	0	0	21	32	0	0	22	0	29	0	151
03:15 PM	0	42	3	0	0	0	0	0	11	36	0	0	15	0	21	0	128
03:30 PM	0	34	1	0	0	0	0	0	16	35	0	0	20	0	15	0	121
03:45 PM	0	31	2	0	0	0	0	0	16	40	0	0	21	0	23	0	133
Total	0	148	12	0	0	0	0	0	64	143	0	0	78	0	88	0	533
04:00 PM	0	34	2	0	0	0	0	0	23	29	0	0	23	1	23	0	135
04:15 PM	0	41	1	0	0	0	0	0	18	39	0	0	24	0	21	0	144
04:30 PM	0	38	1	0	0	0	0	0	19	48	0	1	15	0	17	0	139
04:45 PM	0	51	3	0	0	0	0	0	12	26	0	0	20	0	21	1	134
Total	0	164	7	0	0	0	0	0	72	142	0	1	82	1	82	1	552
05:00 PM	0	37	3	0	0	0	0	0	12	40	0	0	23	1	23	0	139
05:15 PM	0	32	0	0	0	0	0	0	15	38	0	0	23	0	33	0	141
05:30 PM	0	26	1	0	0	0	0	0	19	29	0	0	13	0	25	0	113
05:45 PM	0	35	3	0	0	0	0	0	10	36	0	0	16	0	23	0	123
Total	0	130	7	0	0	0	0	0	56	143	0	0	75	1	104	0	516
06:00 PM	0	27	2	0	0	0	0	0	5	27	0	0	23	0	24	0	108
06:15 PM	0	25	1	0	0	0	0	0	12	28	0	0	18	0	12	0	96
06:30 PM	0	30	1	0	0	0	0	0	9	20	0	0	8	0	12	0	80
06:45 PM	0	25	4	0	0	0	0	0	13	24	0	0	6	0	12	0	84
Total	0	107	8	0	0	0	0	0	39	99	0	0	55	0	60	0	368
07:00 PM	0	28	1	0	0	0	0	0	14	28	0	0	4	0	20	0	95
07:15 PM	0	26	0	0	0	0	0	0	10	20	0	0	10	0	12	0	78
07:30 PM	0	22	1	0	0	0	0	0	4	28	0	0	11	1	15	0	82
07:45 PM	0	14	0	0	0	0	0	0	6	15	0	0	14	0	12	0	61
Total	0	90	2	0	0	0	0	0	34	91	0	0	39	1	59	0	316
08:00 PM	0	22	0	0	0	0	0	0	15	18	0	0	9	1	7	0	72
08:15 PM	0	24	0	0	0	0	0	0	7	13	0	0	13	0	12	0	69
08:30 PM	0	23	1	0	0	0	0	0	13	14	0	0	6	0	8	0	65
08:45 PM	0	15	0	0	0	0	0	0	16	23	0	0	7	1	7	0	69
Total	0	84	1	0	0	0	0	0	51	68	0	0	35	2	34	0	275
Grand Total	0	1980	119	6	0	0	0	5	863	1946	0	6	1047	12	1166	12	7162
Apprch %	0	94.1	5.7	0.3	0	0	0	100	30.7	69.1	0	0.2	46.8	0.5	52.1	0.5	
Total %	0	27.6	1.7	0.1	0	0	0	0.1	12	27.2	0	0.1	14.6	0.2	16.3	0.2	
Lights	0	1125	76	6	0	0	0	5	493	1267	0	6	698	9	893	12	4590
% Lights	0	56.8	63.9	100	0	0	0	100	57.1	65.1	0	100	66.7	75	76.6	100	64.1
Mediums	0	855	43	0	0	0	0	0	370	679	0	0	349	3	273	0	2572
% Mediums	0	43.2	36.1	0	0	0	0	0	42.9	34.9	0	0	33.3	25	23.4	0	35.9
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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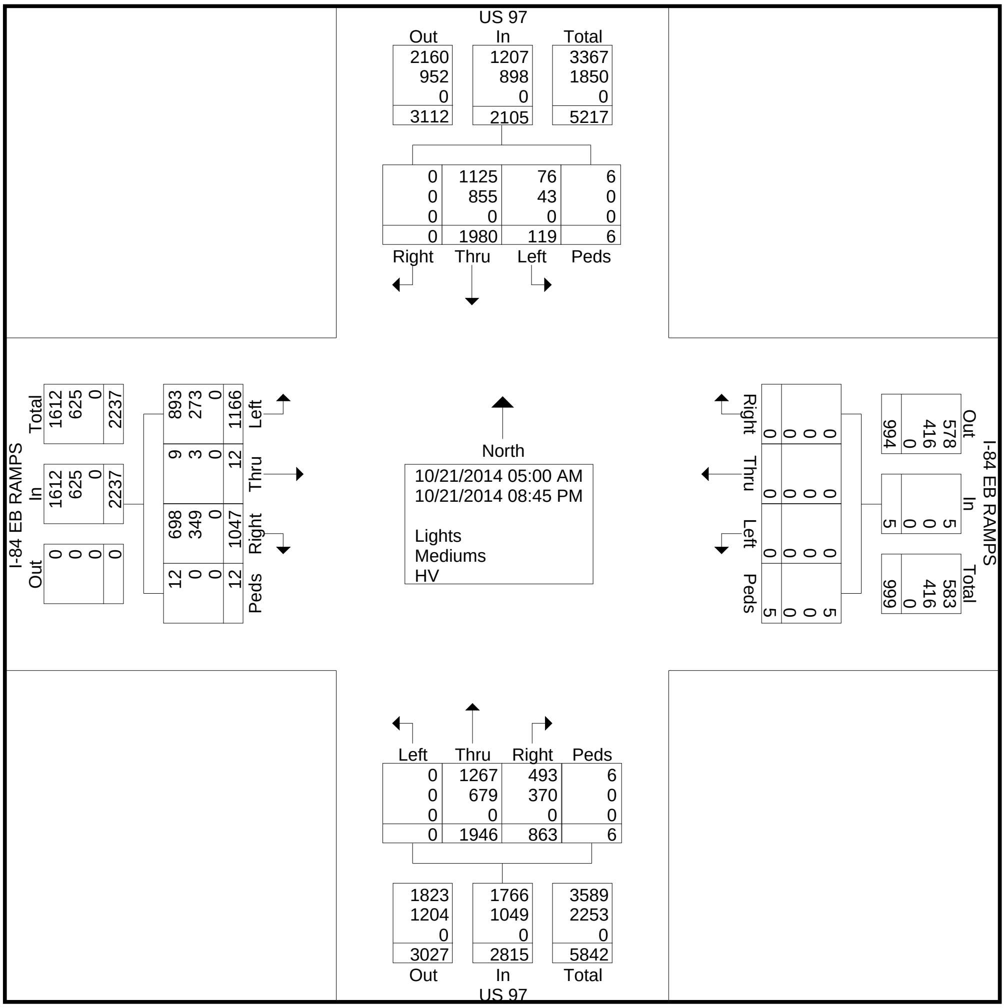

	US 97 Southbound					I-84 EB RAMPS Westbound					US 97 Northbound					I-84 EB RAMPS Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	0	32	3	0	35	0	0	0	0	0	12	29	0	0	41	20	0	16	0	36	112
09:15 AM	0	33	**4**	0	**37**	0	0	0	0	0	10	28	0	0	38	**21**	0	14	0	35	110
09:30 AM	0	**35**	1	0	36	0	0	0	0	0	**18**	29	0	0	**47**	7	0	18	**2**	27	110
09:45 AM	0	30	1	0	31	0	0	0	0	0	11	**30**	0	0	41	21	0	**26**	0	**47**	**119**
Total Volume	0	130	9	0	139	0	0	0	0	0	51	116	0	0	167	69	0	74	2	145	451
% App. Total	0	93.5	6.5	0		0	0	0	0		30.5	69.5	0	0		47.6	0	51	1.4		
PHF	.000	.929	.563	.000	.939	.000	.000	.000	.000	.000	.708	.967	.000	.000	.888	.821	.000	.712	.250	.771	.947

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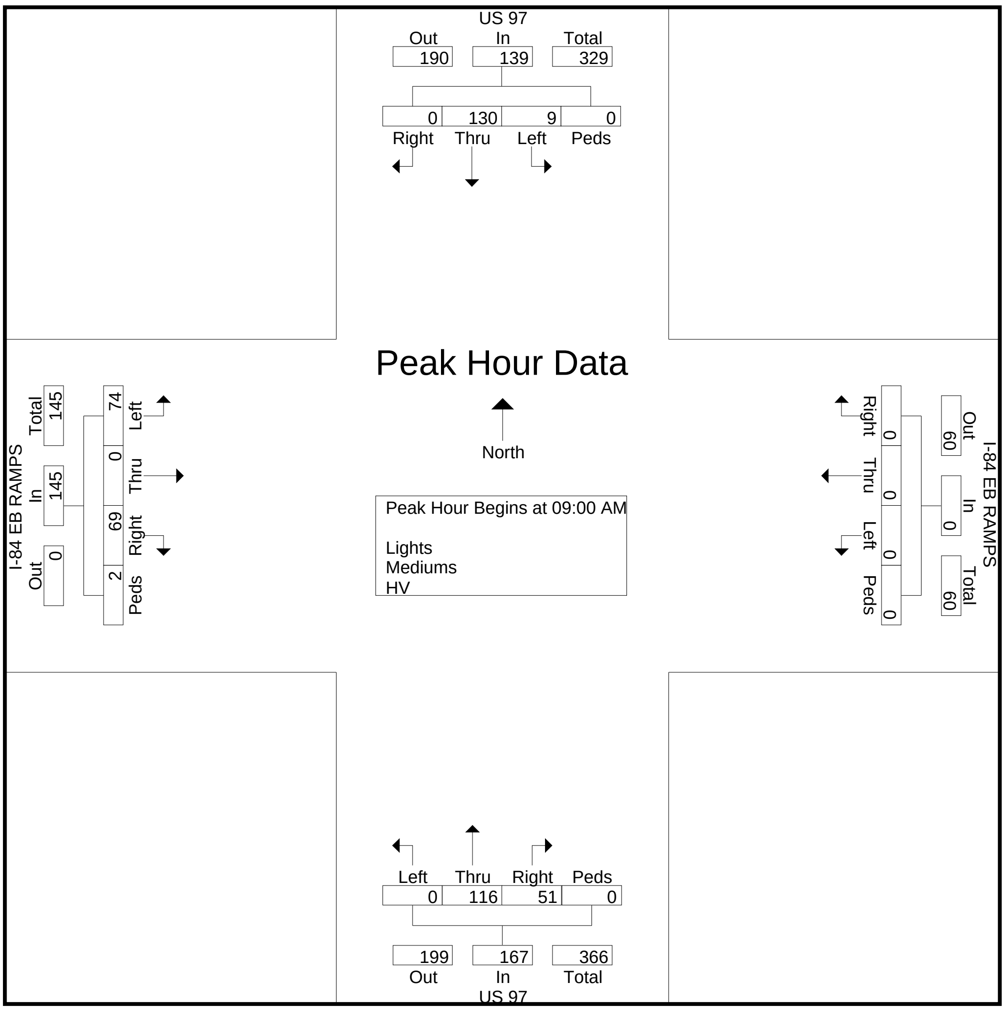

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:45 PM

12:45 PM	0	48	1	**4**	53	0	0	0	**1**	**1**	17	**45**	0	0	62	**29**	**1**	26	0	56	**172**
01:00 PM	0	41	1	0	42	0	0	0	0	0	14	42	0	0	56	21	0	30	**2**	53	151
01:15 PM	0	**55**	**2**	0	**57**	0	0	0	0	0	25	29	0	0	54	14	0	25	2	41	152
01:30 PM	0	29	0	0	29	0	0	0	0	0	**28**	37	0	0	**65**	15	0	**44**	0	**59**	153
Total Volume	0	173	4	4	181	0	0	0	1	1	84	153	0	0	237	79	1	125	4	209	628
% App. Total	0	95.6	2.2	2.2		0	0	0	100		35.4	64.6	0	0		37.8	0.5	59.8	1.9		
PHF	.000	.786	.500	.250	.794	.000	.000	.000	.250	.250	.750	.850	.000	.000	.912	.681	.250	.710	.500	.886	.913

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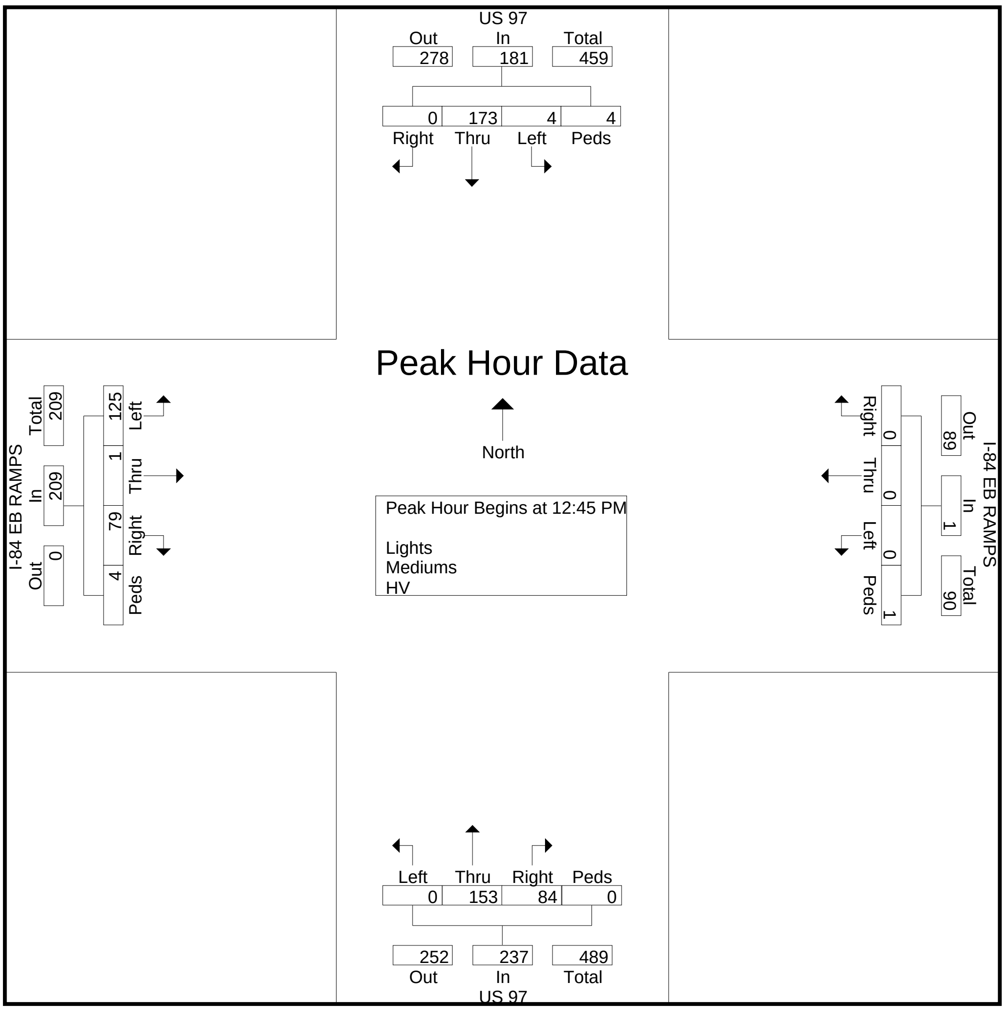

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	33	4	0	37	0	0	0	0	0	17	41	0	0	58	23	**1**	**34**	0	**58**	153
02:15 PM	0	**45**	3	0	48	0	0	0	0	0	15	**51**	0	0	**66**	16	0	28	0	44	**158**
02:30 PM	0	45	**5**	0	**50**	0	0	0	0	0	14	38	0	0	52	**24**	0	19	0	43	145
02:45 PM	0	36	1	0	37	0	0	0	0	0	**21**	35	0	0	56	12	0	31	0	43	136
Total Volume	0	159	13	0	172	0	0	0	0	0	67	165	0	0	232	75	1	112	0	188	592
% App. Total	0	92.4	7.6	0		0	0	0	0		28.9	71.1	0	0		39.9	0.5	59.6	0		
PHF	.000	.883	.650	.000	.860	.000	.000	.000	.000	.000	.798	.809	.000	.000	.879	.781	.250	.824	.000	.810	.937

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File Name : #5 US97&I84EBRAMPS
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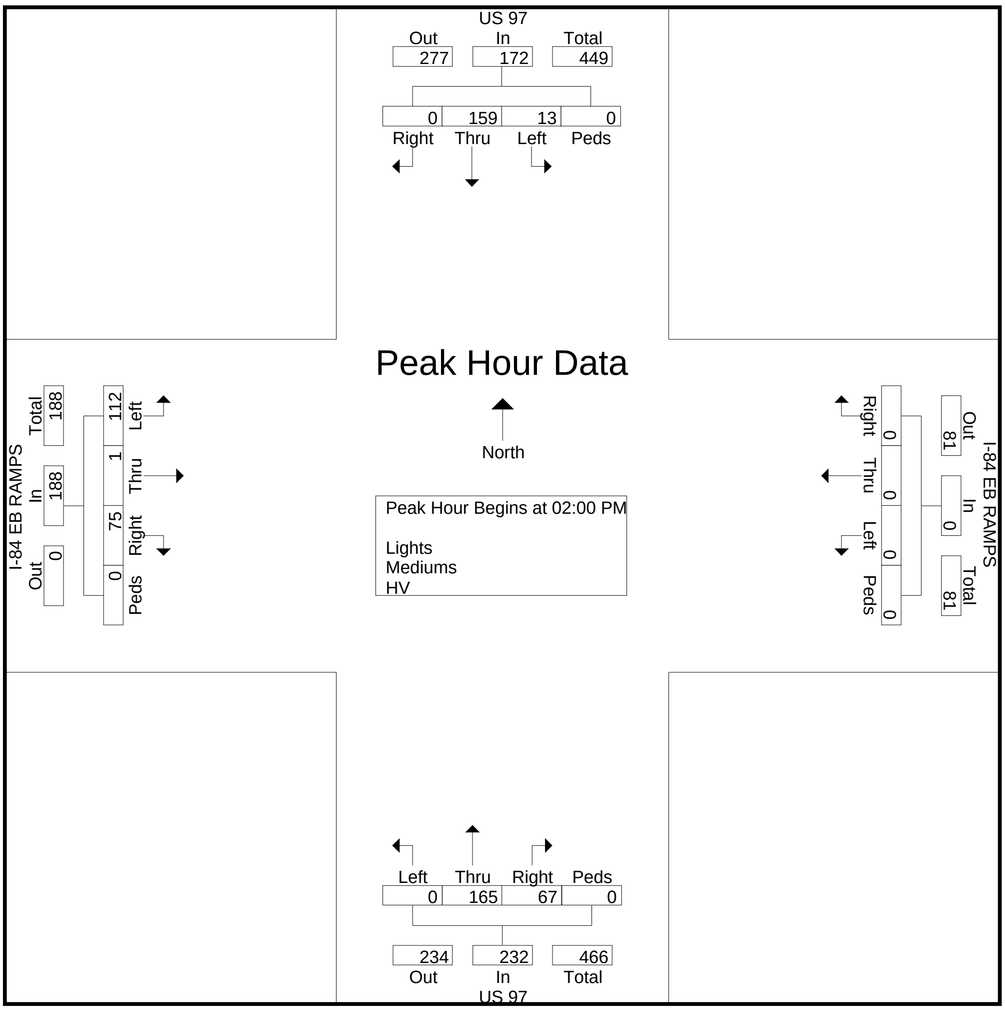

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File Name : #6 US97NBRAMPS&OR206
Site Code : 48094
Start Date : 10/21/2014
Page No : 1

Groups Printed- Lights - Mediums - HV

	US 97 NB RAMPS Southbound				OR 206 Westbound				US 97 NB RAMPS Northbound				OR 206 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	1	0	0	0	0	0	0	0	0	0	0	0	1
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
05:30 AM	0	0	0	0	1	3	0	0	0	0	0	0	0	1	0	0	5
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	3	0	0	0	0	0	0	0	2	0	0	7
06:00 AM	0	0	0	0	1	2	0	0	0	0	0	0	0	4	0	0	7
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
06:30 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	3	0	0	5
06:45 AM	0	0	0	0	1	3	0	0	0	0	0	0	0	1	0	0	5
Total	0	0	0	0	2	6	0	0	0	0	1	0	0	11	0	0	20
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
07:15 AM	0	0	0	0	2	7	0	0	0	0	0	0	0	0	1	0	10
07:30 AM	0	0	0	0	1	5	0	0	0	0	0	0	0	3	0	0	9
07:45 AM	0	0	0	0	1	4	0	0	0	0	0	0	0	4	0	0	9
Total	0	0	0	0	4	16	0	0	0	0	0	0	0	11	1	0	32
08:00 AM	0	0	0	0	2	4	0	0	0	0	1	0	0	0	0	0	7
08:15 AM	0	0	0	0	3	2	0	0	0	0	1	0	0	6	0	0	12
08:30 AM	0	0	0	0	2	6	0	0	0	0	0	0	0	3	0	0	11
08:45 AM	0	0	0	0	2	6	0	0	0	0	0	0	0	1	0	0	9
Total	0	0	0	0	9	18	0	0	0	0	2	0	0	10	0	0	39
09:00 AM	0	0	0	0	0	5	0	0	0	0	2	0	0	4	0	0	11
09:15 AM	0	0	0	0	1	4	0	0	0	0	0	0	0	2	0	0	7
09:30 AM	0	0	0	0	3	2	0	0	0	0	0	0	0	3	0	0	8
09:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	7	0	0	9
Total	0	0	0	0	4	13	0	0	0	0	2	0	0	16	0	0	35
10:00 AM	0	0	0	0	3	1	0	0	0	0	0	0	0	1	0	0	5
10:15 AM	0	0	0	0	1	5	0	0	0	0	0	0	0	5	1	0	12
10:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
10:45 AM	0	0	0	0	1	3	0	0	0	0	0	0	0	2	0	0	6
Total	0	0	0	0	5	9	0	0	0	1	0	0	0	10	1	0	26
11:00 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	1	0	0	4
11:15 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	5	1	0	10
11:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
11:45 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	3	0	0	6
Total	0	0	0	0	4	7	0	0	0	0	0	0	0	11	1	0	23
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	4	0	0	6
12:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	5	0	0	7
12:30 PM	0	0	0	0	1	3	0	0	0	0	0	0	0	3	0	0	7
12:45 PM	0	0	0	0	2	1	0	0	0	0	0	0	0	3	0	0	6
Total	0	0	0	0	3	6	0	0	0	1	0	0	1	15	0	0	26
01:00 PM	0	0	0	0	2	2	0	0	0	0	0	0	0	1	0	0	5

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File Name : #6 US97NBRAMPS&OR206
Site Code : 48094
Start Date : 10/21/2014

Groups Printed- Lights - Mediums - HV

	US 97 NB RAMPS Southbound				OR 206 Westbound				US 97 NB RAMPS Northbound				OR 206 Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	0	0	0	0	3	1	0	0	0	0	0	0	0	1	0	0	5
01:30 PM	0	0	0	0	4	2	0	0	0	0	0	0	0	1	0	0	7
01:45 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	6	0	0	8
Total	0	0	0	0	9	6	0	0	0	0	1	0	0	9	0	0	25
02:00 PM	0	0	0	0	2	4	0	0	0	0	2	0	0	2	0	0	10
02:15 PM	0	0	0	0	4	6	0	0	1	0	0	0	0	3	0	0	14
02:30 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	3	0	0	8
02:45 PM	0	0	0	0	3	4	0	0	0	0	0	0	0	8	0	0	15
Total	0	0	0	0	9	19	0	0	1	0	2	0	0	16	0	0	47
03:00 PM	0	0	0	0	3	1	0	0	0	0	0	0	0	1	0	0	5
03:15 PM	0	0	0	0	1	4	0	0	0	3	2	0	0	6	1	0	17
03:30 PM	0	0	0	0	3	5	0	0	0	2	2	0	0	4	0	0	16
03:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	3	0	0	5
Total	0	0	0	0	8	11	0	0	0	5	4	0	0	14	1	0	43
04:00 PM	0	0	0	0	2	3	0	0	0	0	0	0	0	4	0	0	9
04:15 PM	0	0	0	0	3	1	0	0	0	0	0	0	0	3	0	0	7
04:30 PM	0	0	0	0	2	3	0	0	1	0	0	0	0	8	0	0	14
04:45 PM	0	0	0	0	1	3	0	0	0	0	0	0	0	5	0	0	9
Total	0	0	0	0	8	10	0	0	1	0	0	0	0	20	0	0	39
05:00 PM	0	0	0	0	4	8	0	0	0	0	0	0	0	2	0	0	14
05:15 PM	0	0	0	0	3	4	0	0	0	0	0	0	0	2	0	0	9
05:30 PM	0	0	0	0	2	1	0	0	0	0	0	0	0	6	0	0	9
05:45 PM	0	0	0	0	3	6	0	0	1	0	0	0	0	8	0	0	18
Total	0	0	0	0	12	19	0	0	1	0	0	0	0	18	0	0	50
06:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	12	0	0	13
06:15 PM	0	0	0	0	2	4	0	0	0	0	1	0	0	3	0	0	10
06:30 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	7	0	0	11
06:45 PM	0	0	0	0	1	2	0	0	0	0	0	0	0	6	0	0	9
Total	0	0	0	0	4	10	0	0	0	0	1	0	0	28	0	0	43
07:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	3
07:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	4
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	1	0	0	0	0	0	0	0	5	0	0	8
08:00 PM	0	0	0	0	0	2	0	0	0	0	2	0	0	1	0	0	5
08:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	3	1	0	5
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	0	1	6	0	0	0	0	2	0	0	4	1	0	14
Grand Total	0	0	0	0	86	160	0	0	3	7	15	0	1	200	5	0	477
Apprch %	0	0	0	0	35	65	0	0	12	28	60	0	0.5	97.1	2.4	0	
Total %	0	0	0	0	18	33.5	0	0	0.6	1.5	3.1	0	0.2	41.9	1	0	
Lights	0	0	0	0	69	154	0	0	3	3	14	0	0	182	5	0	430
% Lights	0	0	0	0	80.2	96.2	0	0	100	42.9	93.3	0	0	91	100	0	90.1
Mediums	0	0	0	0	17	6	0	0	0	4	1	0	1	18	0	0	47
% Mediums	0	0	0	0	19.8	3.8	0	0	0	57.1	6.7	0	100	9	0	0	9.9
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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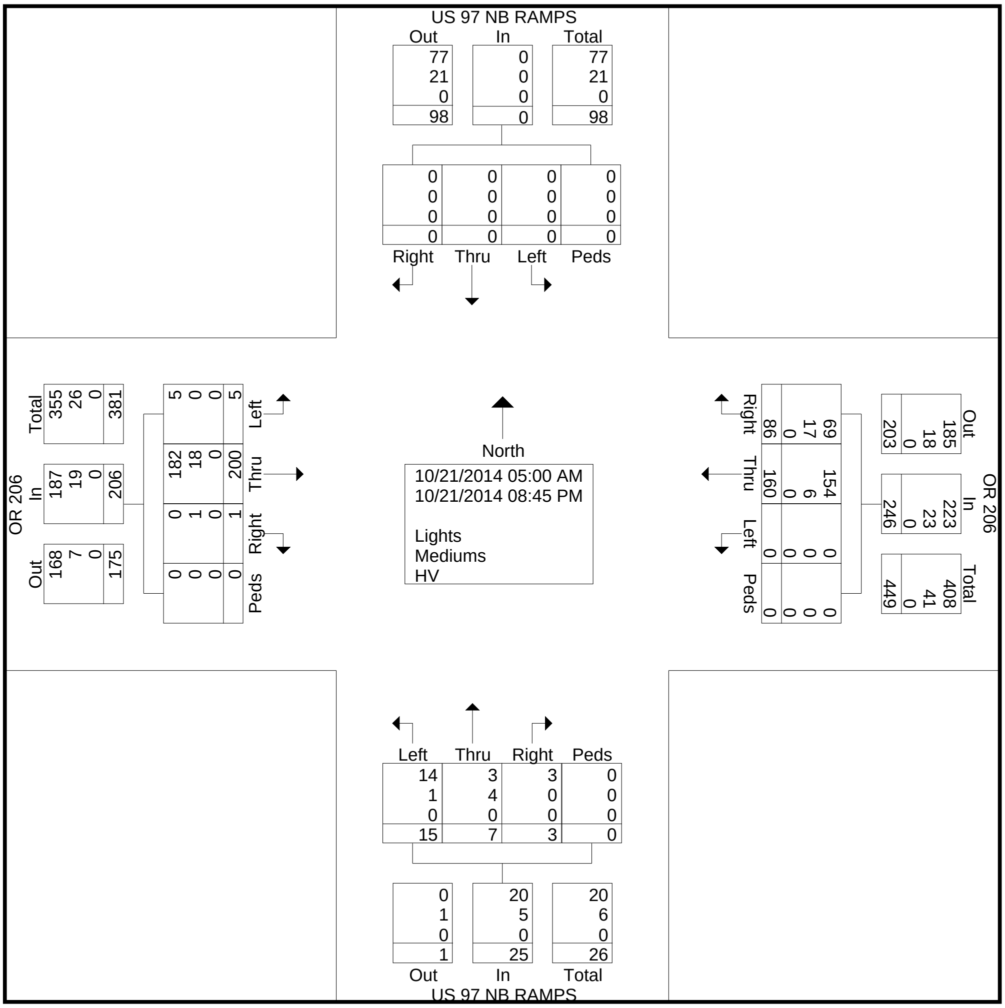

	US 97 NB RAMPS Southbound					OR 206 Westbound					US 97 NB RAMPS Northbound					OR 206 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	0	0	0	0	0	**3**	2	0	0	5	0	0	1	0	1	0	**6**	0	0	**6**	**12**
08:30 AM	0	0	0	0	0	2	**6**	0	0	**8**	0	0	0	0	0	0	3	0	0	3	11
08:45 AM	0	0	0	0	0	2	6	0	0	8	0	0	0	0	0	0	1	0	0	1	9
09:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	**2**	0	**2**	0	4	0	0	4	11
Total Volume	0	0	0	0	0	7	19	0	0	26	0	0	3	0	3	0	14	0	0	14	43
% App. Total	0	0	0	0		26.9	73.1	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.583	.792	.000	.000	.813	.000	.000	.375	.000	.375	.000	.583	.000	.000	.583	.896

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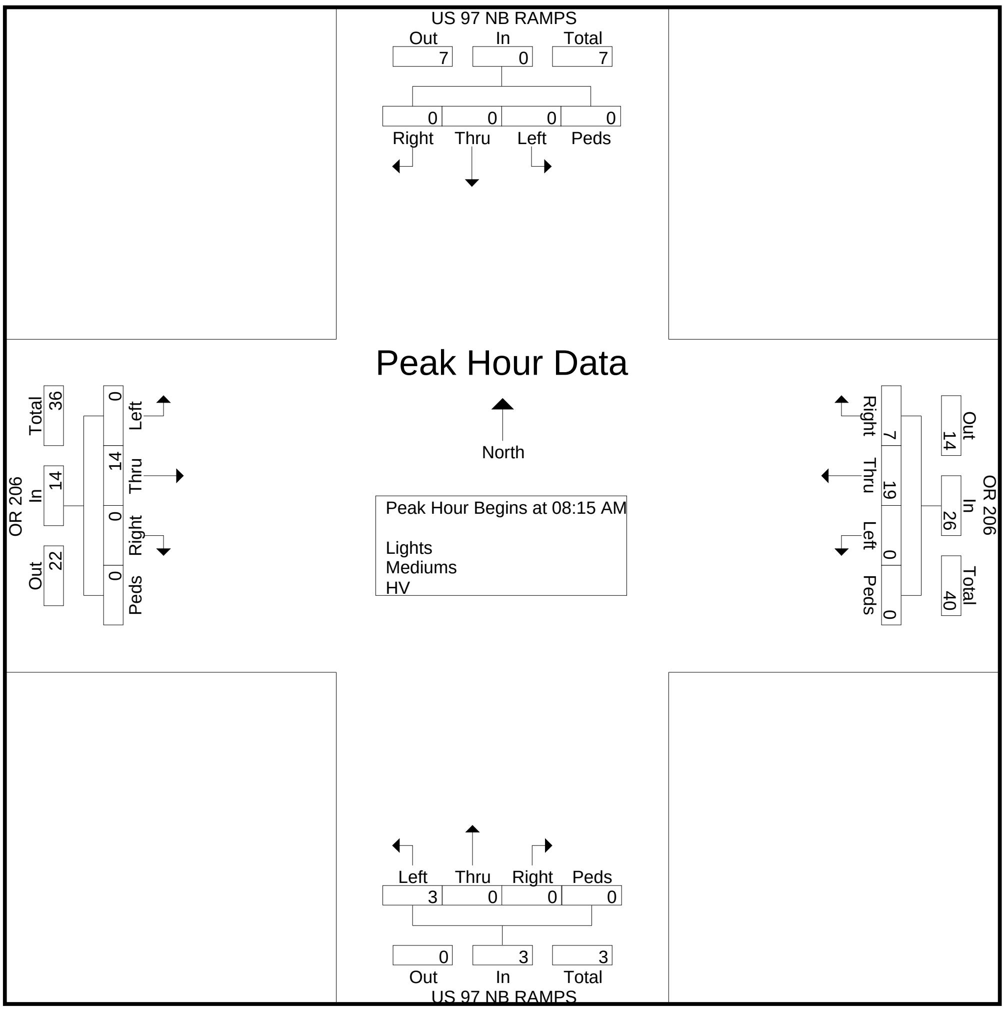

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 10:00 AM

10:00 AM	0	0	0	0	0	**3**	1	0	0	4	0	0	0	0	0	0	1	0	0	1	5
10:15 AM	0	0	0	0	0	1	**5**	0	0	**6**	0	0	0	0	0	0	**5**	**1**	0	**6**	**12**
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	2	0	0	2	3
10:45 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total Volume	0	0	0	0	0	5	9	0	0	14	0	1	0	0	1	0	10	1	0	11	26
% App. Total	0	0	0	0		35.7	64.3	0	0		0	100	0	0		0	90.9	9.1	0		
PHF	.000	.000	.000	.000	.000	.417	.450	.000	.000	.583	.000	.250	.000	.000	.250	.000	.500	.250	.000	.458	.542

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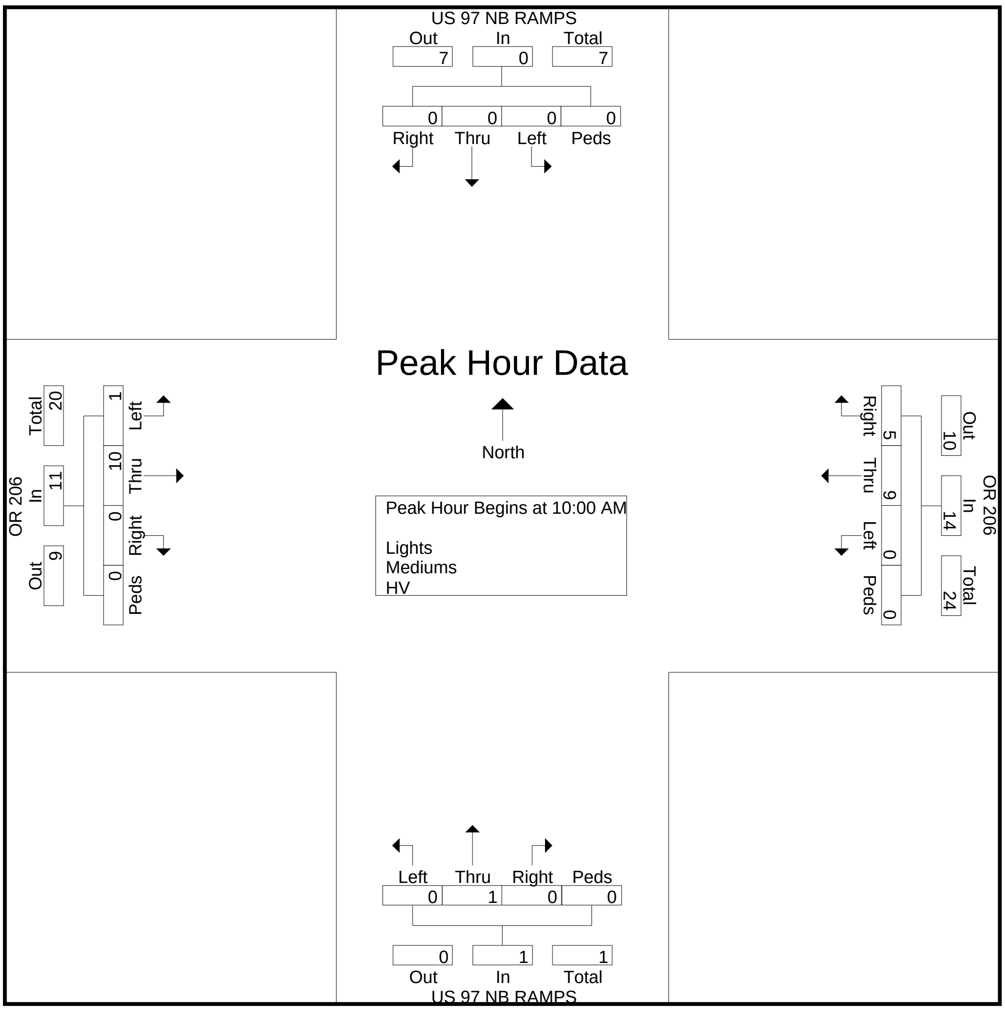

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:45 PM

02:45 PM	0	0	0	0	0	**3**	4	0	0	7	0	0	0	0	0	0	**8**	0	0	**8**	15
03:00 PM	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	1	0	0	1	5
03:15 PM	0	0	0	0	0	1	4	0	0	5	0	**3**	**2**	0	**5**	0	6	**1**	0	7	**17**
03:30 PM	0	0	0	0	0	3	**5**	0	0	**8**	0	2	2	0	4	0	4	0	0	4	16
Total Volume	0	0	0	0	0	10	14	0	0	24	0	5	4	0	9	0	19	1	0	20	53
% App. Total	0	0	0	0		41.7	58.3	0	0		0	55.6	44.4	0		0	95	5	0		
PHF	.000	.000	.000	.000	.000	.833	.700	.000	.000	.750	.000	.417	.500	.000	.450	.000	.594	.250	.000	.625	.779

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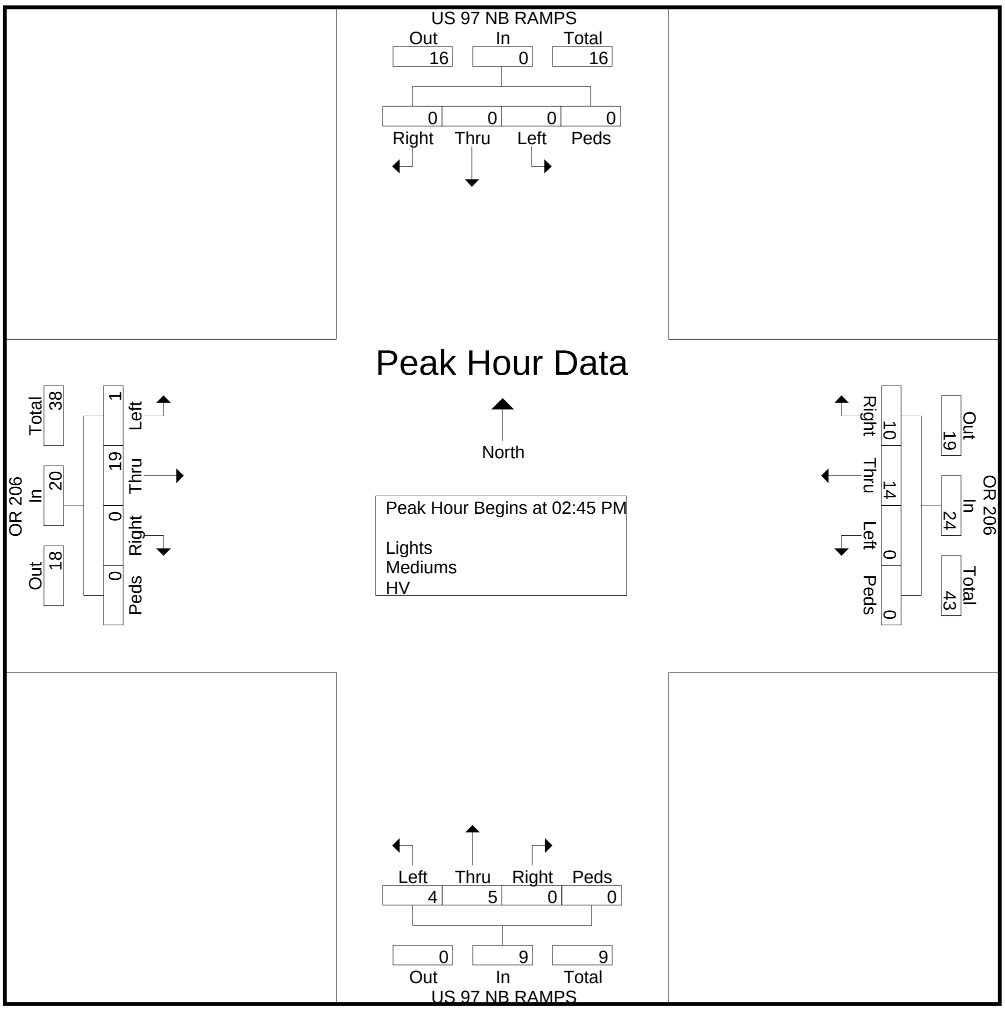

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File Name : #7 US97SBRAMPS&OR206
Site Code : 48098
Start Date : 10/21/2014
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Groups Printed- Lights - Mediums - HV

	US 97 SB RAMPS Southbound				OR 206 Westbound				US 97 SB RAMPS Northbound				OR 206 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	0	0	0	0	0	0	0	0	0
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	1	0	0	1	1	0	0	0	0	0	1	0	0	0	4
05:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	0	2	1	0	0	0	0	0	2	1	0	0	7
06:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	2	0	0	6
06:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	3
06:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0	0	5
06:45 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	3	0	0	7	0	0	0	0	0	0	0	7	0	0	17
07:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	3
07:15 AM	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	0	6
07:30 AM	0	0	0	0	0	5	0	0	0	0	0	0	1	2	0	0	8
07:45 AM	0	0	3	0	0	4	0	0	0	0	0	0	0	2	0	0	9
Total	0	0	4	0	0	14	0	0	0	0	0	0	1	7	0	0	26
08:00 AM	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
08:15 AM	0	0	1	0	0	3	0	0	0	0	0	0	0	5	0	0	9
08:30 AM	1	0	1	0	0	6	0	0	0	0	0	0	0	2	0	0	10
08:45 AM	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	0	7
Total	1	0	2	0	0	20	0	0	0	0	0	0	0	8	0	0	31
09:00 AM	0	0	3	0	0	6	0	0	0	0	0	0	0	0	0	0	9
09:15 AM	1	0	0	0	0	3	0	0	0	0	0	0	1	2	0	0	7
09:30 AM	0	0	2	0	0	3	0	0	0	0	0	0	0	1	0	0	6
09:45 AM	0	0	1	0	0	2	0	0	0	0	0	0	0	6	0	0	9
Total	1	0	6	0	0	14	0	0	0	0	0	0	1	9	0	0	31
10:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
10:15 AM	0	1	0	0	0	4	0	0	0	0	0	0	0	6	0	0	11
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
10:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	4
Total	0	1	0	0	0	7	0	0	0	0	0	0	0	12	0	0	20
11:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	3
11:15 AM	0	0	1	0	0	3	0	0	0	0	0	0	0	4	0	0	8
11:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
11:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0	0	5
Total	0	1	1	0	0	6	1	0	0	0	0	0	0	10	0	0	19
12:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	5
12:15 PM	0	0	3	0	0	4	0	0	0	0	0	0	1	2	0	0	10
12:30 PM	0	0	1	0	0	3	0	0	0	0	0	0	1	2	0	0	7
12:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	4
Total	0	0	7	0	0	8	0	0	0	0	0	0	2	9	0	0	26
01:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3

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File Name : #7 US97SBRAMPS&OR206
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Groups Printed- Lights - Mediums - HV

	US 97 SB RAMPS Southbound				OR 206 Westbound				US 97 SB RAMPS Northbound				OR 206 Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
01:30 PM	0	0	1	0	0	3	0	0	0	0	0	0	1	0	0	0	5
01:45 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	4	0	0	8
Total	0	0	4	0	0	7	1	0	0	0	0	0	1	5	0	0	18
02:00 PM	0	0	1	0	0	6	0	0	0	0	0	0	0	1	0	0	8
02:15 PM	0	0	2	0	0	6	0	0	0	0	0	0	1	1	0	0	10
02:30 PM	0	0	1	0	0	4	1	0	0	0	0	0	0	2	0	0	8
02:45 PM	0	0	1	0	0	4	0	0	0	0	0	0	0	7	0	0	12
Total	0	0	5	0	0	20	1	0	0	0	0	0	1	11	0	0	38
03:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
03:15 PM	0	0	0	0	0	6	0	0	0	0	0	0	0	6	0	0	12
03:30 PM	0	0	0	0	0	6	1	0	0	0	0	0	0	4	0	0	11
03:45 PM	0	0	1	0	0	1	0	0	0	0	0	0	1	2	0	0	5
Total	0	0	1	0	0	14	1	0	0	0	0	0	1	14	0	0	31
04:00 PM	0	0	1	0	0	3	0	0	0	0	0	0	1	3	0	0	8
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	4
04:30 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	8	0	0	12
04:45 PM	0	0	1	0	0	2	1	0	0	0	0	0	0	4	0	0	8
Total	0	0	2	0	0	10	1	0	0	0	0	0	1	18	0	0	32
05:00 PM	0	0	1	0	0	8	0	0	0	0	0	0	0	1	0	0	10
05:15 PM	0	0	0	0	0	3	1	0	0	0	0	0	0	3	0	0	7
05:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	1	5	0	0	8
05:45 PM	0	0	0	0	0	6	0	0	0	0	0	0	0	7	0	0	13
Total	0	0	2	0	0	18	1	0	0	0	0	0	1	16	0	0	38
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12
06:15 PM	0	0	0	0	0	4	1	0	0	0	0	0	0	3	0	0	8
06:30 PM	0	0	3	0	0	4	0	0	0	0	0	0	1	4	0	0	12
06:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	6	0	0	8
Total	0	0	3	0	0	10	1	0	0	0	0	0	1	25	0	0	40
07:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
07:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	1	0	0	0	0	0	0	0	4	0	0	6
08:00 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	0	5
08:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	4
08:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Total	1	0	1	0	0	8	0	0	0	0	0	0	0	4	0	0	14
Grand Total	3	2	43	0	0	166	8	0	0	0	0	0	12	160	0	0	394
Apprch %	6.2	4.2	89.6	0	0	95.4	4.6	0	0	0	0	0	7	93	0	0	
Total %	0.8	0.5	10.9	0	0	42.1	2	0	0	0	0	0	3	40.6	0	0	
Lights	3	1	34	0	0	160	6	0	0	0	0	0	12	152	0	0	368
% Lights	100	50	79.1	0	0	96.4	75	0	0	0	0	0	100	95	0	0	93.4
Mediums	0	1	9	0	0	6	2	0	0	0	0	0	0	8	0	0	26
% Mediums	0	50	20.9	0	0	3.6	25	0	0	0	0	0	0	5	0	0	6.6
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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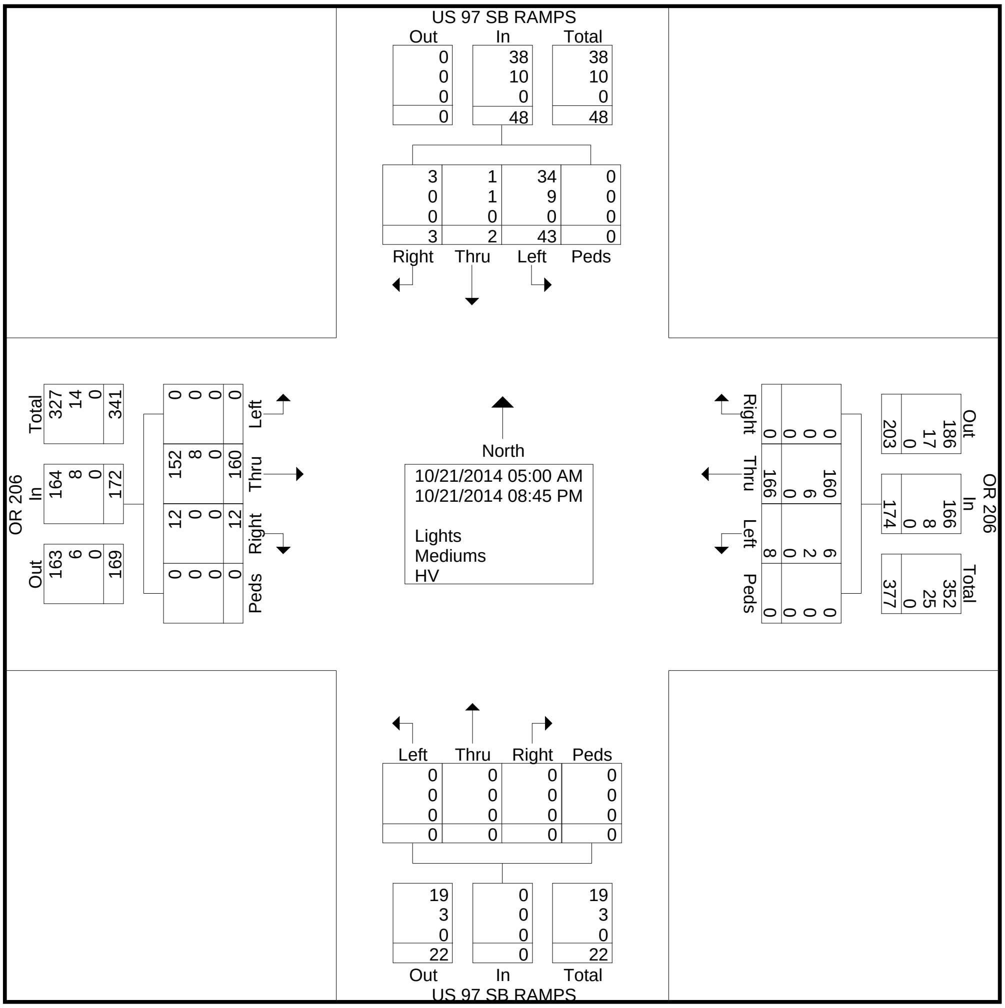

	US 97 SB RAMPS Southbound					OR 206 Westbound					US 97 SB RAMPS Northbound					OR 206 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	**5**	0	0	**5**	9
08:30 AM	**1**	0	1	0	2	0	**6**	0	0	**6**	0	0	0	0	0	0	2	0	0	2	**10**
08:45 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	7
09:00 AM	0	0	**3**	0	**3**	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	9
Total Volume	1	0	5	0	6	0	21	0	0	21	0	0	0	0	0	0	8	0	0	8	35
% App. Total	16.7	0	83.3	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.250	.000	.417	.000	.500	.000	.875	.000	.000	.875	.000	.000	.000	.000	.000	.000	.400	.000	.000	.400	.875

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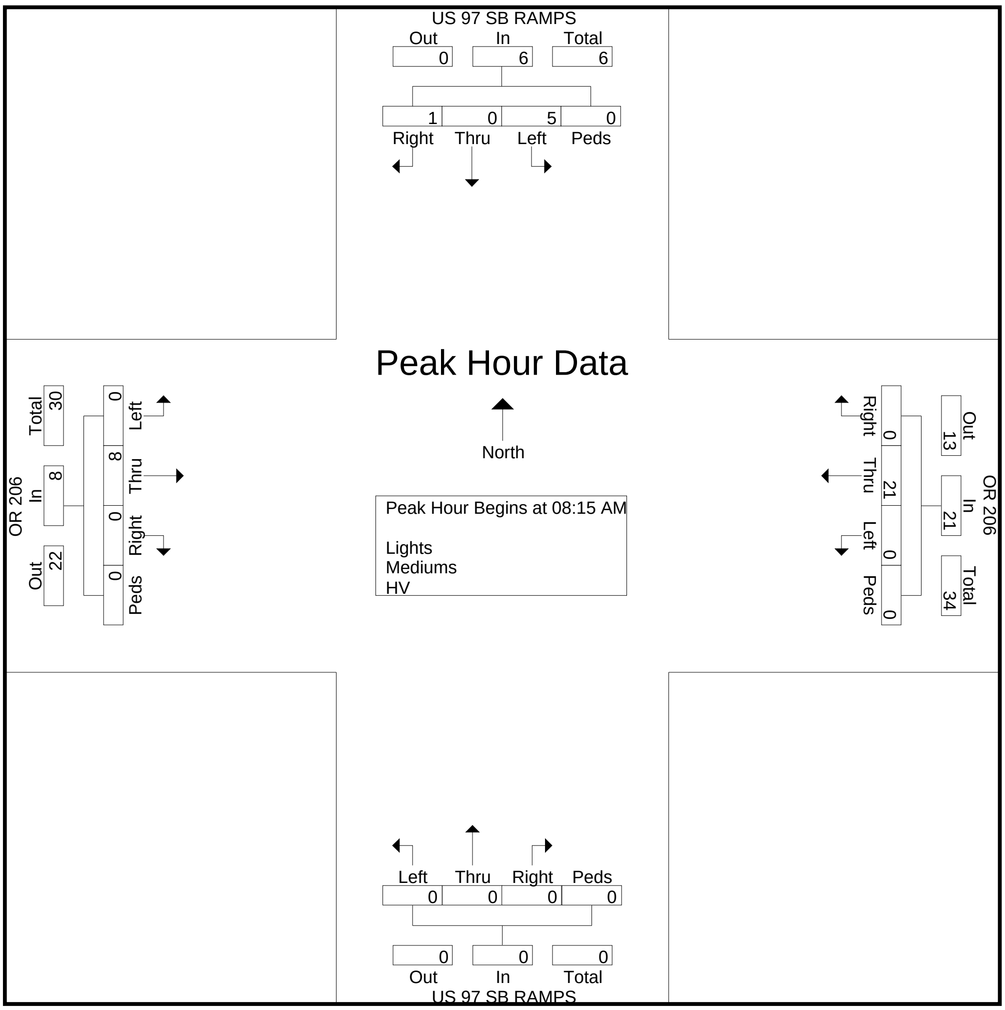

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:45 AM

11:45 AM	0	**1**	0	0	1	0	1	0	0	1	0	0	0	0	0	0	**3**	0	0	**3**	5
12:00 PM	0	0	**3**	0	**3**	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	5
12:15 PM	0	0	3	0	3	0	**4**	0	0	**4**	0	0	0	0	0	**1**	2	0	0	3	**10**
12:30 PM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	1	2	0	0	3	7
Total Volume	0	1	7	0	8	0	8	0	0	8	0	0	0	0	0	2	9	0	0	11	27
% App. Total	0	12.5	87.5	0		0	100	0	0		0	0	0	0		18.2	81.8	0	0		
PHF	.000	.250	.583	.000	.667	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.500	.750	.000	.000	.917	.675

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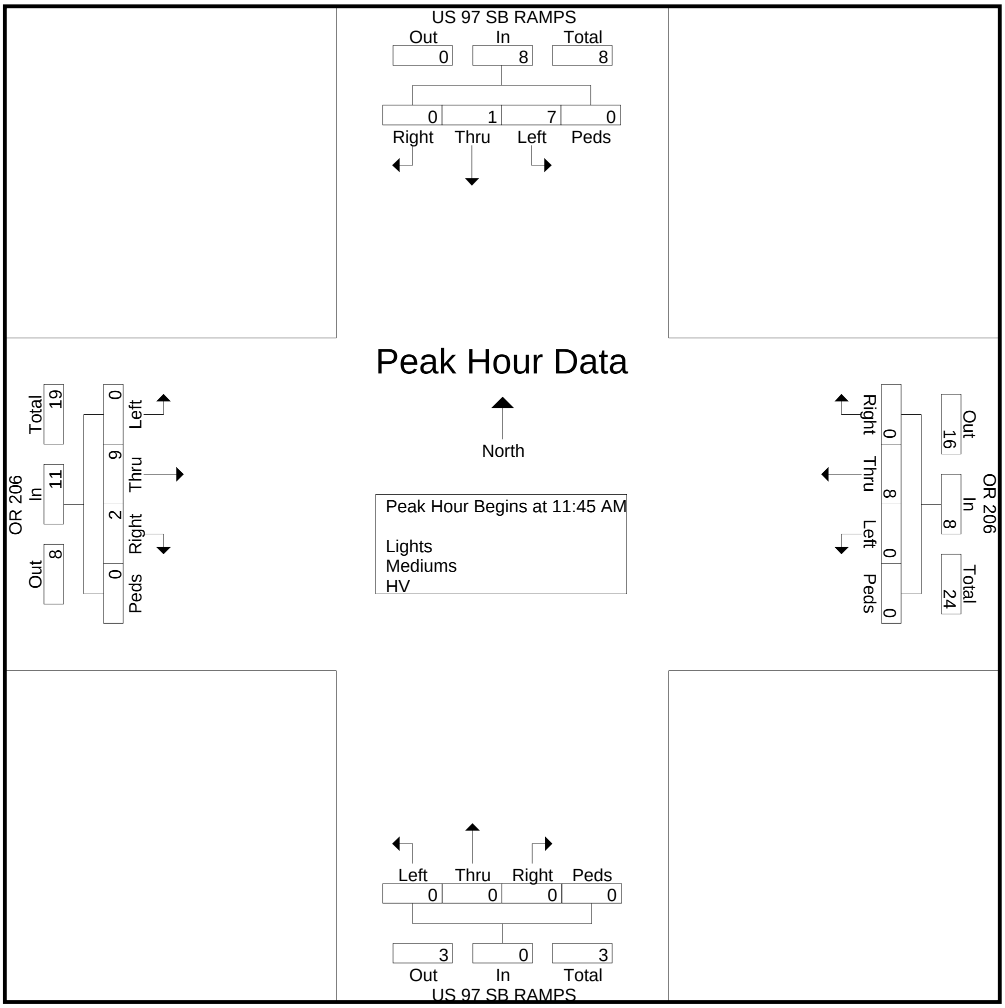

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 05:45 PM

05:45 PM	0	0	0	0	0	0	**6**	0	0	**6**	0	0	0	0	0	0	7	0	0	7	**13**
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**12**	0	0	**12**	12
06:15 PM	0	0	0	0	0	0	4	**1**	0	5	0	0	0	0	0	0	3	0	0	3	8
06:30 PM	0	0	**3**	0	**3**	0	4	0	0	4	0	0	0	0	0	**1**	4	0	0	5	12
Total Volume	0	0	3	0	3	0	14	1	0	15	0	0	0	0	0	1	26	0	0	27	45
% App. Total	0	0	100	0		0	93.3	6.7	0		0	0	0	0		3.7	96.3	0	0		
PHF	.000	.000	.250	.000	.250	.000	.583	.250	.000	.625	.000	.000	.000	.000	.000	.250	.542	.000	.000	.563	.865

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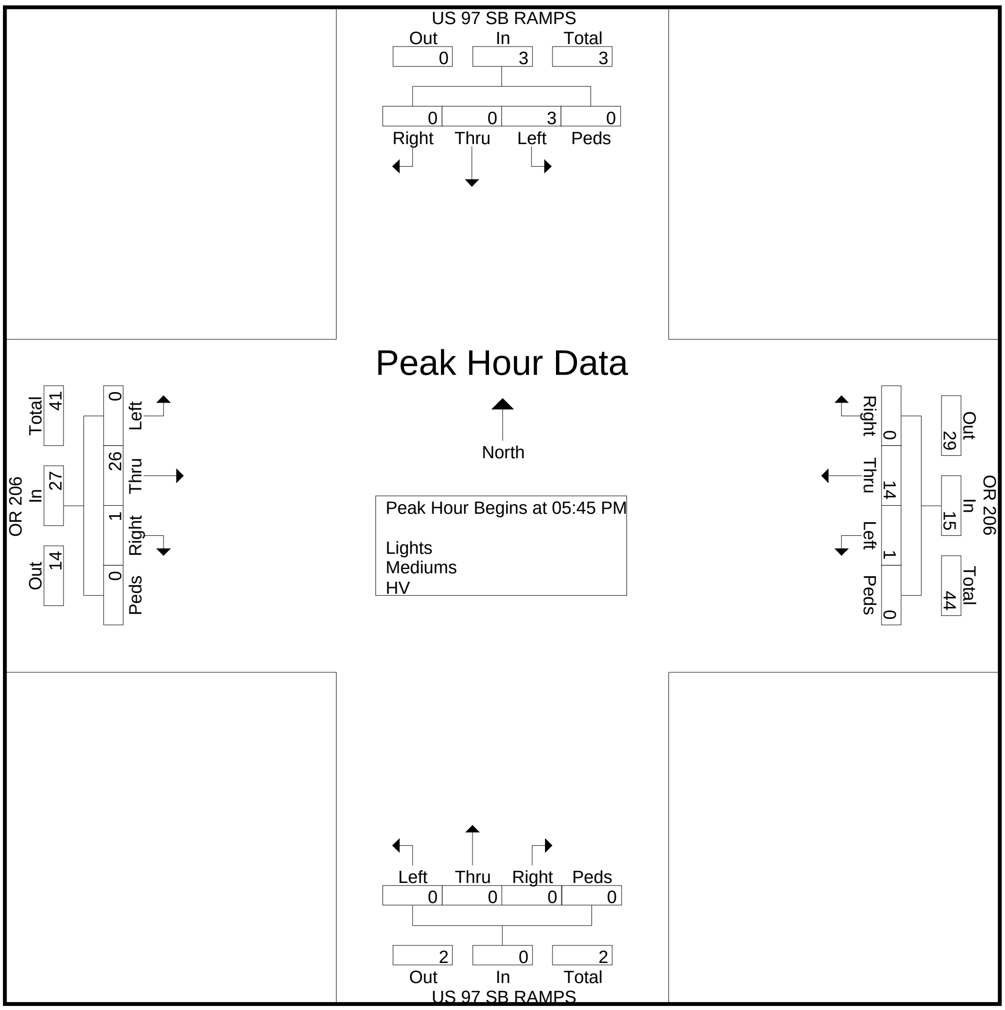

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File Name : #8 CLARK&OLDWASCO
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Groups Printed- Lights - Mediums - HV

	CLARK ST Southbound				OR 206 / OLD WASCO-HEPNER Westbound				CLARK ST Northbound				OR 206 / OLD 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	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
05:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	3
05:30 AM	1	3	0	0	0	0	0	0	0	2	1	0	0	0	0	0	7
05:45 AM	0	2	1	0	0	0	0	0	0	4	0	0	2	0	0	0	9
Total	1	6	1	0	0	0	0	0	0	8	2	0	3	0	0	0	21
06:00 AM	1	5	3	0	0	1	0	0	1	3	3	0	2	2	0	0	21
06:15 AM	0	4	1	0	0	0	0	0	5	5	0	0	2	2	0	0	19
06:30 AM	0	10	1	0	0	0	0	0	0	1	0	0	3	0	0	0	15
06:45 AM	1	8	3	0	1	0	0	0	1	6	2	0	0	0	0	0	22
Total	2	27	8	0	1	1	0	0	7	15	5	0	7	4	0	0	77
07:00 AM	0	7	0	0	0	0	0	0	0	3	0	0	3	1	1	2	17
07:15 AM	1	7	0	0	1	1	2	1	1	3	2	0	1	0	0	1	21
07:30 AM	0	13	0	0	0	0	2	0	1	5	6	1	1	0	0	1	30
07:45 AM	1	8	1	0	0	1	1	0	0	6	1	1	2	2	0	0	24
Total	2	35	1	0	1	2	5	1	2	17	9	2	7	3	1	4	92
08:00 AM	1	13	2	1	1	1	2	0	0	3	4	0	2	0	0	0	30
08:15 AM	0	12	0	1	1	1	3	0	5	13	2	0	2	5	1	0	46
08:30 AM	4	10	1	0	1	1	0	0	0	5	5	0	3	2	0	0	32
08:45 AM	1	5	1	0	1	3	0	0	2	3	3	1	1	0	0	0	21
Total	6	40	4	2	4	6	5	0	7	24	14	1	8	7	1	0	129
09:00 AM	1	8	0	0	2	0	0	0	0	11	1	0	3	0	0	0	26
09:15 AM	0	5	1	0	0	0	0	0	1	7	4	0	2	0	0	0	20
09:30 AM	0	8	1	0	0	0	1	0	1	6	6	0	3	1	0	0	27
09:45 AM	0	6	0	0	0	0	3	1	0	9	5	0	7	0	0	0	31
Total	1	27	2	0	2	0	4	1	2	33	16	0	15	1	0	0	104
10:00 AM	0	9	1	0	1	2	0	0	1	7	3	0	2	0	0	0	26
10:15 AM	1	14	0	0	0	1	0	0	0	9	2	0	5	0	1	0	33
10:30 AM	0	7	0	0	0	0	0	0	1	7	2	6	1	0	1	0	25
10:45 AM	1	6	0	0	1	0	2	0	1	10	4	1	1	1	0	0	28
Total	2	36	1	0	2	3	2	0	3	33	11	7	9	1	2	0	112
11:00 AM	1	11	0	0	1	1	1	0	2	10	0	5	2	0	0	0	34
11:15 AM	0	7	0	0	0	1	0	2	0	9	2	6	4	1	1	0	33
11:30 AM	1	8	0	0	0	0	1	0	0	10	1	1	4	0	0	2	28
11:45 AM	1	10	0	0	0	1	1	0	6	9	2	6	1	1	2	0	40
Total	3	36	0	0	1	3	3	2	8	38	5	18	11	2	3	2	135
12:00 PM	0	15	0	0	0	1	2	0	1	6	1	0	4	0	0	0	30
12:15 PM	1	7	0	0	0	0	2	1	0	7	2	0	6	0	0	0	26
12:30 PM	1	7	0	0	0	0	2	0	0	6	3	0	7	1	0	0	27
12:45 PM	0	6	0	0	3	0	0	0	1	4	3	0	3	0	0	1	21
Total	2	35	0	0	3	1	6	1	2	23	9	0	20	1	0	1	104

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Groups Printed- Lights - Mediums - HV

	CLARK ST Southbound				OR 206 / OLD WASCO-HEPNER Westbound				CLARK ST Northbound				OR 206 / OLD WASCO-HEPNER Eastbound				
Start Time	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Right**	**Thru**	**Left**	**Peds**	**Int. Total**
01:00 PM	0	8	2	0	1	0	0	0	0	10	1	0	0	0	1	0	23
01:15 PM	0	18	0	0	0	0	0	0	1	6	5	0	2	0	0	0	32
01:30 PM	0	2	1	0	0	0	3	0	1	6	6	0	2	0	0	2	23
01:45 PM	0	11	0	0	1	0	0	0	0	7	1	0	4	0	0	0	24
Total	0	39	3	0	2	0	3	0	2	29	13	0	8	0	1	2	102
02:00 PM	1	11	0	0	0	1	2	0	0	9	2	0	2	2	0	0	30
02:15 PM	0	8	1	0	0	2	1	0	1	8	8	1	1	0	2	0	33
02:30 PM	0	11	0	0	0	0	0	0	1	5	2	0	5	0	0	0	24
02:45 PM	1	11	0	0	1	0	0	0	0	8	5	0	7	0	0	0	33
Total	2	41	1	0	1	3	3	0	2	30	17	1	15	2	2	0	120
03:00 PM	2	8	0	0	1	0	3	0	1	8	4	0	2	1	0	0	30
03:15 PM	0	5	0	0	0	1	0	0	1	8	5	0	7	0	0	0	27
03:30 PM	1	17	1	0	2	1	0	0	4	8	6	0	3	1	0	1	45
03:45 PM	0	9	0	0	0	0	1	0	0	12	1	0	4	0	1	1	29
Total	3	39	1	0	3	2	4	0	6	36	16	0	16	2	1	2	131
04:00 PM	0	7	0	0	0	0	2	0	1	15	7	0	4	1	0	1	38
04:15 PM	1	12	1	0	2	1	0	0	5	13	4	0	1	1	0	0	41
04:30 PM	0	9	0	0	2	4	4	0	1	10	4	0	1	3	1	1	40
04:45 PM	0	6	0	0	0	0	0	0	0	14	5	0	8	0	0	0	33
Total	1	34	1	0	4	5	6	0	7	52	20	0	14	5	1	2	152
05:00 PM	0	13	0	0	1	6	2	0	0	8	7	0	2	1	0	0	40
05:15 PM	1	11	1	0	0	1	3	0	2	13	5	0	2	1	2	0	42
05:30 PM	0	11	0	0	0	0	0	0	0	10	4	0	3	0	1	0	29
05:45 PM	1	9	1	0	0	0	1	0	0	5	10	1	6	1	0	2	37
Total	2	44	2	0	1	7	6	0	2	36	26	1	13	3	3	2	148
06:00 PM	2	9	2	0	0	0	1	0	2	5	1	2	6	1	3	0	34
06:15 PM	0	6	0	0	0	0	0	0	0	8	3	0	1	1	1	1	21
06:30 PM	1	9	0	2	0	0	0	0	0	5	3	0	5	1	0	1	27
06:45 PM	1	12	0	0	0	0	0	0	0	5	1	2	5	1	0	0	27
Total	4	36	2	2	0	0	1	0	2	23	8	4	17	4	4	2	109
07:00 PM	0	5	0	0	0	0	0	0	0	2	1	1	3	0	0	0	12
07:15 PM	0	0	1	0	0	1	0	0	0	0	1	0	2	0	0	0	5
07:30 PM	0	7	0	0	0	0	1	0	3	0	0	0	0	0	0	0	11
07:45 PM	1	3	1	0	0	0	0	0	0	3	0	1	0	0	0	1	10
Total	1	15	2	0	0	1	1	0	3	5	2	2	5	0	0	1	38
08:00 PM	1	3	0	0	1	0	0	0	0	4	1	0	0	0	1	0	11
08:15 PM	0	1	0	0	0	1	0	0	0	1	0	1	4	0	1	0	9
08:30 PM	0	2	0	0	0	0	0	0	0	4	1	0	0	0	0	0	7
08:45 PM	2	2	0	0	1	0	0	0	0	3	1	0	0	0	0	0	9
Total	3	8	0	0	2	1	0	0	0	12	3	1	4	0	2	0	36
Grand Total	35	498	29	4	27	35	49	5	55	414	176	37	172	35	21	18	1610
Apprch %	6.2	88	5.1	0.7	23.3	30.2	42.2	4.3	8.1	60.7	25.8	5.4	69.9	14.2	8.5	7.3	
Total %	2.2	30.9	1.8	0.2	1.7	2.2	3	0.3	3.4	25.7	10.9	2.3	10.7	2.2	1.3	1.1	
Lights	35	444	24	3	23	26	47	5	47	364	163	37	161	29	20	17	1445
% Lights	100	89.2	82.8	75	85.2	74.3	95.9	100	85.5	87.9	92.6	100	93.6	82.9	95.2	94.4	89.8
Mediums	0	54	5	0	4	9	2	0	8	50	13	0	11	6	1	0	163
% Mediums	0	10.8	17.2	0	14.8	25.7	4.1	0	14.5	12.1	7.4	0	6.4	17.1	4.8	0	10.1

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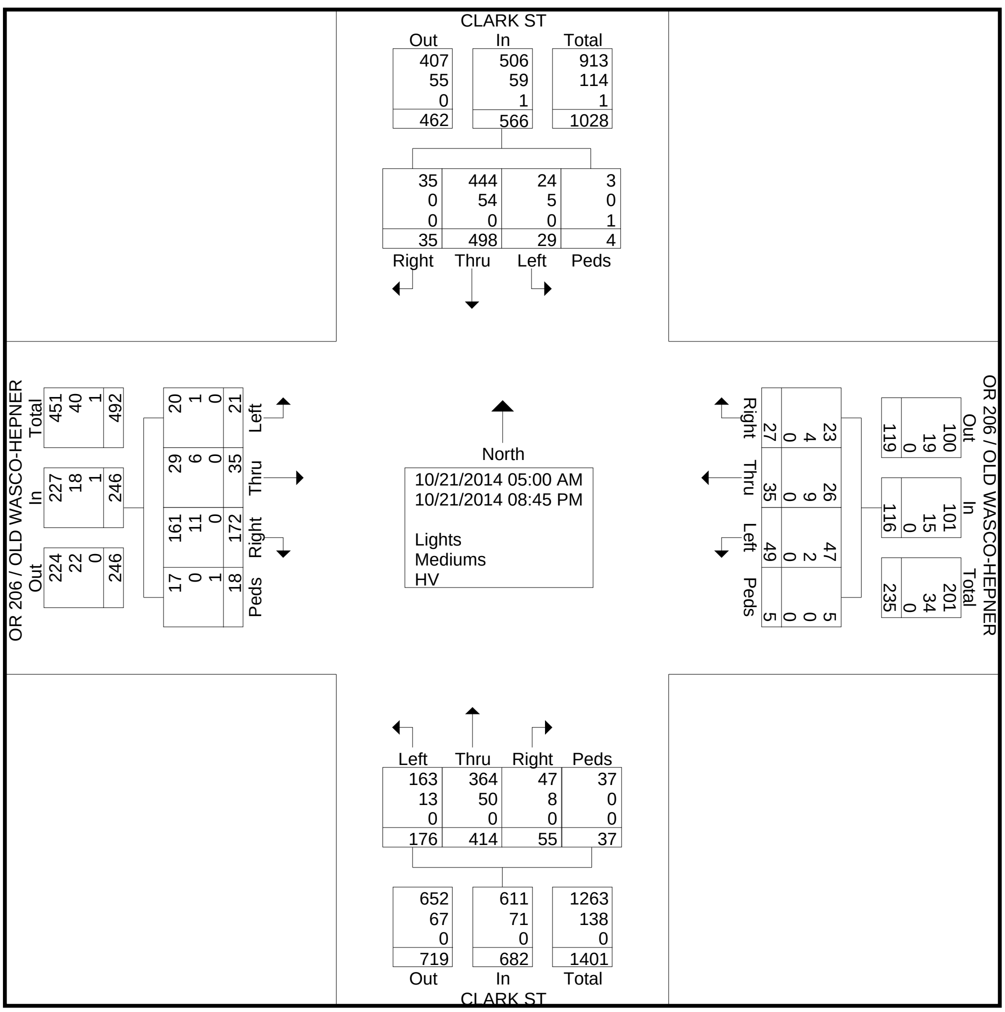
Groups Printed- Lights - Mediums - HV

	CLARK ST Southbound				OR 206 / OLD WASCO-HEPNER Westbound				CLARK ST Northbound				OR 206 / OLD WASCO-HEPNER Eastbound				
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
HV	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
% HV	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	5.6	0.1



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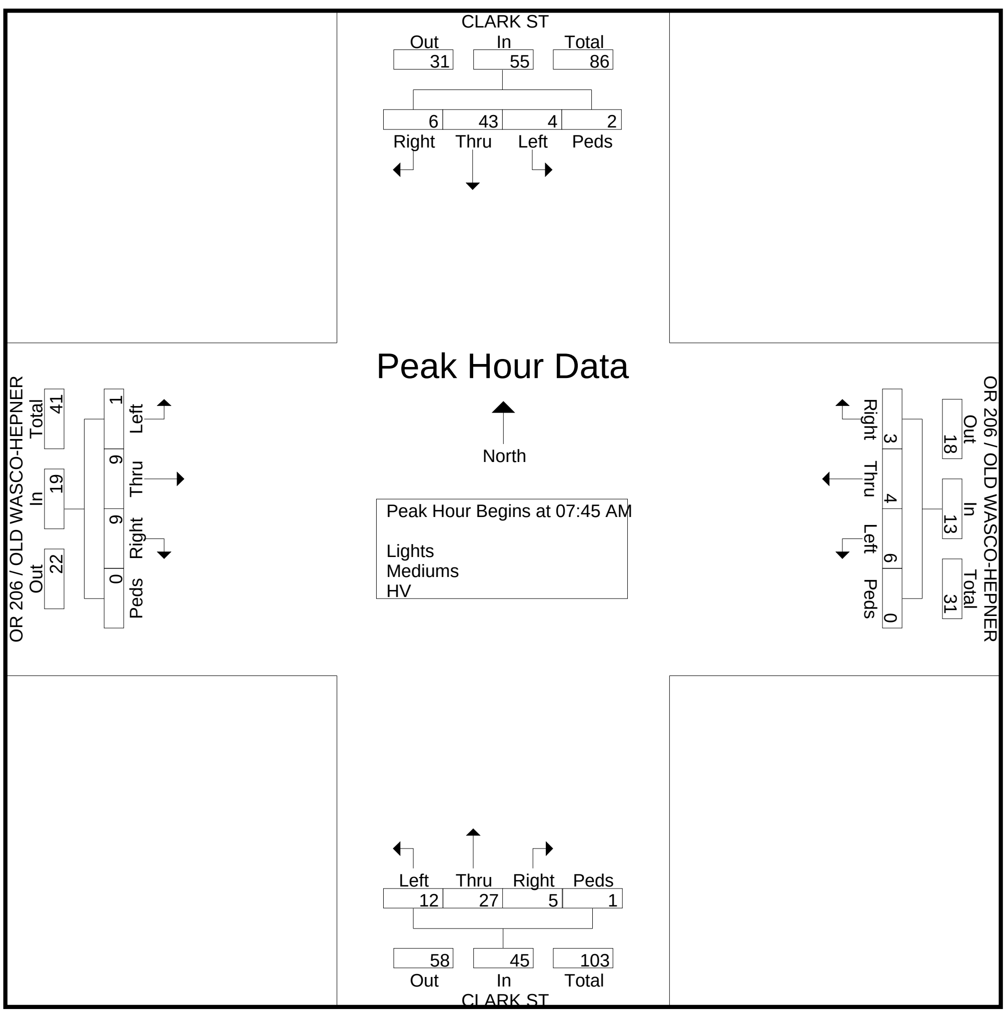
	CLARK ST Southbound					OR 206 / OLD WASCO-HEPNER Westbound					CLARK ST Northbound					OR 206 / OLD WASCO-HEPNER Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	1	8	1	0	10	0	**1**	1	0	2	0	6	1	**1**	8	2	2	0	0	4	24
08:00 AM	1	**13**	**2**	**1**	**17**	**1**	1	2	0	4	0	3	4	0	7	2	0	0	0	2	30
08:15 AM	0	12	0	1	13	1	1	**3**	0	**5**	**5**	**13**	2	0	**20**	2	**5**	**1**	0	**8**	**46**
08:30 AM	**4**	10	1	0	15	1	1	0	0	2	0	5	**5**	0	10	**3**	2	0	0	5	32
Total Volume	6	43	4	2	55	3	4	6	0	13	5	27	12	1	45	9	9	1	0	19	132
% App. Total	10.9	78.2	7.3	3.6		23.1	30.8	46.2	0		11.1	60	26.7	2.2		47.4	47.4	5.3	0		
PHF	.375	.827	.500	.500	.809	.750	1.00	.500	.000	.650	.250	.519	.600	.250	.563	.750	.450	.250	.000	.594	.717



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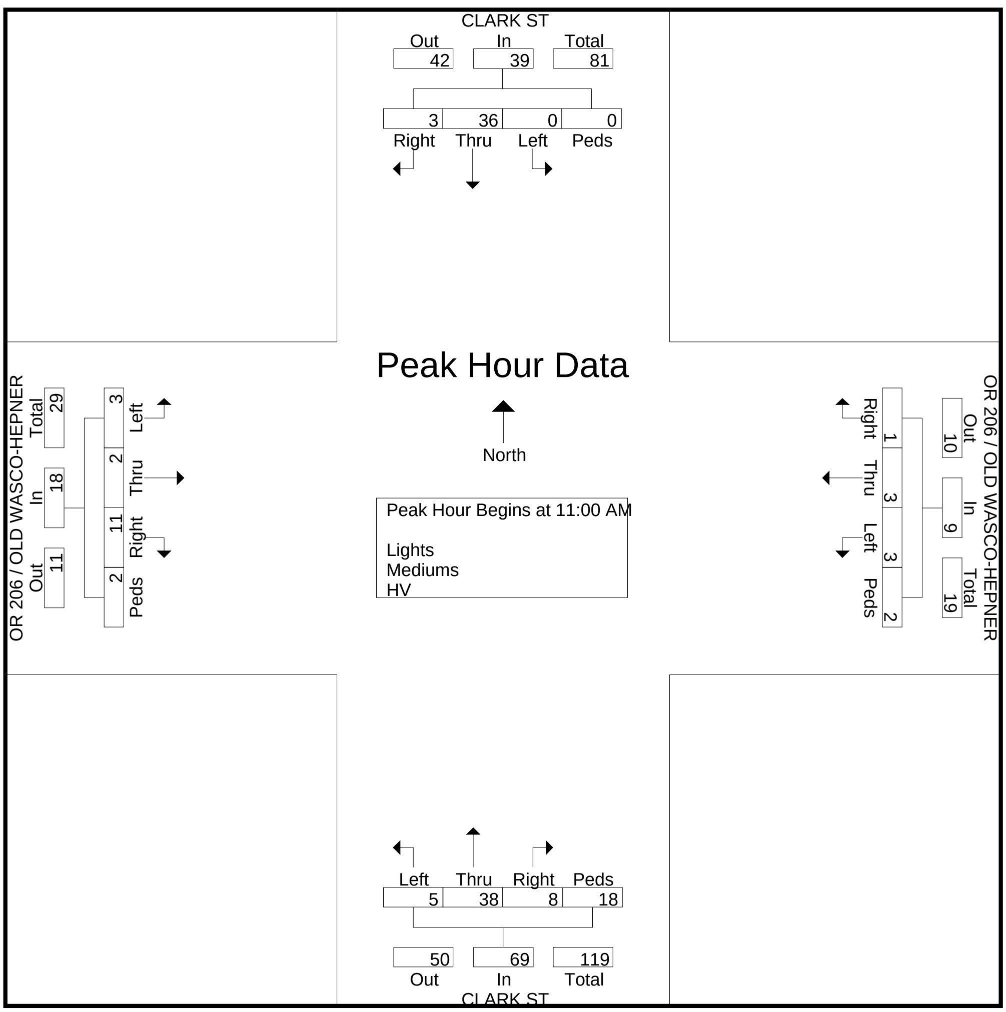
	CLARK ST Southbound					OR 206 / OLD WASCO-HEPNER Westbound					CLARK ST Northbound					OR 206 / OLD WASCO-HEPNER Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	**1**	**11**	0	0	**12**	**1**	**1**	**1**	0	**3**	2	**10**	0	5	17	2	0	0	0	2	34
11:15 AM	0	7	0	0	7	0	1	0	**2**	3	0	9	**2**	**6**	17	**4**	**1**	1	0	**6**	33
11:30 AM	1	8	0	0	9	0	0	1	0	1	0	10	1	1	12	4	0	0	**2**	6	28
11:45 AM	1	10	0	0	11	0	1	1	0	2	**6**	9	2	6	**23**	1	1	**2**	0	4	**40**
Total Volume	3	36	0	0	39	1	3	3	2	9	8	38	5	18	69	11	2	3	2	18	135
% App. Total	7.7	92.3	0	0		11.1	33.3	33.3	22.2		11.6	55.1	7.2	26.1		61.1	11.1	16.7	11.1		
PHF	.750	.818	.000	.000	.813	.250	.750	.750	.250	.750	.333	.950	.625	.750	.750	.688	.500	.375	.250	.750	.844



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File Name : #8 CLARK&OLDWASCO
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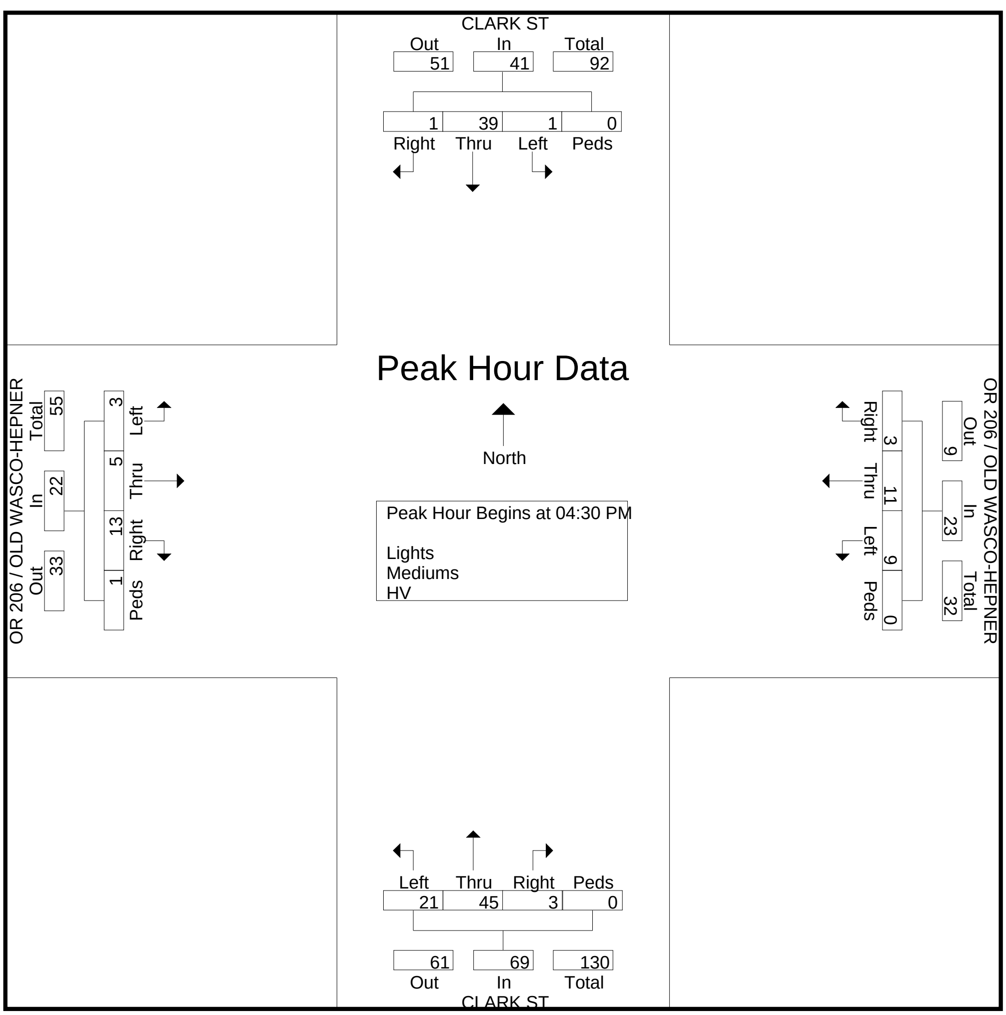
	CLARK ST Southbound					OR 206 / OLD WASCO-HEPNER Westbound					CLARK ST Northbound					OR 206 / OLD WASCO-HEPNER Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	9	0	0	9	**2**	4	**4**	0	**10**	1	10	4	0	15	1	**3**	1	**1**	6	40
04:45 PM	0	6	0	0	6	0	0	0	0	0	0	**14**	5	0	19	**8**	0	0	0	**8**	33
05:00 PM	0	**13**	0	0	**13**	1	**6**	2	0	9	0	8	**7**	0	15	2	1	0	0	3	40
05:15 PM	**1**	11	**1**	0	13	0	1	3	0	4	**2**	13	5	0	**20**	2	1	**2**	0	5	**42**
Total Volume	1	39	1	0	41	3	11	9	0	23	3	45	21	0	69	13	5	3	1	22	155
% App. Total	2.4	95.1	2.4	0		13	47.8	39.1	0		4.3	65.2	30.4	0		59.1	22.7	13.6	4.5		
PHF	.250	.750	.250	.000	.788	.375	.458	.563	.000	.575	.375	.804	.750	.000	.863	.406	.417	.375	.250	.688	.923



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File Name : #9 CLARK&OR206
Site Code : 48121
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Groups Printed- Lights - Mediums - HV

	CLARK ST Southbound				OR 206 Westbound				CLARK ST Northbound				OR 206 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	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
05:15 AM	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3
05:30 AM	0	2	1	0	1	0	0	0	0	3	0	0	0	0	0	0	7
05:45 AM	0	2	2	0	2	0	0	0	0	2	0	0	0	0	0	0	8
Total	0	4	5	0	5	0	0	0	0	6	0	0	0	0	0	0	20
06:00 AM	0	1	6	0	2	0	0	0	0	3	0	0	0	0	0	0	12
06:15 AM	0	4	2	0	3	0	0	0	0	5	0	0	0	0	0	0	14
06:30 AM	0	2	10	0	1	0	0	0	0	0	0	0	0	0	0	0	13
06:45 AM	0	2	6	0	5	0	0	0	0	5	0	0	0	0	0	0	18
Total	0	9	24	0	11	0	0	0	0	13	0	0	0	0	0	0	57
07:00 AM	0	6	3	0	3	0	1	0	0	1	0	0	0	0	0	0	14
07:15 AM	0	7	5	0	3	0	0	0	0	4	0	0	0	0	0	0	19
07:30 AM	0	9	8	0	5	0	0	0	0	5	0	0	0	0	0	0	27
07:45 AM	0	4	7	0	3	0	1	0	0	4	0	1	0	0	0	0	20
Total	0	26	23	0	14	0	2	0	0	14	0	1	0	0	0	0	80
08:00 AM	0	6	7	0	5	0	1	0	0	2	0	0	0	0	0	0	21
08:15 AM	0	7	10	1	8	0	0	0	0	11	0	0	0	0	0	0	37
08:30 AM	0	4	7	0	5	0	0	0	0	6	0	0	0	0	0	0	22
08:45 AM	0	2	3	0	4	0	0	0	0	2	0	0	0	0	0	0	11
Total	0	19	27	1	22	0	1	0	0	21	0	0	0	0	0	0	91
09:00 AM	0	5	4	0	7	0	1	0	0	5	0	2	0	0	0	0	24
09:15 AM	0	3	3	0	6	0	1	0	0	5	0	0	0	0	0	0	18
09:30 AM	0	4	6	0	10	0	0	1	0	2	0	0	0	0	0	0	23
09:45 AM	0	5	6	0	4	0	0	1	1	8	0	0	0	0	0	0	25
Total	0	17	19	0	27	0	2	2	1	20	0	2	0	0	0	0	90
10:00 AM	0	4	6	0	11	0	0	0	0	3	0	0	0	0	0	0	24
10:15 AM	0	6	8	0	7	0	0	0	0	3	0	1	0	0	0	0	25
10:30 AM	0	1	5	0	5	0	0	0	1	5	0	0	0	0	0	0	17
10:45 AM	0	5	3	0	7	0	0	0	0	6	0	0	0	0	0	0	21
Total	0	16	22	0	30	0	0	0	1	17	0	1	0	0	0	0	87
11:00 AM	0	4	8	0	7	0	1	0	0	7	0	0	0	0	0	0	27
11:15 AM	0	3	3	0	4	0	1	0	0	5	0	0	0	0	0	0	16
11:30 AM	0	3	7	0	7	0	0	0	0	2	0	0	0	0	0	0	19
11:45 AM	0	7	6	0	6	0	0	0	0	11	0	0	0	0	0	0	30
Total	0	17	24	0	24	0	2	0	0	25	0	0	0	0	0	0	92
12:00 PM	0	11	9	0	1	0	0	0	0	10	0	0	0	0	0	0	31
12:15 PM	0	3	6	0	5	0	0	1	1	4	0	0	0	0	0	0	20
12:30 PM	0	5	7	0	7	0	0	0	2	1	0	0	0	0	0	0	22
12:45 PM	0	10	5	0	4	0	0	0	0	4	0	0	0	0	0	0	23
Total	0	29	27	0	17	0	0	1	3	19	0	0	0	0	0	0	96
01:00 PM	0	3	4	0	6	0	0	0	0	6	0	0	0	0	0	0	19

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File Name : #9 CLARK&OR206
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Groups Printed- Lights - Mediums - HV

	CLARK ST Southbound				OR 206 Westbound				CLARK ST Northbound				OR 206 Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	0	7	10	0	6	0	0	0	1	7	0	0	0	0	0	0	31
01:30 PM	0	1	2	0	8	0	0	0	0	3	0	0	0	0	0	0	14
01:45 PM	0	5	5	0	5	0	0	0	0	3	0	0	0	0	0	0	18
Total	0	16	21	0	25	0	0	0	1	19	0	0	0	0	0	0	82
02:00 PM	0	6	7	0	7	0	0	0	0	6	0	0	0	0	0	0	26
02:15 PM	0	3	6	0	9	0	0	0	0	7	0	0	0	0	0	0	25
02:30 PM	0	6	8	0	3	0	0	0	0	8	0	1	0	0	0	0	26
02:45 PM	0	5	14	0	10	0	0	0	0	3	0	1	0	0	0	0	33
Total	0	20	35	0	29	0	0	0	0	24	0	2	0	0	0	0	110
03:00 PM	0	6	3	0	10	0	0	0	1	2	0	0	0	0	0	0	22
03:15 PM	0	4	7	0	7	0	0	0	0	5	0	0	0	0	0	0	23
03:30 PM	0	9	6	0	7	0	1	0	0	14	0	1	0	0	0	0	38
03:45 PM	0	7	4	0	6	0	0	1	0	8	0	0	0	0	0	0	26
Total	0	26	20	0	30	0	1	1	1	29	0	1	0	0	0	0	109
04:00 PM	0	5	8	0	14	0	0	1	0	8	0	0	0	0	0	0	36
04:15 PM	0	4	9	0	12	0	0	0	0	10	0	0	0	0	0	0	35
04:30 PM	0	12	6	0	11	0	0	0	0	9	0	0	0	0	0	0	38
04:45 PM	0	4	10	0	8	0	0	0	0	9	0	0	0	0	0	0	31
Total	0	25	33	0	45	0	0	1	0	36	0	0	0	0	0	0	140
05:00 PM	0	5	6	0	8	0	0	0	0	6	0	0	0	0	0	0	25
05:15 PM	0	14	2	0	8	0	1	0	0	9	0	0	0	0	0	0	34
05:30 PM	0	8	3	0	8	0	0	0	2	9	0	0	0	0	0	0	30
05:45 PM	0	7	6	0	8	0	0	0	0	7	0	0	0	0	0	0	28
Total	0	34	17	0	32	0	1	0	2	31	0	0	0	0	0	0	117
06:00 PM	0	9	4	0	4	0	0	1	0	6	0	0	0	0	0	0	24
06:15 PM	0	2	5	0	4	0	0	0	0	7	0	0	0	0	0	0	18
06:30 PM	0	12	1	0	2	0	1	0	0	6	0	0	0	0	0	0	22
06:45 PM	0	4	5	0	3	0	1	0	0	4	0	0	0	0	0	0	17
Total	0	27	15	0	13	0	2	1	0	23	0	0	0	0	0	0	81
07:00 PM	0	3	3	0	2	0	1	0	1	2	0	0	0	0	0	0	12
07:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
07:30 PM	0	7	1	0	0	0	0	0	0	4	0	0	0	0	0	0	12
07:45 PM	0	1	2	0	1	0	0	0	0	3	0	0	0	0	0	0	7
Total	0	11	7	0	3	0	1	0	1	10	0	0	0	0	0	0	33
08:00 PM	0	3	1	0	1	0	0	0	0	3	0	0	0	0	0	0	8
08:15 PM	0	1	3	0	0	0	0	0	0	1	0	0	0	0	0	0	5
08:30 PM	0	3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	8
08:45 PM	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	6
Total	0	7	6	0	3	0	0	0	0	11	0	0	0	0	0	0	27
Grand Total	0	303	325	1	330	0	12	6	10	318	0	7	0	0	0	0	1312
Apprch %	0	48.2	51.7	0.2	94.8	0	3.4	1.7	3	94.9	0	2.1	0	0	0	0	
Total %	0	23.1	24.8	0.1	25.2	0	0.9	0.5	0.8	24.2	0	0.5	0	0	0	0	
Lights	0	273	281	0	278	0	11	6	8	297	0	6	0	0	0	0	1160
% Lights	0	90.1	86.5	0	84.2	0	91.7	100	80	93.4	0	85.7	0	0	0	0	88.4
Mediums	0	30	44	0	52	0	1	0	2	21	0	0	0	0	0	0	150
% Mediums	0	9.9	13.5	0	15.8	0	8.3	0	20	6.6	0	0	0	0	0	0	11.4
HV	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2
% HV	0	0	0	100	0	0	0	0	0	0	0	14.3	0	0	0	0	0.2

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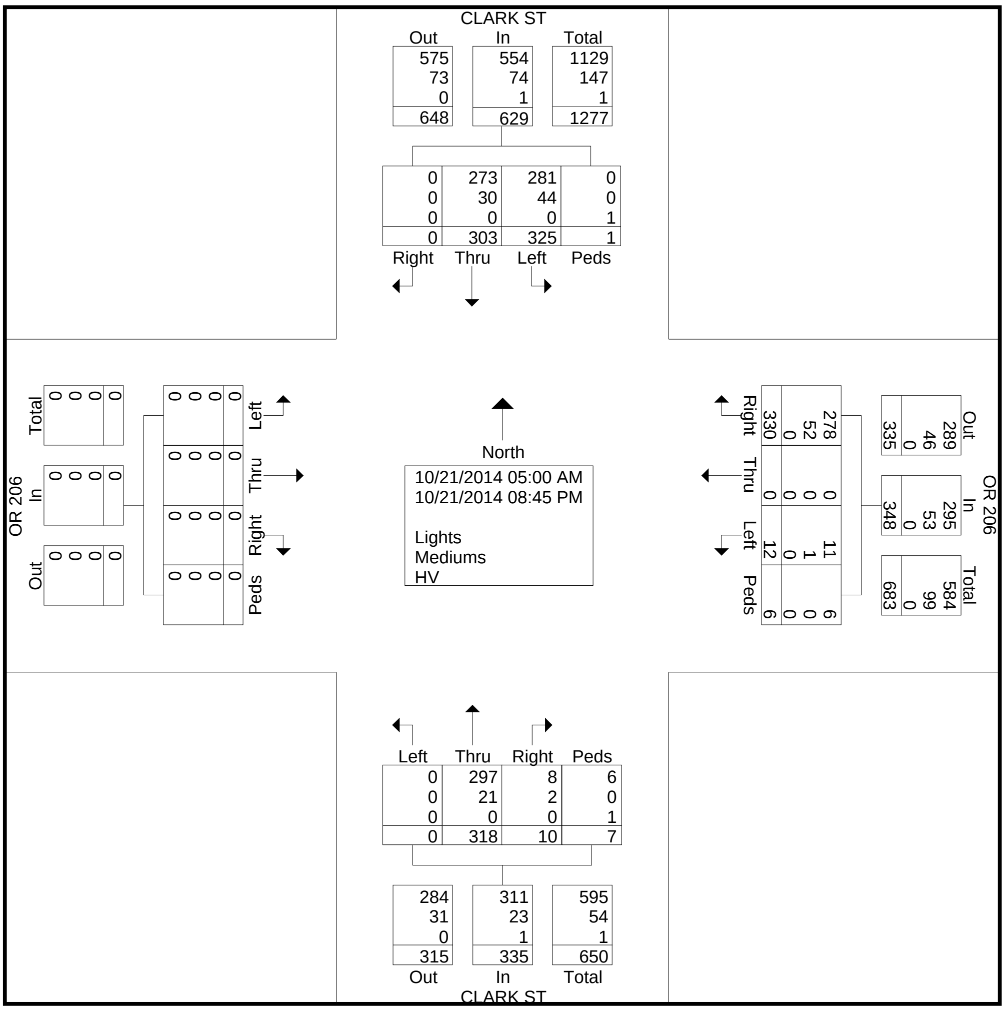

Start Time	CLARK ST Southbound					OR 206 Westbound					CLARK ST Northbound					OR 206 Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	**9**	8	0	17	5	0	0	0	5	0	5	0	0	5	0	0	0	0	0	27
07:45 AM	0	4	7	0	11	3	0	**1**	0	4	0	4	0	**1**	5	0	0	0	0	0	20
08:00 AM	0	6	7	0	13	5	0	1	0	6	0	2	0	0	2	0	0	0	0	0	21
08:15 AM	0	7	**10**	**1**	**18**	**8**	0	0	0	**8**	0	**11**	0	0	**11**	0	0	0	0	0	**37**
Total Volume	0	26	32	1	59	21	0	2	0	23	0	22	0	1	23	0	0	0	0	0	105
% App. Total	0	44.1	54.2	1.7		91.3	0	8.7	0		0	95.7	0	4.3		0	0	0	0		
PHF	.000	.722	.800	.250	.819	.656	.000	.500	.000	.719	.000	.500	.000	.250	.523	.000	.000	.000	.000	.000	.709

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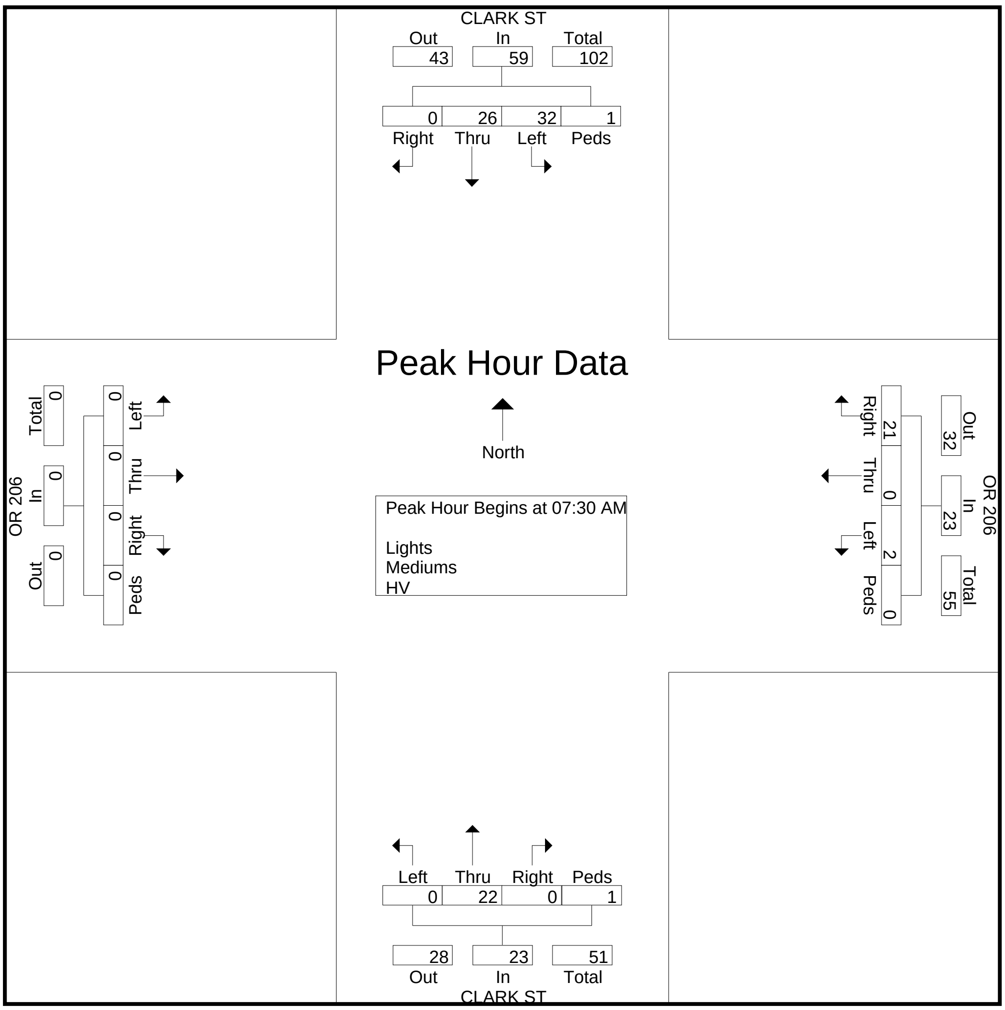

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:45 AM

11:45 AM	0	7	6	0	13	6	0	0	0	6	0	**11**	0	0	**11**	0	0	0	0	0	30
12:00 PM	0	**11**	**9**	0	**20**	1	0	0	0	1	0	10	0	0	10	0	0	0	0	0	**31**
12:15 PM	0	3	6	0	9	5	0	0	**1**	6	1	4	0	0	5	0	0	0	0	0	20
12:30 PM	0	5	7	0	12	**7**	0	0	0	**7**	**2**	1	0	0	3	0	0	0	0	0	22
Total Volume	0	26	28	0	54	19	0	0	1	20	3	26	0	0	29	0	0	0	0	0	103
% App. Total	0	48.1	51.9	0		95	0	0	5		10.3	89.7	0	0		0	0	0	0		
PHF	.000	.591	.778	.000	.675	.679	.000	.000	.250	.714	.375	.591	.000	.000	.659	.000	.000	.000	.000	.000	.831

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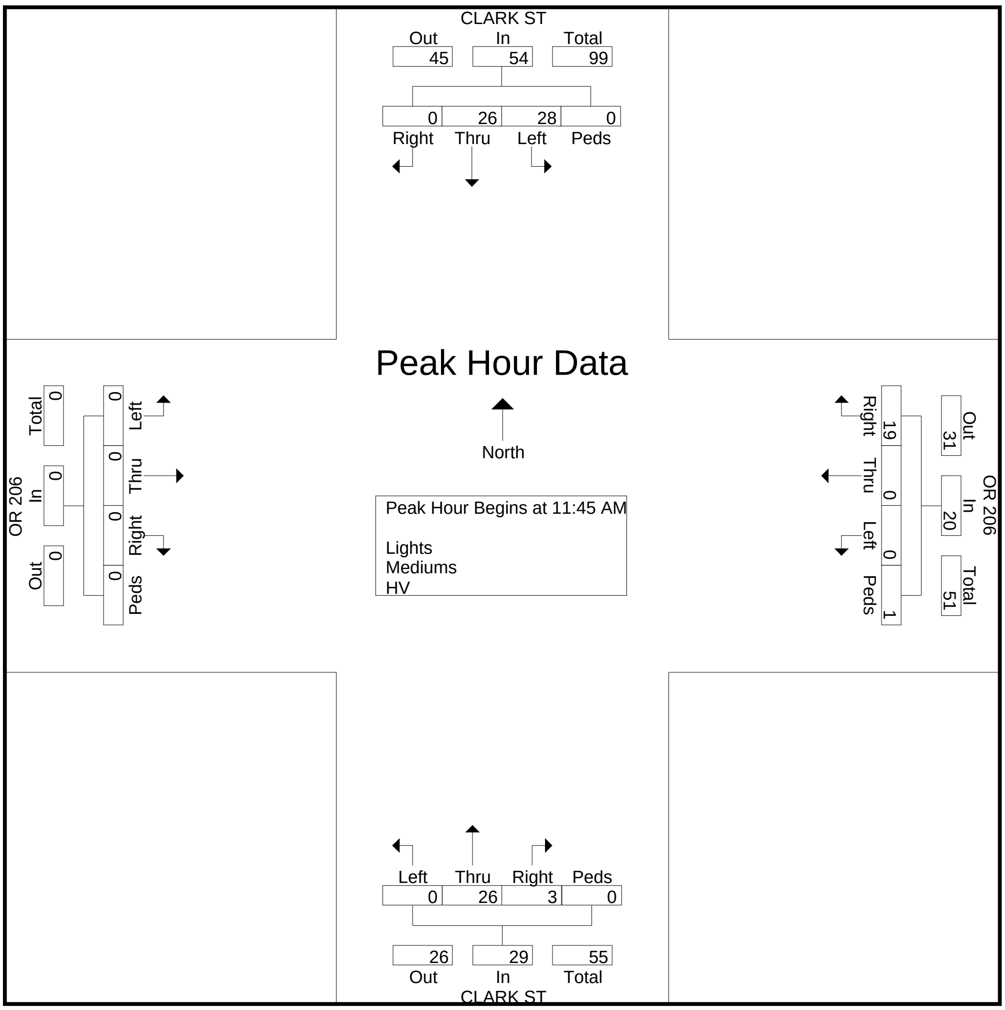

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:00 PM

04:00 PM	0	5	8	0	13	**14**	0	0	**1**	**15**	0	8	0	0	8	0	0	0	0	0	36
04:15 PM	0	4	9	0	13	12	0	0	0	12	0	**10**	0	0	**10**	0	0	0	0	0	35
04:30 PM	0	**12**	6	0	**18**	11	0	0	0	11	0	9	0	0	9	0	0	0	0	0	**38**
04:45 PM	0	4	**10**	0	14	8	0	0	0	8	0	9	0	0	9	0	0	0	0	0	31
Total Volume	0	25	33	0	58	45	0	0	1	46	0	36	0	0	36	0	0	0	0	0	140
% App. Total	0	43.1	56.9	0		97.8	0	0	2.2		0	100	0	0		0	0	0	0		
PHF	.000	.521	.825	.000	.806	.804	.000	.000	.250	.767	.000	.900	.000	.000	.900	.000	.000	.000	.000	.000	.921

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File Name : #9 CLARK&OR206
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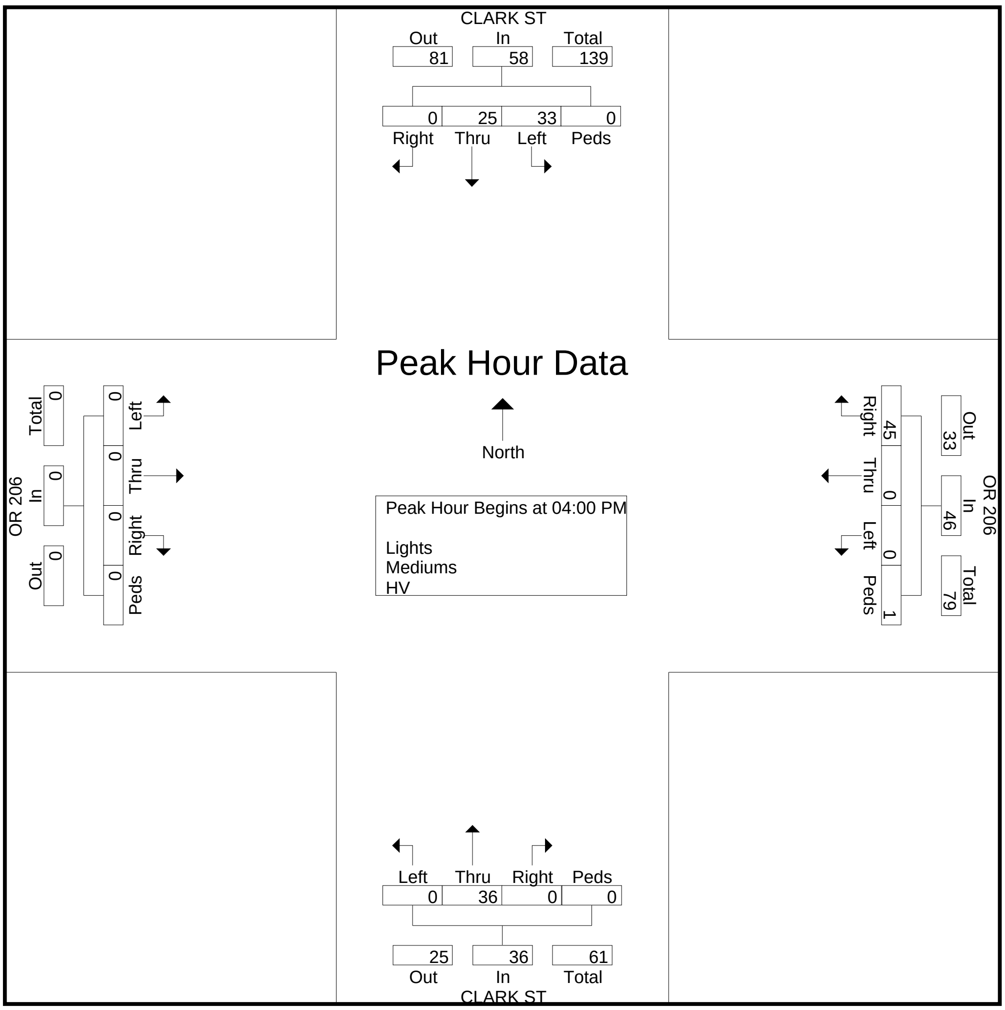

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File Name : #10 JOHNDAY&I84WBRAMPS
Site Code : 48125
Start Date : 10/21/2014
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Groups Printed- Lights - Mediums - HV

	JOHN DAY DAM RD Southbound				I-84 WB RAMPS Westbound				JOHN DAY DAM RD Northbound				I-84 WB 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	1	1	0	0	0	1	1	0	0	0	0	0	4
05:15 AM	0	0	0	0	1	0	0	0	0	3	3	0	0	0	0	0	7
05:30 AM	2	0	0	0	0	0	0	0	0	4	5	0	0	0	0	0	11
05:45 AM	0	1	0	0	1	0	2	0	0	7	3	0	0	0	0	0	14
Total	2	1	0	0	3	1	2	0	0	15	12	0	0	0	0	0	36
06:00 AM	1	1	0	0	0	0	3	0	0	18	3	0	0	0	0	0	26
06:15 AM	1	1	0	0	2	0	1	0	0	9	6	0	0	0	0	0	20
06:30 AM	0	0	0	0	0	1	1	0	0	2	2	0	0	0	0	0	6
06:45 AM	0	2	0	0	0	0	3	0	0	2	3	0	0	0	0	0	10
Total	2	4	0	0	2	1	8	0	0	31	14	0	0	0	0	0	62
07:00 AM	1	0	0	0	0	0	2	0	0	4	4	0	0	0	0	0	11
07:15 AM	0	0	0	0	1	0	2	0	0	1	3	0	0	0	0	0	7
07:30 AM	0	2	0	0	0	0	3	0	0	0	2	0	0	0	0	0	7
07:45 AM	1	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	5
Total	2	2	0	0	1	0	7	0	0	6	12	0	0	0	0	0	30
08:00 AM	0	0	0	0	1	1	5	0	1	2	2	0	0	0	0	0	12
08:15 AM	2	1	0	0	0	2	2	0	1	0	7	0	0	0	0	0	15
08:30 AM	0	1	0	0	0	1	7	0	0	1	6	0	0	0	0	1	17
08:45 AM	1	1	0	0	0	0	3	0	0	2	6	0	0	0	0	0	13
Total	3	3	0	0	1	4	17	0	2	5	21	0	0	0	0	1	57
09:00 AM	1	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	5
09:15 AM	1	0	0	0	1	1	5	0	0	1	2	0	0	0	0	0	11
09:30 AM	1	2	0	0	1	1	0	0	0	1	3	0	0	0	0	0	9
09:45 AM	1	1	0	0	0	0	10	0	0	0	4	0	0	0	0	0	16
Total	4	3	0	0	2	2	17	0	0	2	11	0	0	0	0	0	41
10:00 AM	2	0	0	0	2	0	5	0	0	1	8	0	0	0	0	0	18
10:15 AM	1	2	0	0	1	0	3	0	0	4	4	0	0	0	0	1	16
10:30 AM	1	3	0	0	0	0	6	0	0	2	3	0	0	0	0	0	15
10:45 AM	0	0	0	0	0	0	2	0	0	3	2	0	0	0	0	0	7
Total	4	5	0	0	3	0	16	0	0	10	17	0	0	0	0	1	56
11:00 AM	0	0	0	0	0	0	3	0	0	0	5	0	0	0	0	0	8
11:15 AM	0	3	0	0	0	0	3	0	0	2	4	0	0	0	0	0	12
11:30 AM	2	1	0	0	0	1	3	0	0	2	6	0	0	0	0	0	15
11:45 AM	0	1	0	0	2	1	4	0	0	1	3	0	0	0	0	0	12
Total	2	5	0	0	2	2	13	0	0	5	18	0	0	0	0	0	47
12:00 PM	1	2	0	0	0	0	3	0	0	1	4	0	0	0	0	0	11
12:15 PM	1	3	0	0	1	1	3	1	0	3	3	0	0	0	0	0	16
12:30 PM	0	1	0	0	0	1	2	0	0	3	4	1	0	0	0	0	12
12:45 PM	0	2	0	0	1	0	1	1	0	7	1	0	0	0	0	0	13
Total	2	8	0	0	2	2	9	2	0	14	12	1	0	0	0	0	52
01:00 PM	2	2	0	0	0	1	8	0	0	2	6	0	0	0	0	0	21

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File Name : #10 JOHNDAY&I84WBRAMPS
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Groups Printed- Lights - Mediums - HV

	JOHN DAY DAM RD Southbound				I-84 WB RAMPS Westbound				JOHN DAY DAM RD Northbound				I-84 WB RAMPS Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	0	0	0	0	1	0	3	0	0	4	8	0	0	0	0	0	16
01:30 PM	1	4	0	0	0	1	9	1	0	5	3	0	0	0	0	0	24
01:45 PM	1	3	0	0	0	0	5	0	0	3	3	0	0	0	0	0	15
Total	4	9	0	0	1	2	25	1	0	14	20	0	0	0	0	0	76
02:00 PM	0	3	0	0	0	0	3	0	0	1	3	0	0	0	0	0	10
02:15 PM	1	1	0	0	0	1	8	0	0	0	5	0	0	0	0	0	16
02:30 PM	0	1	0	0	0	1	4	0	0	3	6	0	0	0	0	0	15
02:45 PM	0	1	0	0	1	1	4	0	0	1	3	0	0	0	0	0	11
Total	1	6	0	0	1	3	19	0	0	5	17	0	0	0	0	0	52
03:00 PM	4	3	0	0	1	0	12	0	0	4	5	0	0	0	0	0	29
03:15 PM	0	1	0	0	1	0	6	0	0	1	8	0	0	0	0	0	17
03:30 PM	1	2	0	0	2	1	7	1	0	1	2	0	0	0	0	0	17
03:45 PM	7	1	0	0	1	0	7	0	0	1	5	0	0	0	0	0	22
Total	12	7	0	0	5	1	32	1	0	7	20	0	0	0	0	0	85
04:00 PM	5	2	0	0	0	0	7	0	0	1	7	0	0	0	0	0	22
04:15 PM	1	2	0	0	2	0	9	0	0	0	6	0	0	0	0	0	20
04:30 PM	2	0	0	0	1	0	5	0	0	0	5	0	0	0	0	0	13
04:45 PM	3	0	0	0	0	0	2	0	0	1	6	0	0	0	0	0	12
Total	11	4	0	0	3	0	23	0	0	2	24	0	0	0	0	0	67
05:00 PM	21	13	0	0	1	0	3	0	0	1	5	0	0	0	0	1	45
05:15 PM	1	4	0	0	0	0	8	0	0	2	7	0	0	0	0	0	22
05:30 PM	1	1	0	0	0	0	2	0	0	3	6	0	0	0	0	0	13
05:45 PM	0	3	0	0	0	1	2	0	0	3	0	0	0	0	0	0	9
Total	23	21	0	0	1	1	15	0	0	9	18	0	0	0	0	1	89
06:00 PM	4	4	0	0	0	0	9	1	0	2	2	0	0	0	0	0	22
06:15 PM	1	0	0	0	0	0	6	0	0	1	2	0	0	0	0	0	10
06:30 PM	1	1	0	0	0	2	2	0	0	1	2	0	0	0	0	0	9
06:45 PM	2	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	10
Total	8	5	0	0	0	2	21	1	0	4	10	0	0	0	0	0	51
07:00 PM	0	0	0	0	0	0	3	0	0	0	2	0	0	0	0	0	5
07:15 PM	0	0	0	0	0	0	6	0	0	0	3	0	0	0	0	0	9
07:30 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
07:45 PM	0	0	0	0	0	0	2	0	0	0	4	0	0	0	0	0	6
Total	0	0	0	0	0	1	11	0	0	0	10	0	0	0	0	0	22
08:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
08:15 PM	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
Total	2	0	0	0	0	4	1	0	0	0	2	0	0	0	0	0	9
Grand Total	82	83	0	0	27	26	236	5	2	129	238	1	0	0	0	3	832
Apprch %	49.7	50.3	0	0	9.2	8.8	80.3	1.7	0.5	34.9	64.3	0.3	0	0	0	100	
Total %	9.9	10	0	0	3.2	3.1	28.4	0.6	0.2	15.5	28.6	0.1	0	0	0	0.4	
Lights	75	78	0	0	24	15	174	2	2	125	200	0	0	0	0	3	698
% Lights	91.5	94	0	0	88.9	57.7	73.7	40	100	96.9	84	0	0	0	0	100	83.9
Mediums	7	5	0	0	3	11	62	0	0	4	38	0	0	0	0	0	130
% Mediums	8.5	6	0	0	11.1	42.3	26.3	0	0	3.1	16	0	0	0	0	0	15.6
HV	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	4
% HV	0	0	0	0	0	0	0	60	0	0	0	100	0	0	0	0	0.5

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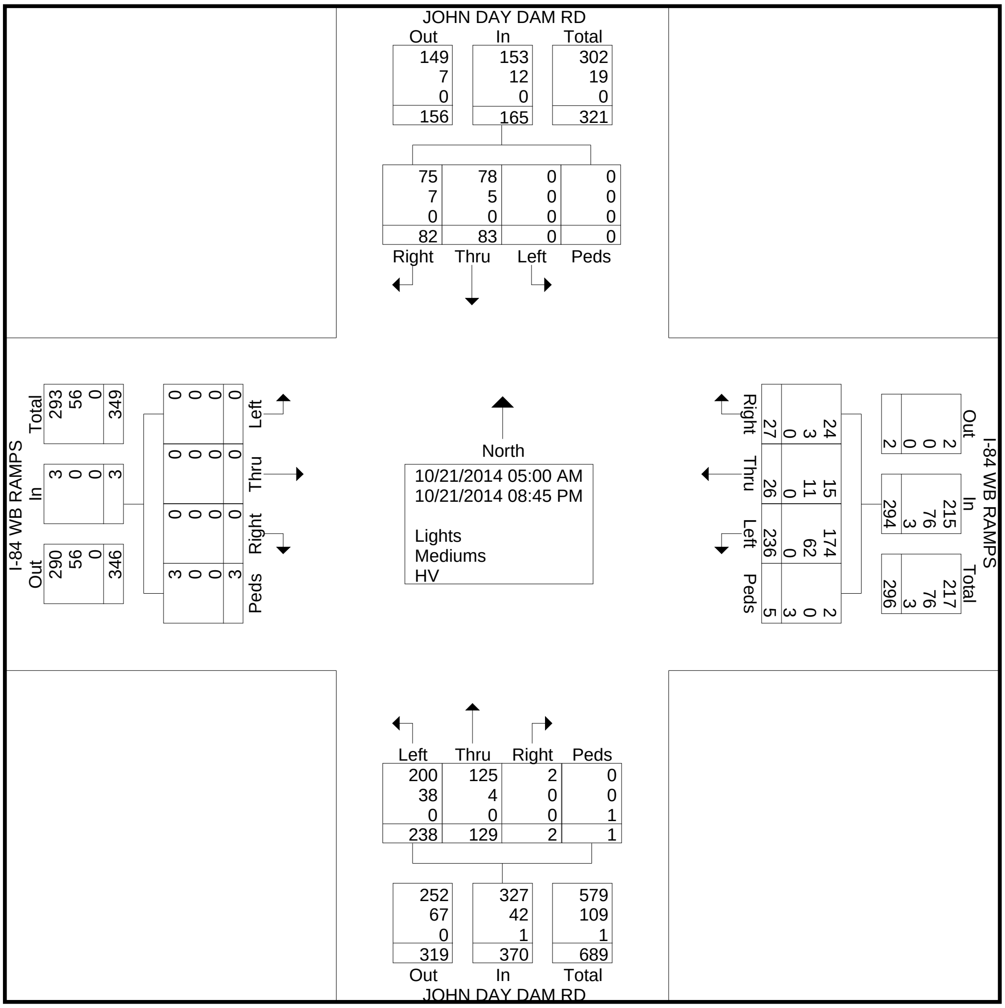

	JOHN DAY DAM RD Southbound					I-84 WB RAMPS Westbound					JOHN DAY DAM RD Northbound					I-84 WB RAMPS Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 AM																					
05:30 AM	**2**	0	0	0	**2**	0	0	0	0	0	0	4	5	0	9	0	0	0	0	0	11
05:45 AM	0	**1**	0	0	1	1	0	2	0	**3**	0	7	3	0	10	0	0	0	0	0	14
06:00 AM	1	1	0	0	2	0	0	**3**	0	3	0	**18**	3	0	**21**	0	0	0	0	0	**26**
06:15 AM	1	1	0	0	2	**2**	0	1	0	3	0	9	**6**	0	15	0	0	0	0	0	20
Total Volume	4	3	0	0	7	3	0	6	0	9	0	38	17	0	55	0	0	0	0	0	71
% App. Total	57.1	42.9	0	0		33.3	0	66.7	0		0	69.1	30.9	0		0	0	0	0		
PHF	.500	.750	.000	.000	.875	.375	.000	.500	.000	.750	.000	.528	.708	.000	.655	.000	.000	.000	.000	.000	.683

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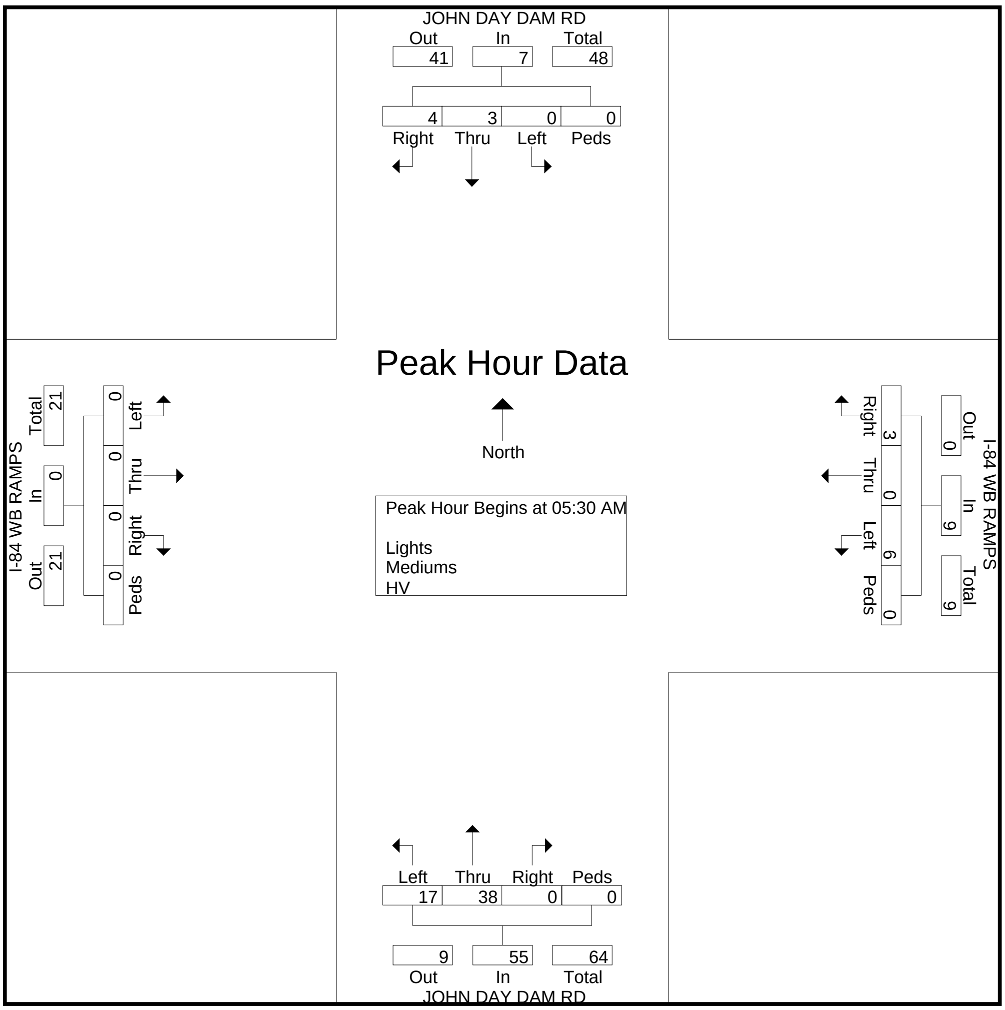

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	**2**	2	0	0	4	0	**1**	8	0	9	0	2	6	0	8	0	0	0	0	0	21
01:15 PM	0	0	0	0	0	**1**	0	3	0	4	0	4	**8**	0	**12**	0	0	0	0	0	16
01:30 PM	1	**4**	0	0	**5**	0	1	**9**	**1**	**11**	0	**5**	3	0	8	0	0	0	0	0	**24**
01:45 PM	1	3	0	0	4	0	0	5	0	5	0	3	3	0	6	0	0	0	0	0	15
Total Volume	4	9	0	0	13	1	2	25	1	29	0	14	20	0	34	0	0	0	0	0	76
% App. Total	30.8	69.2	0	0		3.4	6.9	86.2	3.4		0	41.2	58.8	0		0	0	0	0		
PHF	.500	.563	.000	.000	.650	.250	.500	.694	.250	.659	.000	.700	.625	.000	.708	.000	.000	.000	.000	.000	.792

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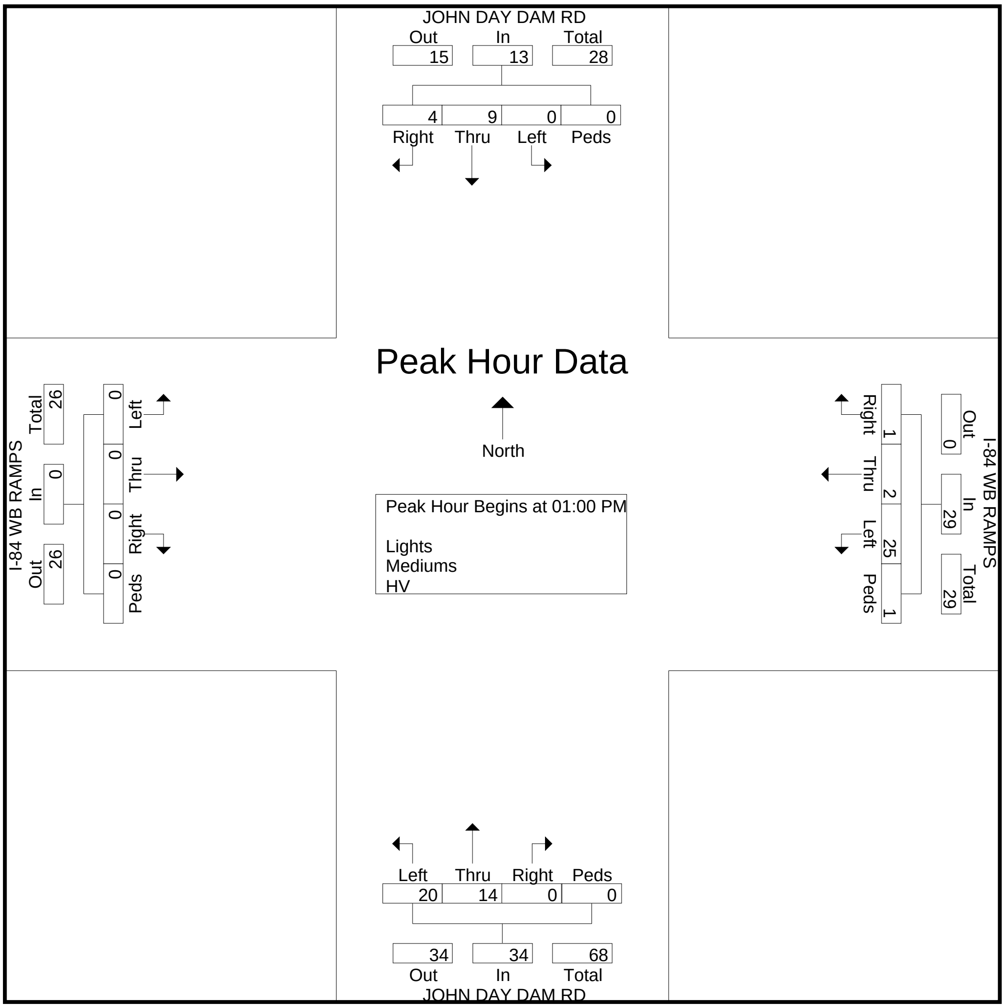

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	2	0	0	0	2	**1**	0	5	0	6	0	0	5	0	5	0	0	0	0	0	13
04:45 PM	3	0	0	0	3	0	0	2	0	2	0	1	6	0	7	0	0	0	0	0	12
05:00 PM	**21**	**13**	0	0	**34**	1	0	3	0	4	0	1	5	0	6	0	0	0	**1**	**1**	**45**
05:15 PM	1	4	0	0	5	0	0	**8**	0	**8**	0	**2**	**7**	0	**9**	0	0	0	0	0	22
Total Volume	27	17	0	0	44	2	0	18	0	20	0	4	23	0	27	0	0	0	1	1	92
% App. Total	61.4	38.6	0	0		10	0	90	0		0	14.8	85.2	0		0	0	0	100		
PHF	.321	.327	.000	.000	.324	.500	.000	.563	.000	.625	.000	.500	.821	.000	.750	.000	.000	.000	.250	.250	.511

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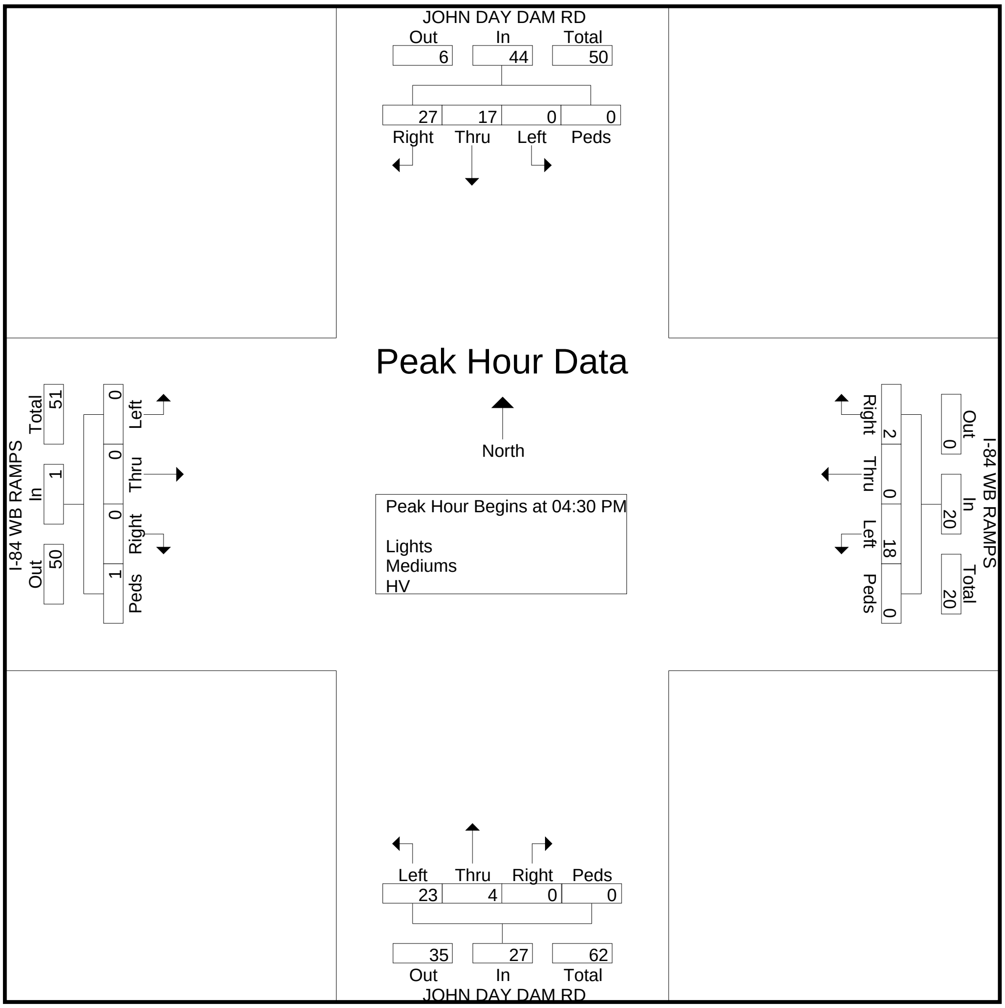

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File Name : #11 JOHNDAY&I84EBRAMPS
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Groups Printed- Lights - Mediums - HV

	JOHN DAY DAM RD Southbound				I-84 EB RAMPS Westbound				JOHN DAY DAM RD 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	0	2	0	0	0	0	0	0	2
05:15 AM	0	0	0	0	0	0	0	0	1	4	0	0	1	0	1	0	7
05:30 AM	0	0	0	0	0	0	0	0	1	7	0	0	2	0	3	0	13
05:45 AM	0	3	0	0	0	0	0	0	1	5	0	0	2	1	5	0	17
Total	0	3	0	0	0	0	0	0	3	18	0	0	5	1	9	0	39
06:00 AM	0	4	0	0	0	0	0	0	3	10	0	0	2	0	11	0	30
06:15 AM	0	2	0	0	0	0	0	0	3	7	0	0	5	0	8	0	25
06:30 AM	0	1	0	0	0	0	0	0	3	2	0	0	5	0	2	0	13
06:45 AM	0	4	1	0	0	0	0	0	4	4	0	0	5	0	1	0	19
Total	0	11	1	0	0	0	0	0	13	23	0	0	17	0	22	0	87
07:00 AM	1	1	0	0	0	0	0	0	4	6	0	0	3	0	2	0	17
07:15 AM	0	2	0	0	0	0	0	0	3	3	0	0	4	0	1	0	13
07:30 AM	0	3	2	0	0	0	0	0	2	2	0	0	1	0	0	0	10
07:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	7
Total	1	6	2	0	0	0	0	0	9	14	0	0	11	0	4	0	47
08:00 AM	0	5	0	0	0	0	0	0	2	4	0	0	6	0	1	0	18
08:15 AM	0	3	0	0	0	0	0	0	6	8	0	0	3	0	0	0	20
08:30 AM	0	8	0	0	0	0	0	0	4	6	0	0	2	0	1	0	21
08:45 AM	0	4	0	0	0	0	0	0	1	6	0	0	4	0	2	0	17
Total	0	20	0	0	0	0	0	0	13	24	0	0	15	0	4	0	76
09:00 AM	0	2	0	0	0	0	0	0	3	1	0	0	0	0	1	0	7
09:15 AM	0	5	0	0	0	0	0	0	5	2	0	0	2	0	1	0	15
09:30 AM	0	2	0	0	0	0	0	0	8	4	0	0	1	0	0	0	15
09:45 AM	0	11	0	0	0	0	0	0	5	4	0	0	0	0	0	0	20
Total	0	20	0	0	0	0	0	0	21	11	0	0	3	0	2	0	57
10:00 AM	0	5	0	0	0	0	0	0	3	8	0	0	1	0	1	0	18
10:15 AM	0	4	0	0	0	0	0	0	4	6	0	0	0	0	2	1	17
10:30 AM	0	6	3	0	0	0	0	0	2	4	0	0	2	0	1	0	18
10:45 AM	0	3	0	0	0	0	0	0	3	2	0	0	4	0	3	0	15
Total	0	18	3	0	0	0	0	0	12	20	0	0	7	0	7	1	68
11:00 AM	0	3	0	0	0	0	0	0	3	5	0	0	0	0	0	0	11
11:15 AM	0	5	1	0	0	0	0	0	5	5	0	0	2	0	1	0	19
11:30 AM	0	4	0	0	0	0	0	0	3	8	0	0	4	0	0	0	19
11:45 AM	0	5	0	0	0	0	0	0	2	3	0	0	3	0	0	0	13
Total	0	17	1	0	0	0	0	0	13	21	0	0	9	0	1	0	62
12:00 PM	0	4	0	0	0	0	0	0	7	5	0	0	4	0	0	0	20
12:15 PM	0	7	0	0	0	0	0	0	2	5	0	0	1	0	1	0	16
12:30 PM	0	3	0	0	0	0	0	0	3	7	0	0	0	0	1	0	14
12:45 PM	0	4	0	0	0	0	0	0	0	2	0	0	3	0	6	0	15
Total	0	18	0	0	0	0	0	0	12	19	0	0	8	0	8	0	65
01:00 PM	0	9	0	0	0	0	0	0	2	6	0	0	3	0	2	0	22

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File Name : #11 JOHNDAY&I84EBRAMPS
Site Code : 48140
Start Date : 10/21/2014

Groups Printed- Lights - Mediums - HV

	JOHN DAY DAM RD Southbound				I-84 EB RAMPS Westbound				JOHN DAY DAM RD 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
01:15 PM	0	4	0	0	0	0	0	0	4	11	0	0	4	0	1	0	24
01:30 PM	0	13	0	0	0	0	0	0	2	5	0	0	0	1	3	0	24
01:45 PM	0	7	1	0	0	0	0	0	1	5	0	0	1	0	1	0	16
Total	0	33	1	0	0	0	0	0	9	27	0	0	8	1	7	0	86
02:00 PM	0	6	0	0	0	0	0	0	2	3	0	0	5	0	1	0	17
02:15 PM	0	8	1	0	0	0	0	0	5	5	0	0	0	0	0	0	19
02:30 PM	0	5	0	0	0	0	0	0	6	8	0	0	1	0	0	0	20
02:45 PM	0	5	0	0	0	0	0	0	6	4	0	0	4	0	0	0	19
Total	0	24	1	0	0	0	0	0	19	20	0	0	10	0	1	0	75
03:00 PM	0	14	0	0	0	0	0	0	1	7	0	0	7	0	2	0	31
03:15 PM	1	6	1	0	0	0	0	0	2	9	0	0	1	1	0	0	21
03:30 PM	0	9	0	0	0	0	0	0	1	3	0	0	4	0	0	0	17
03:45 PM	1	6	1	0	0	0	0	0	9	6	0	0	2	0	0	0	25
Total	2	35	2	0	0	0	0	0	13	25	0	0	14	1	2	0	94
04:00 PM	0	9	0	0	0	0	0	0	7	8	0	0	2	0	0	0	26
04:15 PM	0	11	0	0	0	0	0	0	2	6	0	0	2	0	0	0	21
04:30 PM	1	3	0	0	0	0	0	0	1	5	0	0	5	0	0	0	15
04:45 PM	0	3	0	0	0	0	0	1	4	7	0	0	6	0	0	0	21
Total	1	26	0	0	0	0	0	1	14	26	0	0	15	0	0	0	83
05:00 PM	0	15	1	0	0	0	0	0	5	6	0	0	5	1	0	0	33
05:15 PM	0	11	1	0	0	0	0	0	3	9	0	0	6	0	0	0	30
05:30 PM	0	3	0	0	0	0	0	0	2	7	0	0	6	0	2	0	20
05:45 PM	0	4	0	0	0	0	0	0	4	2	0	0	9	0	1	0	20
Total	0	33	2	0	0	0	0	0	14	24	0	0	26	1	3	0	103
06:00 PM	0	14	0	0	0	0	0	1	1	4	0	0	0	0	0	0	20
06:15 PM	0	6	0	0	0	0	0	0	1	3	0	0	1	0	0	0	11
06:30 PM	0	3	0	0	0	0	0	0	3	2	0	0	4	0	1	0	13
06:45 PM	0	3	0	0	0	0	0	0	2	4	0	0	2	0	0	0	11
Total	0	26	0	0	0	0	0	1	7	13	0	0	7	0	1	0	55
07:00 PM	0	4	0	0	0	0	0	2	3	2	0	1	3	0	0	0	15
07:15 PM	0	6	0	0	0	0	0	0	0	3	0	0	4	0	0	0	13
07:30 PM	0	0	0	0	0	0	0	0	1	1	0	0	4	0	0	0	6
07:45 PM	0	2	0	0	0	0	0	0	4	4	0	0	1	0	0	0	11
Total	0	12	0	0	0	0	0	2	8	10	0	1	12	0	0	0	45
08:00 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	4
08:15 PM	0	1	0	0	0	0	0	0	2	0	0	0	2	0	0	0	5
08:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3
08:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	1	0	0	0	0	0	0	8	2	0	0	3	0	0	0	14
Grand Total	4	303	13	0	0	0	0	4	188	297	0	1	170	4	71	1	1056
Apprch %	1.2	94.7	4.1	0	0	0	0	100	38.7	61.1	0	0.2	69.1	1.6	28.9	0.4	
Total %	0.4	28.7	1.2	0	0	0	0	0.4	17.8	28.1	0	0.1	16.1	0.4	6.7	0.1	
Lights	2	235	12	0	0	0	0	4	126	261	0	1	146	3	66	1	857
% Lights	50	77.6	92.3	0	0	0	0	100	67	87.9	0	100	85.9	75	93	100	81.2
Mediums	2	68	1	0	0	0	0	0	62	36	0	0	24	1	5	0	199
% Mediums	50	22.4	7.7	0	0	0	0	0	33	12.1	0	0	14.1	25	7	0	18.8
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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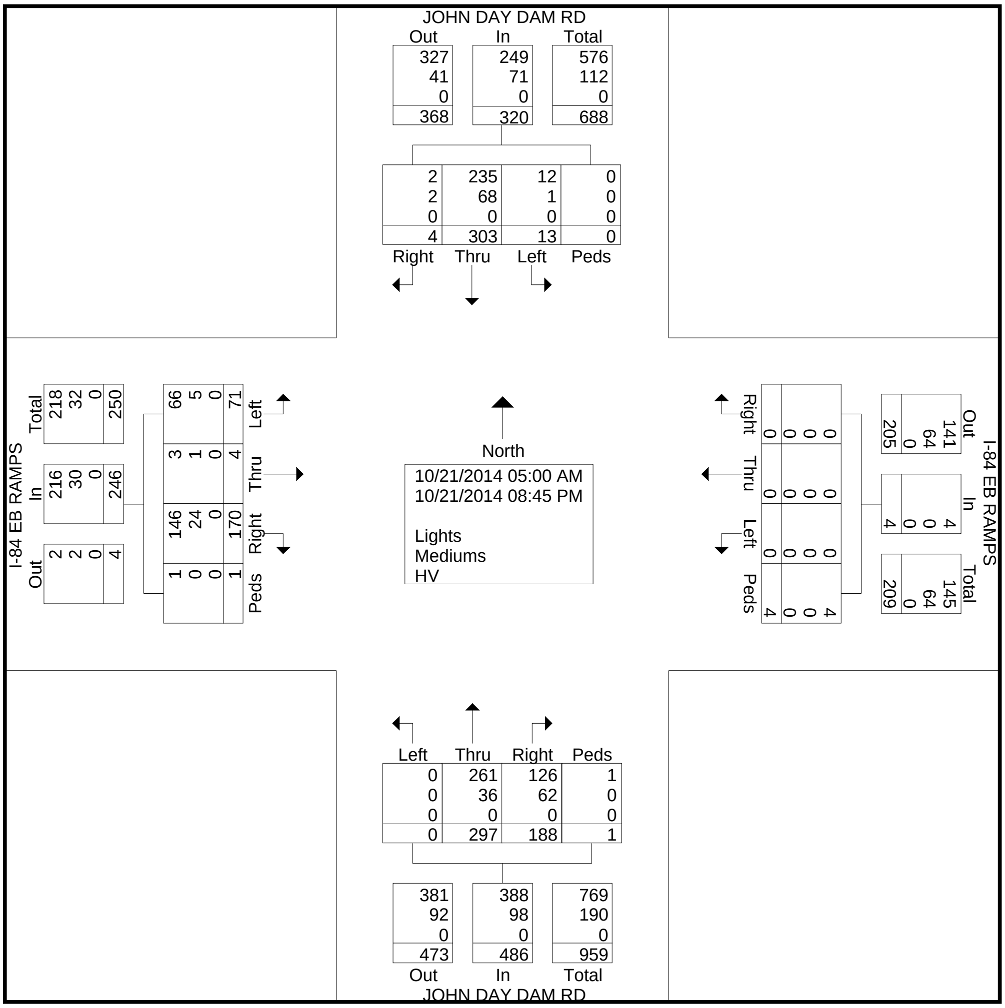

	JOHN DAY DAM RD Southbound					I-84 EB RAMPS Westbound					JOHN DAY DAM RD Northbound					I-84 EB RAMPS Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 AM																					
06:00 AM	0	**4**	0	0	4	0	0	0	0	0	3	**10**	0	0	**13**	2	0	**11**	0	**13**	**30**
06:15 AM	0	2	0	0	2	0	0	0	0	0	3	7	0	0	10	**5**	0	8	0	13	25
06:30 AM	0	1	0	0	1	0	0	0	0	0	3	2	0	0	5	5	0	2	0	7	13
06:45 AM	0	4	**1**	0	**5**	0	0	0	0	0	**4**	4	0	0	8	5	0	1	0	6	19
Total Volume	0	11	1	0	12	0	0	0	0	0	13	23	0	0	36	17	0	22	0	39	87
% App. Total	0	91.7	8.3	0		0	0	0	0		36.1	63.9	0	0		43.6	0	56.4	0		
PHF	.000	.688	.250	.000	.600	.000	.000	.000	.000	.000	.813	.575	.000	.000	.692	.850	.000	.500	.000	.750	.725

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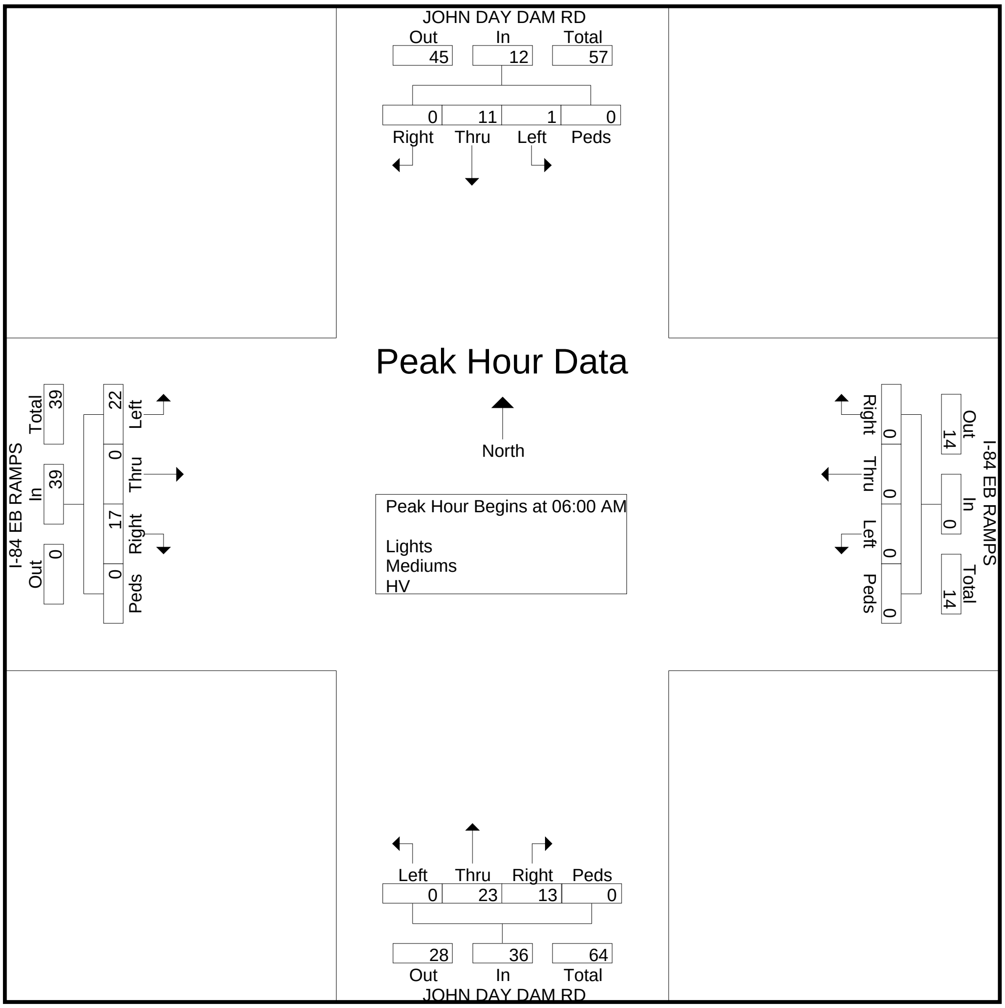

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	0	9	0	0	9	0	0	0	0	0	2	6	0	0	8	3	0	2	0	**5**	22
01:15 PM	0	4	0	0	4	0	0	0	0	0	**4**	**11**	0	0	**15**	**4**	0	1	0	5	**24**
01:30 PM	0	**13**	0	0	**13**	0	0	0	0	0	2	5	0	0	7	0	**1**	**3**	0	4	24
01:45 PM	0	7	**1**	0	8	0	0	0	0	0	1	5	0	0	6	1	0	1	0	2	16
Total Volume	0	33	1	0	34	0	0	0	0	0	9	27	0	0	36	8	1	7	0	16	86
% App. Total	0	97.1	2.9	0		0	0	0	0		25	75	0	0		50	6.2	43.8	0		
PHF	.000	.635	.250	.000	.654	.000	.000	.000	.000	.000	.563	.614	.000	.000	.600	.500	.250	.583	.000	.800	.896

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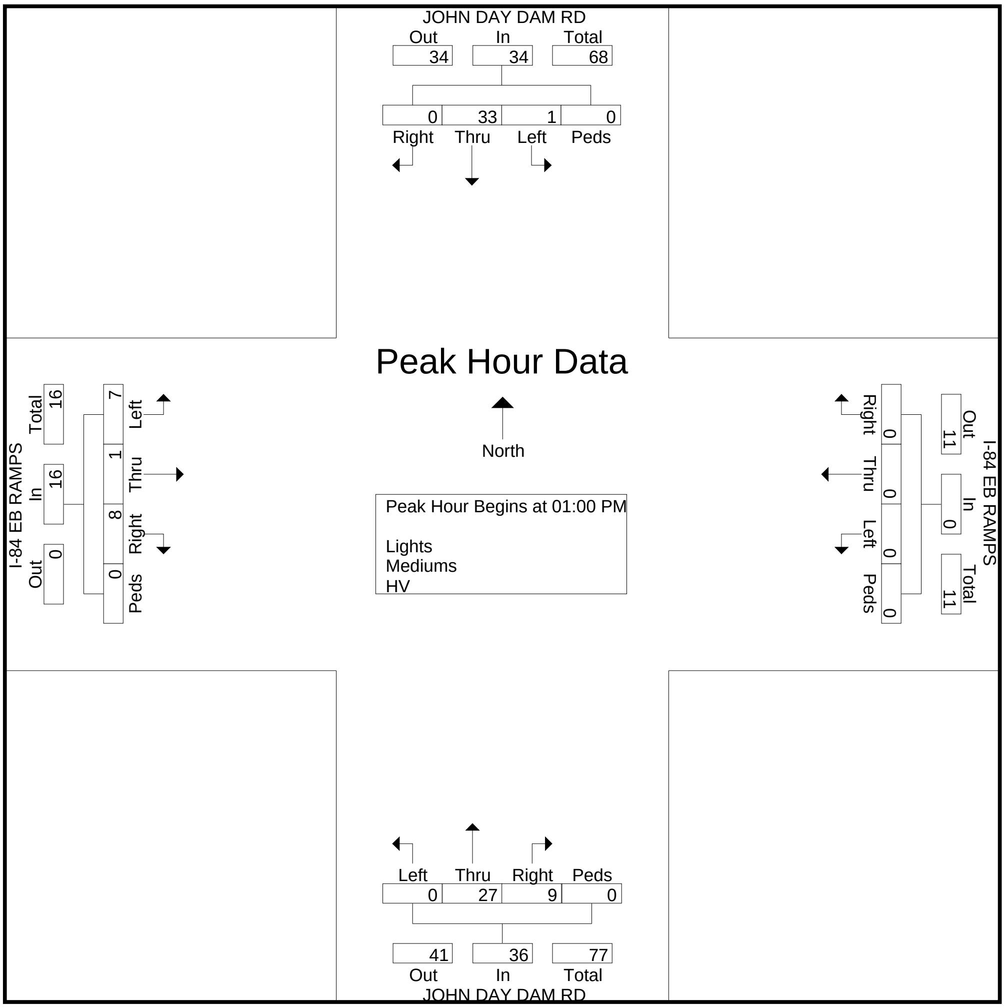

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	3	0	0	3	0	0	0	**1**	**1**	4	7	0	0	11	**6**	0	0	0	6	21
05:00 PM	0	**15**	**1**	0	**16**	0	0	0	0	0	**5**	6	0	0	11	5	**1**	0	0	6	**33**
05:15 PM	0	11	1	0	12	0	0	0	0	0	3	**9**	0	0	**12**	6	0	0	0	6	30
05:30 PM	0	3	0	0	3	0	0	0	0	0	2	7	0	0	9	6	0	**2**	0	**8**	20
Total Volume	0	32	2	0	34	0	0	0	1	1	14	29	0	0	43	23	1	2	0	26	104
% App. Total	0	94.1	5.9	0		0	0	0	100		32.6	67.4	0	0		88.5	3.8	7.7	0		
PHF	.000	.533	.500	.000	.531	.000	.000	.000	.250	.250	.700	.806	.000	.000	.896	.958	.250	.250	.000	.813	.788

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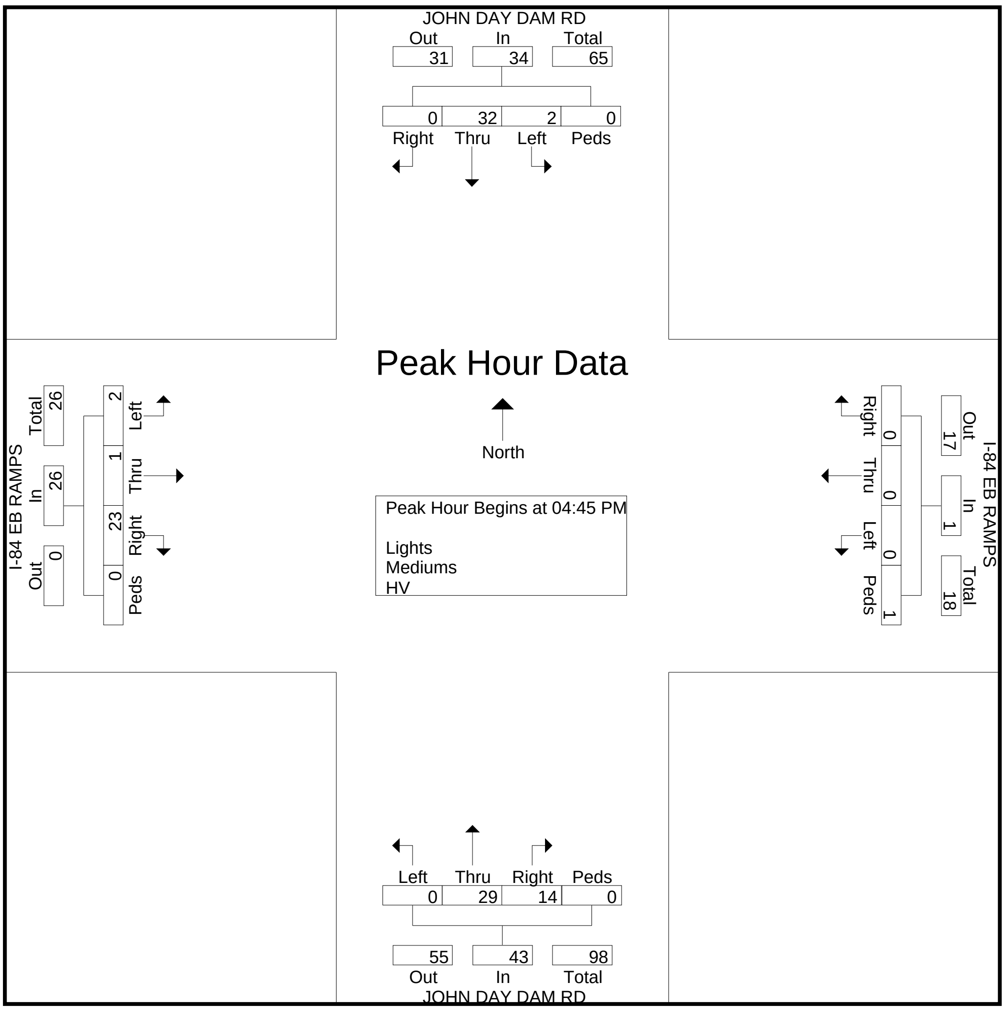

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File Name : #12 US97&OR216
Site Code : 48189
Start Date : 10/21/2014

Groups Printed- Lights - Mediums - HV

	US 97 / MILL ST Southbound				OR 216 / KRUSOW ST Westbound				US 97 / MILL ST Northbound				OR 216 / KRUSOW 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	10	0	0	0	0	0	0	0	5	0	0	0	0	0	0	15
05:15 AM	0	3	0	0	0	0	0	0	0	4	0	0	0	0	0	0	7
05:30 AM	0	8	0	0	0	0	0	0	0	6	0	0	0	0	1	0	15
05:45 AM	0	5	0	0	0	0	0	0	0	4	0	0	0	0	0	0	9
Total	0	26	0	0	0	0	0	0	0	19	0	0	0	0	1	0	46
06:00 AM	0	6	0	0	0	0	0	0	0	8	0	0	0	0	0	0	14
06:15 AM	0	6	0	0	0	0	0	0	0	3	0	0	0	0	2	0	11
06:30 AM	0	5	0	0	0	0	0	0	0	7	0	0	0	0	0	0	12
06:45 AM	0	8	0	0	0	0	0	0	0	5	0	0	0	0	2	0	15
Total	0	25	0	0	0	0	0	0	0	23	0	0	0	0	4	0	52
07:00 AM	0	7	0	0	0	0	0	0	0	10	0	0	0	0	0	0	17
07:15 AM	0	7	0	0	0	0	0	0	0	6	0	0	0	0	2	0	15
07:30 AM	0	16	0	0	0	0	0	0	0	11	0	0	0	0	1	0	28
07:45 AM	0	9	0	0	0	0	0	0	0	17	0	0	0	0	2	0	28
Total	0	39	0	0	0	0	0	0	0	44	0	0	0	0	5	0	88
08:00 AM	2	7	0	0	0	0	0	0	0	7	0	0	0	0	4	0	20
08:15 AM	0	17	0	0	0	0	0	0	0	5	0	0	0	0	2	0	24
08:30 AM	0	11	0	0	0	0	0	0	0	13	0	0	0	0	0	0	24
08:45 AM	0	16	0	0	0	0	0	0	0	6	0	0	0	0	1	0	23
Total	2	51	0	0	0	0	0	0	0	31	0	0	0	0	7	0	91
09:00 AM	0	18	0	0	0	0	0	0	0	12	1	0	0	0	2	0	33
09:15 AM	2	20	0	0	0	0	0	0	0	14	0	0	0	0	0	0	36
09:30 AM	2	22	0	0	0	0	0	0	0	12	0	0	0	0	1	0	37
09:45 AM	1	20	0	0	0	0	0	0	0	11	0	0	0	0	3	0	35
Total	5	80	0	0	0	0	0	0	0	49	1	0	0	0	6	0	141
10:00 AM	3	16	0	0	0	0	0	0	0	23	0	0	0	0	0	0	42
10:15 AM	0	12	0	0	0	0	0	0	0	7	0	0	0	0	0	0	19
10:30 AM	1	19	0	0	0	0	0	0	0	16	0	0	0	0	1	0	37
10:45 AM	0	16	0	0	0	0	0	0	0	23	0	0	0	0	1	0	40
Total	4	63	0	0	0	0	0	0	0	69	0	0	0	0	2	0	138
11:00 AM	3	18	0	0	0	0	0	0	0	6	0	0	0	0	0	0	27
11:15 AM	1	16	0	0	0	0	0	0	0	31	0	0	0	0	0	0	48
11:30 AM	0	23	0	0	0	0	0	0	0	19	0	0	0	0	1	0	43
11:45 AM	2	23	0	0	0	0	0	0	0	12	0	0	0	0	1	0	38
Total	6	80	0	0	0	0	0	0	0	68	0	0	0	0	2	0	156
12:00 PM	1	21	0	0	0	0	0	0	0	16	0	0	1	0	2	0	41
12:15 PM	0	24	0	0	0	0	0	0	0	13	0	0	0	0	0	0	37
12:30 PM	2	21	0	0	0	0	0	0	0	21	0	0	0	0	1	0	45
12:45 PM	1	23	0	0	0	0	0	0	0	11	0	0	0	0	1	0	36
Total	4	89	0	0	0	0	0	0	0	61	0	0	1	0	4	0	159
01:00 PM	1	24	0	0	0	0	0	0	0	18	0	0	0	0	0	0	43

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File Name : #12 US97&OR216
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Groups Printed- Lights - Mediums - HV

	US 97 / MILL ST Southbound				OR 216 / KRUSOW ST Westbound				US 97 / MILL ST Northbound				OR 216 / KRUSOW ST Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	2	20	0	0	0	0	0	0	0	12	0	0	0	0	1	0	35
01:30 PM	3	24	0	0	0	0	0	0	0	18	0	0	0	0	1	0	46
01:45 PM	0	30	0	0	0	0	0	0	0	16	0	0	0	0	0	0	46
Total	6	98	0	0	0	0	0	0	0	64	0	0	0	0	2	0	170
02:00 PM	3	24	0	0	0	0	0	0	0	16	0	0	0	0	1	0	44
02:15 PM	1	27	0	0	0	0	0	0	0	29	0	0	0	0	1	0	58
02:30 PM	3	25	0	0	0	0	0	0	0	13	0	0	1	0	1	0	43
02:45 PM	1	24	0	0	0	0	0	0	0	20	0	0	0	0	1	0	46
Total	8	100	0	0	0	0	0	0	0	78	0	0	1	0	4	0	191
03:00 PM	0	26	0	0	0	0	0	0	0	13	0	0	0	0	1	0	40
03:15 PM	2	22	0	0	0	0	0	0	0	20	0	0	0	0	1	0	45
03:30 PM	1	13	0	0	0	0	0	0	0	16	0	0	0	0	1	0	31
03:45 PM	1	24	0	0	0	0	0	0	0	20	0	0	0	0	0	0	45
Total	4	85	0	0	0	0	0	0	0	69	0	0	0	0	3	0	161
04:00 PM	0	20	0	0	0	0	0	0	0	33	0	0	0	0	0	0	53
04:15 PM	1	15	0	0	0	0	0	0	0	15	0	0	0	0	0	0	31
04:30 PM	0	17	0	0	0	0	0	0	0	13	0	0	0	0	0	0	30
04:45 PM	1	21	0	0	0	0	0	0	0	15	0	0	0	0	0	0	37
Total	2	73	0	0	0	0	0	0	0	76	0	0	0	0	0	0	151
05:00 PM	3	26	0	0	0	0	0	0	0	11	0	0	0	0	1	0	41
05:15 PM	2	29	0	0	0	0	0	0	0	9	0	0	0	0	1	0	41
05:30 PM	2	27	0	0	0	0	0	0	0	8	0	0	0	0	0	0	37
05:45 PM	1	22	0	0	0	0	0	0	0	25	0	0	0	0	1	0	49
Total	8	104	0	0	0	0	0	0	0	53	0	0	0	0	3	0	168
06:00 PM	0	18	0	0	0	0	0	0	0	8	0	0	0	0	0	0	26
06:15 PM	1	12	0	0	0	0	0	0	0	9	0	0	0	0	0	0	22
06:30 PM	1	15	0	0	0	0	0	0	0	22	0	0	0	0	1	0	39
06:45 PM	0	13	0	0	0	0	0	0	0	18	0	0	0	0	0	0	31
Total	2	58	0	0	0	0	0	0	0	57	0	0	0	0	1	0	118
07:00 PM	2	20	0	1	0	0	0	0	0	15	0	0	0	0	1	0	39
07:15 PM	0	12	0	0	0	0	0	0	0	11	1	0	0	0	0	0	24
07:30 PM	1	12	0	0	0	0	0	0	0	12	1	0	0	0	0	0	26
07:45 PM	0	12	0	0	0	0	0	0	0	10	0	0	0	0	0	0	22
Total	3	56	0	1	0	0	0	0	0	48	2	0	0	0	1	0	111
08:00 PM	0	9	0	0	0	0	0	0	0	19	0	0	0	0	0	0	28
08:15 PM	0	10	0	0	0	0	0	0	0	8	0	0	0	0	0	0	18
08:30 PM	0	11	0	0	0	0	0	0	0	6	0	0	0	0	0	0	17
08:45 PM	0	17	0	0	0	0	0	0	0	7	0	0	0	0	0	0	24
Total	0	47	0	0	0	0	0	0	0	40	0	0	0	0	0	0	87
Grand Total	54	1074	0	1	0	0	0	0	0	849	3	0	2	0	45	0	2028
Apprch %	4.8	95.1	0	0.1	0	0	0	0	0	99.6	0.4	0	4.3	0	95.7	0	
Total %	2.7	53	0	0	0	0	0	0	0	41.9	0.1	0	0.1	0	2.2	0	
Lights	41	503	0	1	0	0	0	0	0	475	3	0	2	0	37	0	1062
% Lights	75.9	46.8	0	100	0	0	0	0	0	55.9	100	0	100	0	82.2	0	52.4
Mediums	13	571	0	0	0	0	0	0	0	374	0	0	0	0	8	0	966
% Mediums	24.1	53.2	0	0	0	0	0	0	0	44.1	0	0	0	0	17.8	0	47.6
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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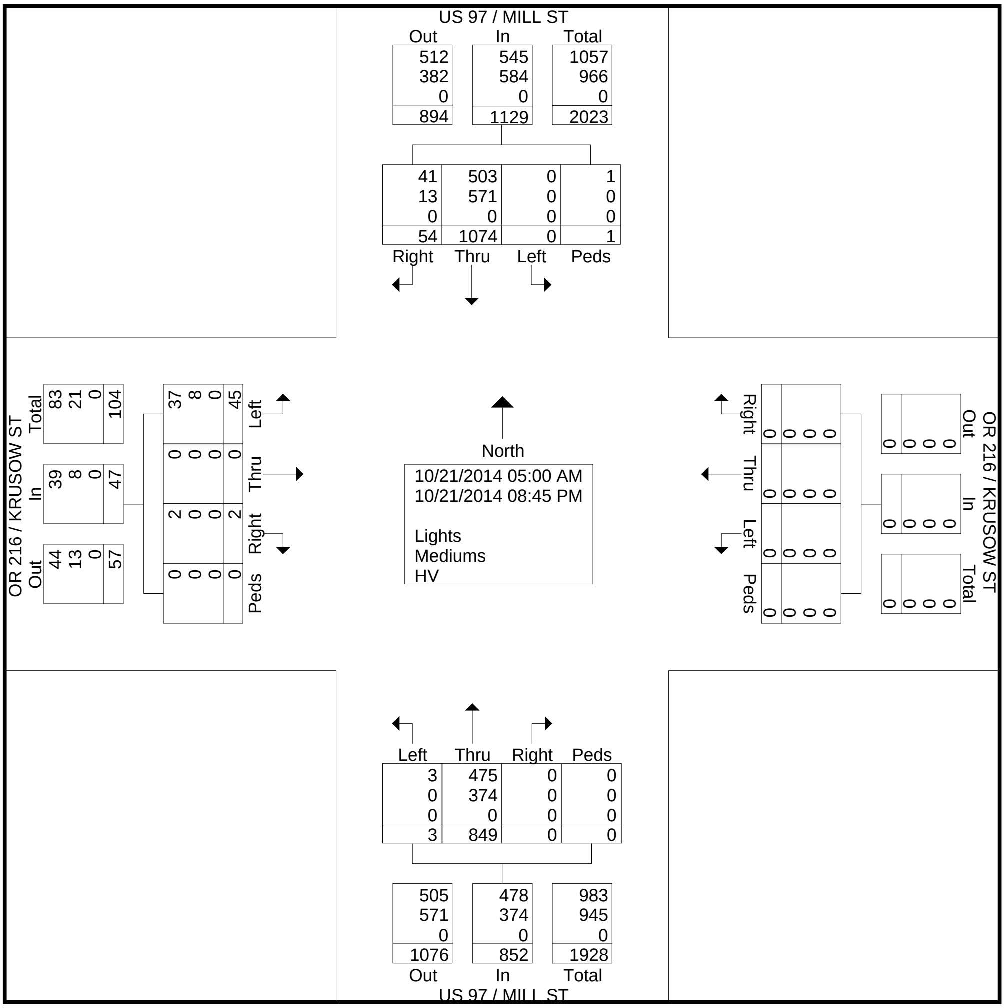

	US 97 / MILL ST Southbound					OR 216 / KRUSOW ST Westbound					US 97 / MILL ST Northbound					OR 216 / KRUSOW ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	0	18	0	0	18	0	0	0	0	0	0	12	**1**	0	13	0	0	2	0	2	33
09:15 AM	**2**	20	0	0	22	0	0	0	0	0	0	**14**	0	0	**14**	0	0	0	0	0	36
09:30 AM	2	**22**	0	0	**24**	0	0	0	0	0	0	12	0	0	12	0	0	1	0	1	**37**
09:45 AM	1	20	0	0	21	0	0	0	0	0	0	11	0	0	11	0	0	**3**	0	**3**	35
Total Volume	5	80	0	0	85	0	0	0	0	0	0	49	1	0	50	0	0	6	0	6	141
% App. Total	5.9	94.1	0	0		0	0	0	0		0	98	2	0		0	0	100	0		
PHF	.625	.909	.000	.000	.885	.000	.000	.000	.000	.000	.000	.875	.250	.000	.893	.000	.000	.500	.000	.500	.953

File Name : #12 US97&OR216
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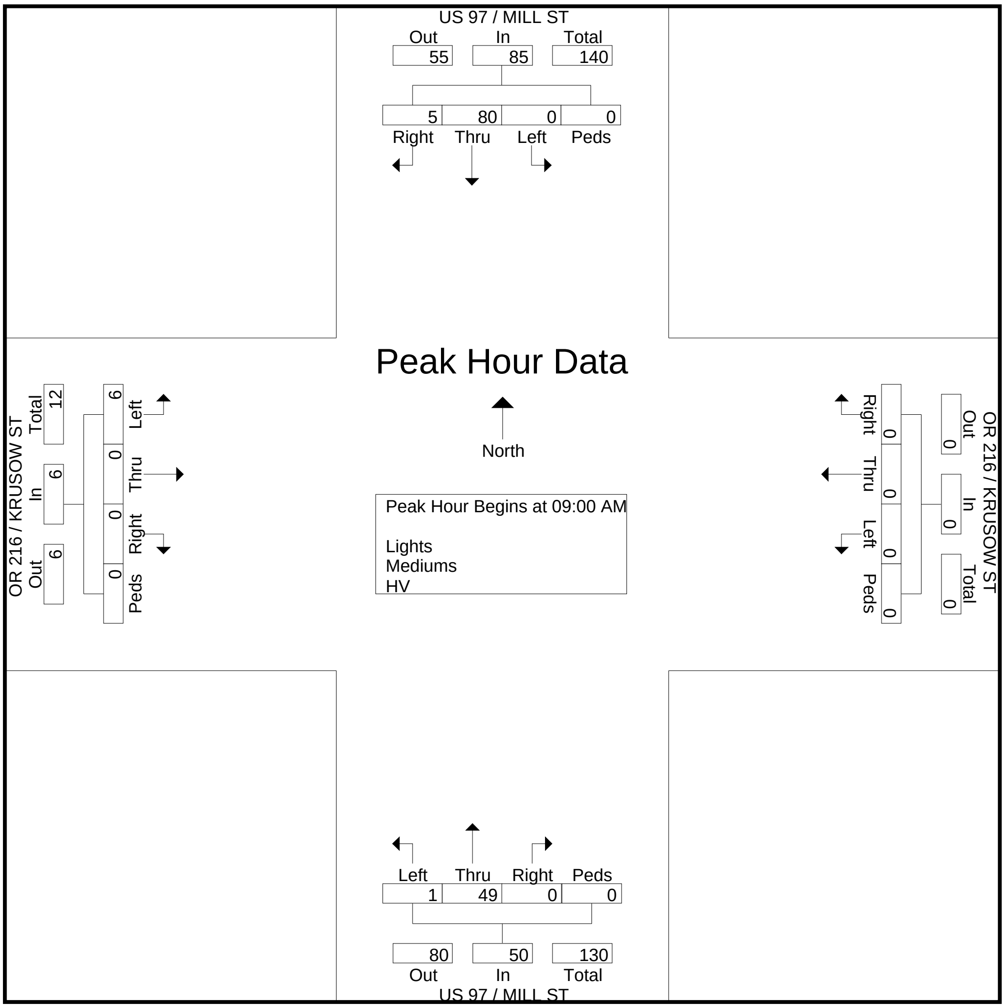

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:15 AM

11:15 AM	1	16	0	0	17	0	0	0	0	0	0	**31**	0	0	**31**	0	0	0	0	0	**48**
11:30 AM	0	**23**	0	0	23	0	0	0	0	0	0	19	0	0	19	0	0	1	0	1	43
11:45 AM	**2**	23	0	0	**25**	0	0	0	0	0	0	12	0	0	12	0	0	1	0	1	38
12:00 PM	1	21	0	0	22	0	0	0	0	0	0	16	0	0	16	**1**	0	**2**	0	**3**	41
Total Volume	4	83	0	0	87	0	0	0	0	0	0	78	0	0	78	1	0	4	0	5	170
% App. Total	4.6	95.4	0	0		0	0	0	0		0	100	0	0		20	0	80	0		
PHF	.500	.902	.000	.000	.870	.000	.000	.000	.000	.000	.000	.629	.000	.000	.629	.250	.000	.500	.000	.417	.885

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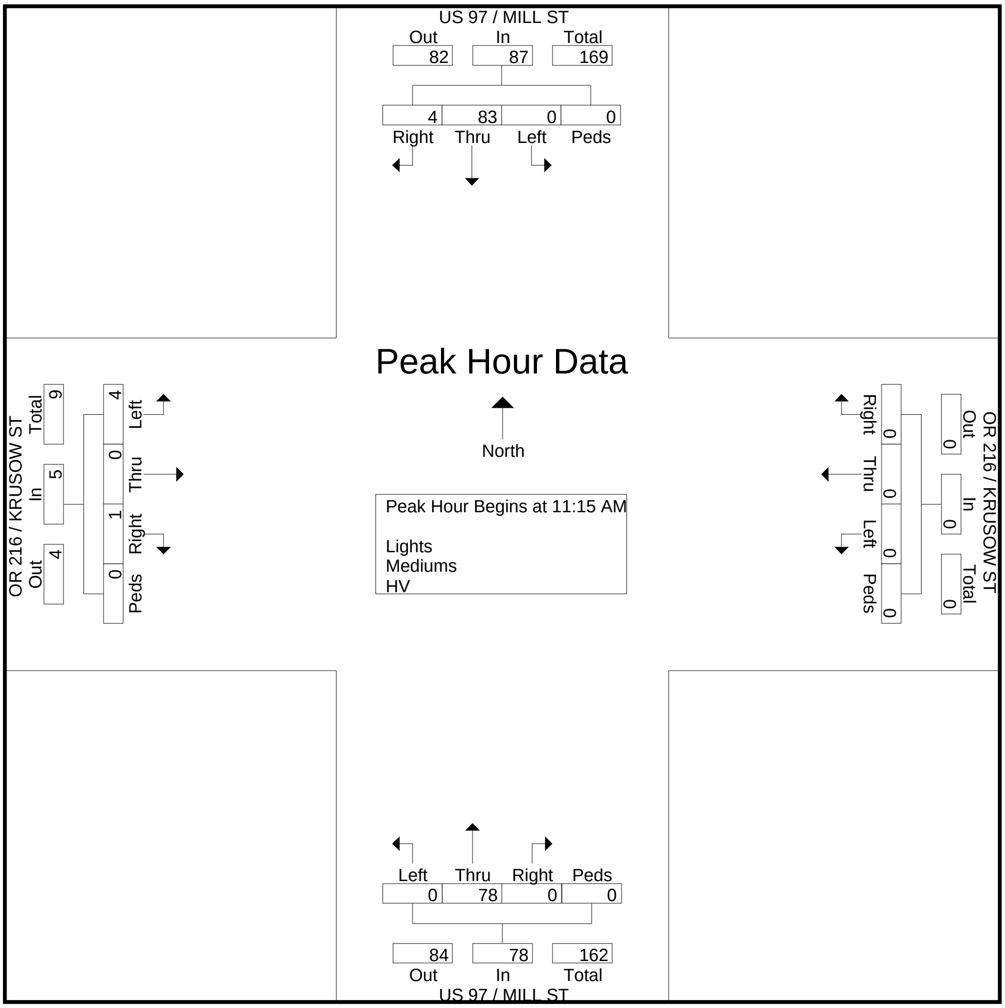

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	**3**	24	0	0	27	0	0	0	0	0	0	16	0	0	16	0	0	**1**	0	1	44
02:15 PM	1	**27**	0	0	**28**	0	0	0	0	0	0	**29**	0	0	**29**	0	0	1	0	1	**58**
02:30 PM	3	25	0	0	28	0	0	0	0	0	0	13	0	0	13	**1**	0	1	0	**2**	43
02:45 PM	1	24	0	0	25	0	0	0	0	0	0	20	0	0	20	0	0	1	0	1	46
Total Volume	8	100	0	0	108	0	0	0	0	0	0	78	0	0	78	1	0	4	0	5	191
% App. Total	7.4	92.6	0	0		0	0	0	0		0	100	0	0		20	0	80	0		
PHF	.667	.926	.000	.000	.964	.000	.000	.000	.000	.000	.000	.672	.000	.000	.672	.250	.000	1.00	.000	.625	.823

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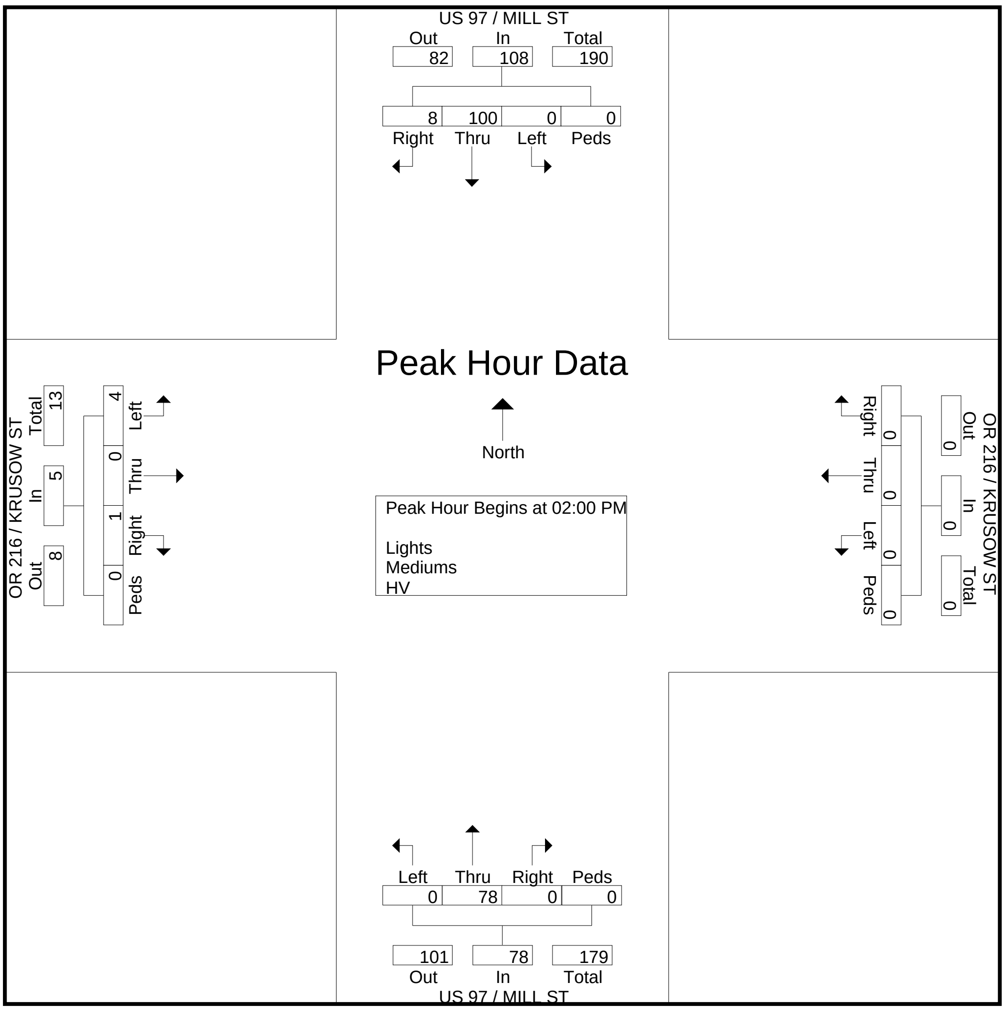

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Groups Printed- Lights - Mediums - HV

	US 97 / MAIN ST Southbound				LONE ROCK RD / 1ST ST Westbound				US 97 / MAIN ST Northbound				LONE ROCK RD / 1ST 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	7	0	0	0	0	0	0	0	3	0	0	0	0	0	0	10
05:15 AM	0	8	0	0	0	0	0	1	0	9	0	0	0	0	0	1	19
05:30 AM	1	8	1	0	3	0	1	0	0	4	0	0	1	0	0	0	19
05:45 AM	1	5	0	0	1	0	0	0	0	6	0	0	0	0	0	0	13
Total	2	28	1	0	4	0	1	1	0	22	0	0	1	0	0	1	61
06:00 AM	0	8	0	0	0	0	2	0	0	5	0	0	0	0	1	0	16
06:15 AM	1	1	1	0	0	0	1	0	2	14	0	0	0	0	0	0	20
06:30 AM	1	10	1	0	2	0	1	0	1	6	1	0	0	0	0	0	23
06:45 AM	0	10	6	0	1	0	1	0	2	9	0	0	0	1	0	0	30
Total	2	29	8	0	3	0	5	0	5	34	1	0	0	1	1	0	89
07:00 AM	0	6	0	0	4	2	0	0	0	10	0	0	1	1	1	0	25
07:15 AM	0	22	3	0	2	0	0	0	1	12	0	0	0	2	2	1	45
07:30 AM	0	26	1	0	2	2	4	0	3	12	1	0	1	1	1	0	54
07:45 AM	0	28	6	0	3	1	2	0	3	16	0	0	3	2	1	1	66
Total	0	82	10	0	11	5	6	0	7	50	1	0	5	6	5	2	190
08:00 AM	0	16	4	0	5	0	1	0	6	18	1	2	1	0	0	1	55
08:15 AM	0	13	1	0	5	4	3	0	2	18	1	1	1	1	0	1	51
08:30 AM	4	21	3	0	2	1	2	0	1	9	1	0	0	0	0	0	44
08:45 AM	1	13	4	0	6	2	1	0	0	14	0	0	0	0	1	1	43
Total	5	63	12	0	18	7	7	0	9	59	3	3	2	1	1	3	193
09:00 AM	1	27	2	0	1	1	1	0	0	14	0	0	2	0	0	0	49
09:15 AM	1	21	3	0	3	1	1	0	1	13	1	0	2	0	0	0	47
09:30 AM	1	21	1	0	5	1	4	3	1	9	0	3	0	0	0	0	49
09:45 AM	0	18	1	0	2	0	0	0	1	20	0	0	0	0	1	1	44
Total	3	87	7	0	11	3	6	3	3	56	1	3	4	0	1	1	189
10:00 AM	2	18	1	0	4	1	1	2	2	17	2	0	1	3	2	2	58
10:15 AM	0	21	7	0	3	0	0	0	2	27	2	0	3	3	1	1	70
10:30 AM	1	21	2	0	1	0	1	0	1	12	0	0	1	0	2	0	42
10:45 AM	1	16	1	0	1	1	1	0	0	20	1	0	2	1	0	4	49
Total	4	76	11	0	9	2	3	2	5	76	5	0	7	7	5	7	219
11:00 AM	2	22	0	0	3	3	0	0	1	26	2	0	2	2	2	0	65
11:15 AM	2	19	4	0	1	1	0	0	0	14	1	0	0	2	1	2	47
11:30 AM	6	27	2	0	5	0	0	0	2	32	1	1	2	2	0	5	85
11:45 AM	3	23	4	0	2	1	1	1	1	19	3	0	1	3	0	0	62
Total	13	91	10	0	11	5	1	1	4	91	7	1	5	9	3	7	259
12:00 PM	4	25	4	0	3	2	2	1	2	17	0	4	2	1	1	0	68
12:15 PM	1	28	3	1	1	0	1	1	3	18	0	0	2	0	0	1	60
12:30 PM	1	23	4	2	3	2	1	3	2	26	3	3	0	1	4	1	79
12:45 PM	1	29	5	0	3	0	1	0	1	18	0	2	1	1	1	0	63
Total	7	105	16	3	10	4	5	5	8	79	3	9	5	3	6	2	270
01:00 PM	1	24	3	0	4	5	1	0	1	23	3	0	1	1	2	2	71

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Groups Printed- Lights - Mediums - HV

	US 97 / MAIN ST Southbound				LONE ROCK RD / 1ST ST Westbound				US 97 / MAIN ST Northbound				LONE ROCK RD / 1ST ST Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:15 PM	0	26	4	0	1	0	0	3	2	21	0	0	1	2	1	2	63
01:30 PM	3	32	2	0	1	1	1	2	3	19	2	0	2	0	0	0	68
01:45 PM	2	27	0	0	2	1	4	0	1	16	1	2	2	6	2	4	70
Total	6	109	9	0	8	7	6	5	7	79	6	2	6	9	5	8	272
02:00 PM	0	24	3	0	2	1	2	0	1	21	1	0	3	1	0	0	59
02:15 PM	0	32	4	0	5	1	1	0	0	27	1	1	2	1	2	0	77
02:30 PM	0	29	2	0	1	0	4	0	1	23	0	0	0	2	2	0	64
02:45 PM	1	36	1	0	4	1	0	0	1	18	0	0	1	0	1	0	64
Total	1	121	10	0	12	3	7	0	3	89	2	1	6	4	5	0	264
03:00 PM	0	32	2	0	0	0	0	0	2	21	0	2	2	1	1	0	63
03:15 PM	2	18	0	0	1	4	2	0	0	26	2	0	2	3	0	1	61
03:30 PM	0	21	4	0	4	0	3	1	3	27	0	1	0	0	1	1	66
03:45 PM	1	23	3	0	2	1	1	2	1	29	1	3	2	0	0	0	69
Total	3	94	9	0	7	5	6	3	6	103	3	6	6	4	2	2	259
04:00 PM	1	20	10	0	2	0	3	0	3	23	0	1	1	1	0	0	65
04:15 PM	0	25	2	0	3	0	3	0	0	34	1	0	0	0	0	0	68
04:30 PM	0	25	5	0	3	0	5	0	3	17	0	1	0	2	0	0	61
04:45 PM	0	28	3	0	5	0	1	0	4	19	0	0	0	0	2	0	62
Total	1	98	20	0	13	0	12	0	10	93	1	2	1	3	2	0	256
05:00 PM	1	42	2	0	7	1	2	0	1	19	0	1	2	0	1	0	79
05:15 PM	3	33	3	0	12	0	3	0	2	16	2	0	1	1	0	2	78
05:30 PM	0	31	5	0	4	1	1	0	7	12	1	0	2	2	1	0	67
05:45 PM	2	30	1	0	1	3	2	0	0	13	0	0	0	1	0	0	53
Total	6	136	11	0	24	5	8	0	10	60	3	1	5	4	2	2	277
06:00 PM	1	15	0	0	1	0	0	0	2	33	1	3	2	1	0	0	59
06:15 PM	1	16	1	0	3	1	1	0	3	13	0	2	1	1	1	0	44
06:30 PM	0	17	1	0	0	0	0	0	1	9	1	0	1	0	1	0	31
06:45 PM	1	17	4	0	1	1	1	0	0	23	0	1	1	0	0	0	50
Total	3	65	6	0	5	2	2	0	6	78	2	6	5	2	2	0	184
07:00 PM	0	26	1	0	0	1	0	0	0	17	0	0	1	0	0	0	46
07:15 PM	1	5	2	0	0	0	0	0	0	13	1	0	0	0	0	0	22
07:30 PM	0	20	0	0	8	1	1	0	0	16	0	1	0	0	0	0	47
07:45 PM	0	10	0	0	3	0	0	0	0	16	1	0	0	0	0	0	30
Total	1	61	3	0	11	2	1	0	0	62	2	1	1	0	0	0	145
08:00 PM	0	9	0	0	0	0	0	0	0	8	0	0	0	0	0	0	17
08:15 PM	0	19	1	0	3	0	0	0	1	16	0	2	0	0	0	0	42
08:30 PM	0	11	1	0	0	0	1	0	0	7	0	0	0	0	1	0	21
08:45 PM	0	24	0	0	0	0	0	0	0	7	0	0	0	0	0	0	31
Total	0	63	2	0	3	0	1	0	1	38	0	2	0	0	1	0	111
Grand Total	57	1308	145	3	160	50	77	20	84	1069	40	37	59	53	41	35	3238
Apprch %	3.8	86.5	9.6	0.2	52.1	16.3	25.1	6.5	6.8	86.9	3.3	3	31.4	28.2	21.8	18.6	
Total %	1.8	40.4	4.5	0.1	4.9	1.5	2.4	0.6	2.6	33	1.2	1.1	1.8	1.6	1.3	1.1	
Lights	53	726	122	3	136	49	67	20	77	669	39	36	56	52	40	35	2180
% Lights	93	55.5	84.1	100	85	98	87	100	91.7	62.6	97.5	97.3	94.9	98.1	97.6	100	67.3
Mediums	4	582	23	0	24	1	10	0	7	400	1	0	3	1	1	0	1057
% Mediums	7	44.5	15.9	0	15	2	13	0	8.3	37.4	2.5	0	5.1	1.9	2.4	0	32.6
HV	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
% HV	0	0	0	0	0	0	0	0	0	0	0	2.7	0	0	0	0	0

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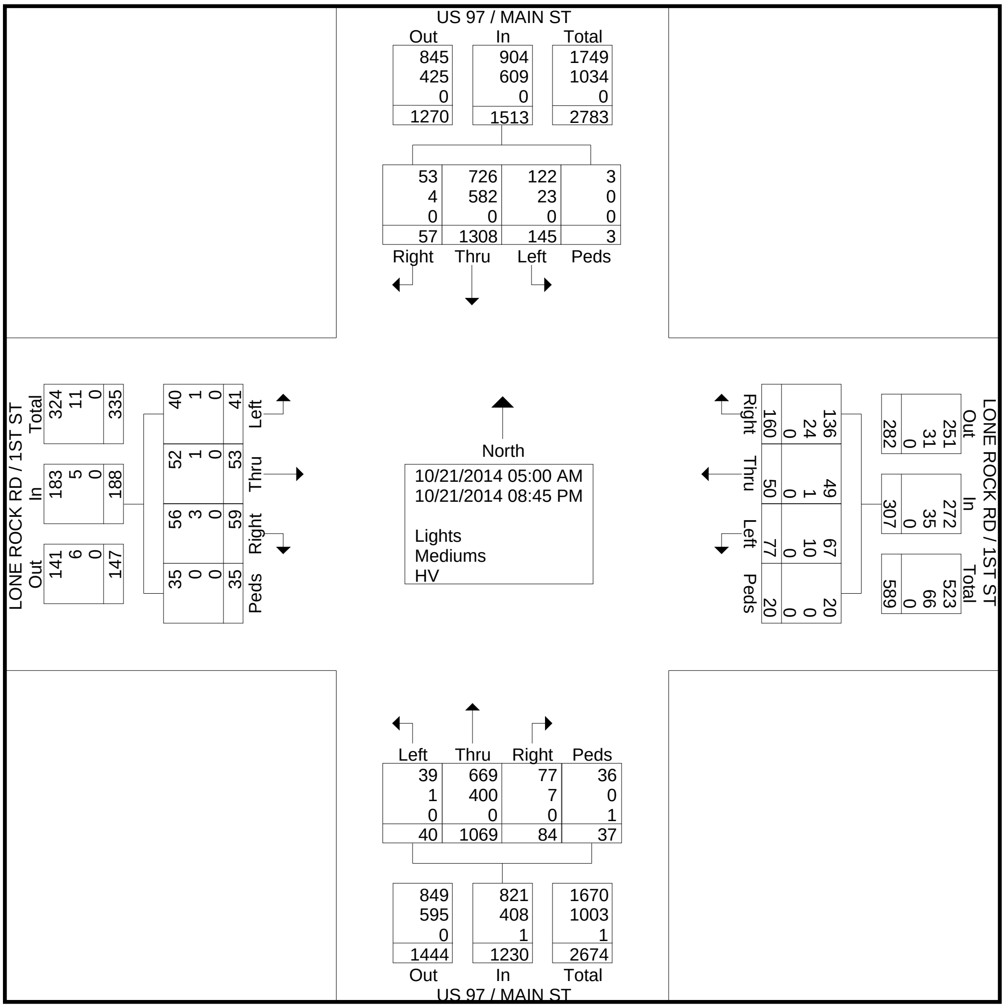

	US 97 / MAIN ST Southbound					LONE ROCK RD / 1ST ST Westbound					US 97 / MAIN ST Northbound					LONE ROCK RD / 1ST ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	26	1	0	27	2	2	**4**	0	8	3	12	**1**	0	16	1	1	**1**	0	3	54
07:45 AM	0	**28**	**6**	0	**34**	3	1	2	0	6	3	16	0	0	19	**3**	**2**	1	**1**	**7**	**66**
08:00 AM	0	16	4	0	20	**5**	0	1	0	6	**6**	**18**	1	**2**	**27**	1	0	0	1	2	55
08:15 AM	0	13	1	0	14	5	**4**	3	0	**12**	2	18	1	1	22	1	1	0	1	3	51
Total Volume	0	83	12	0	95	15	7	10	0	32	14	64	3	3	84	6	4	2	3	15	226
% App. Total	0	87.4	12.6	0		46.9	21.9	31.2	0		16.7	76.2	3.6	3.6		40	26.7	13.3	20		
PHF	.000	.741	.500	.000	.699	.750	.438	.625	.000	.667	.583	.889	.750	.375	.778	.500	.500	.500	.750	.536	.856

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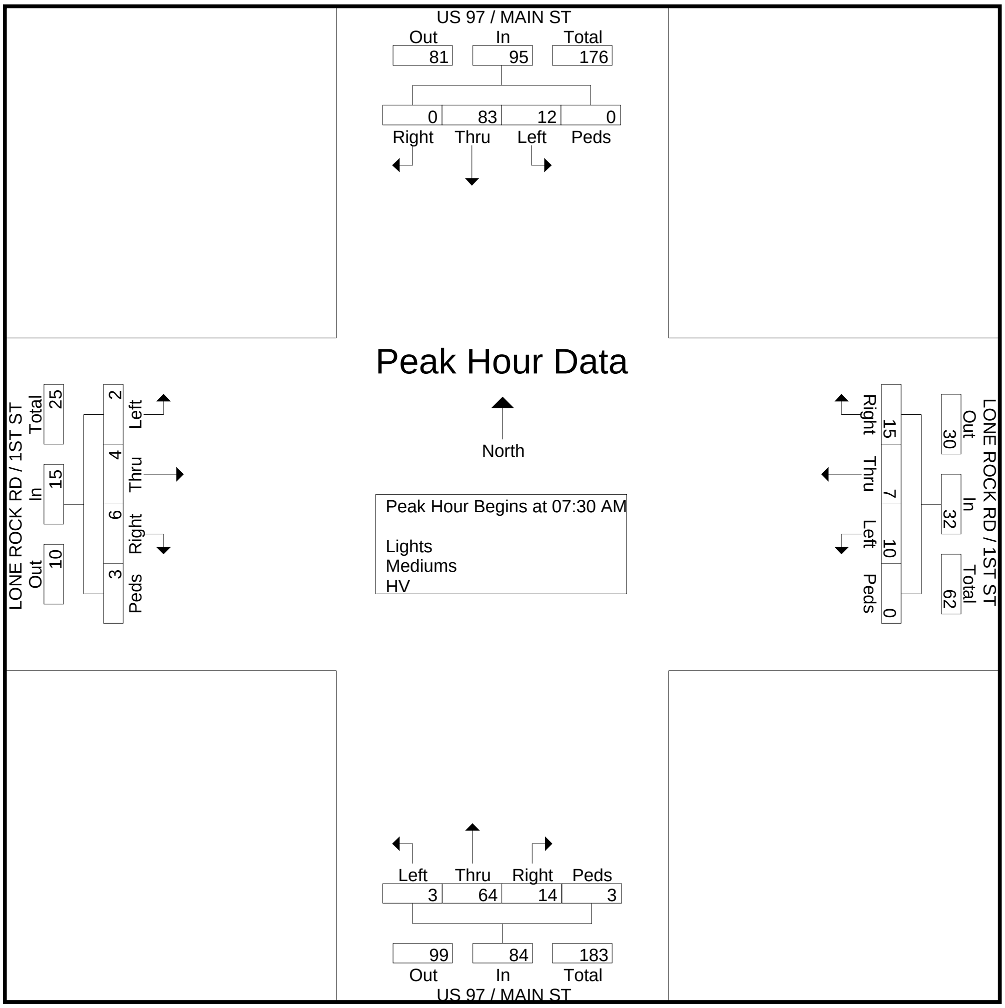

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:30 PM

12:30 PM	**1**	23	4	**2**	30	3	2	**1**	**3**	9	**2**	**26**	**3**	**3**	**34**	0	1	**4**	1	**6**	**79**
12:45 PM	1	**29**	**5**	0	**35**	3	0	1	0	4	1	18	0	2	21	**1**	1	1	0	3	63
01:00 PM	1	24	3	0	28	**4**	**5**	1	0	**10**	1	23	3	0	27	1	1	2	**2**	6	71
01:15 PM	0	26	4	0	30	1	0	0	3	4	2	21	0	0	23	1	**2**	1	2	6	63
Total Volume	3	102	16	2	123	11	7	3	6	27	6	88	6	5	105	3	5	8	5	21	276
% App. Total	2.4	82.9	13	1.6		40.7	25.9	11.1	22.2		5.7	83.8	5.7	4.8		14.3	23.8	38.1	23.8		
PHF	.750	.879	.800	.250	.879	.688	.350	.750	.500	.675	.750	.846	.500	.417	.772	.750	.625	.500	.625	.875	.873

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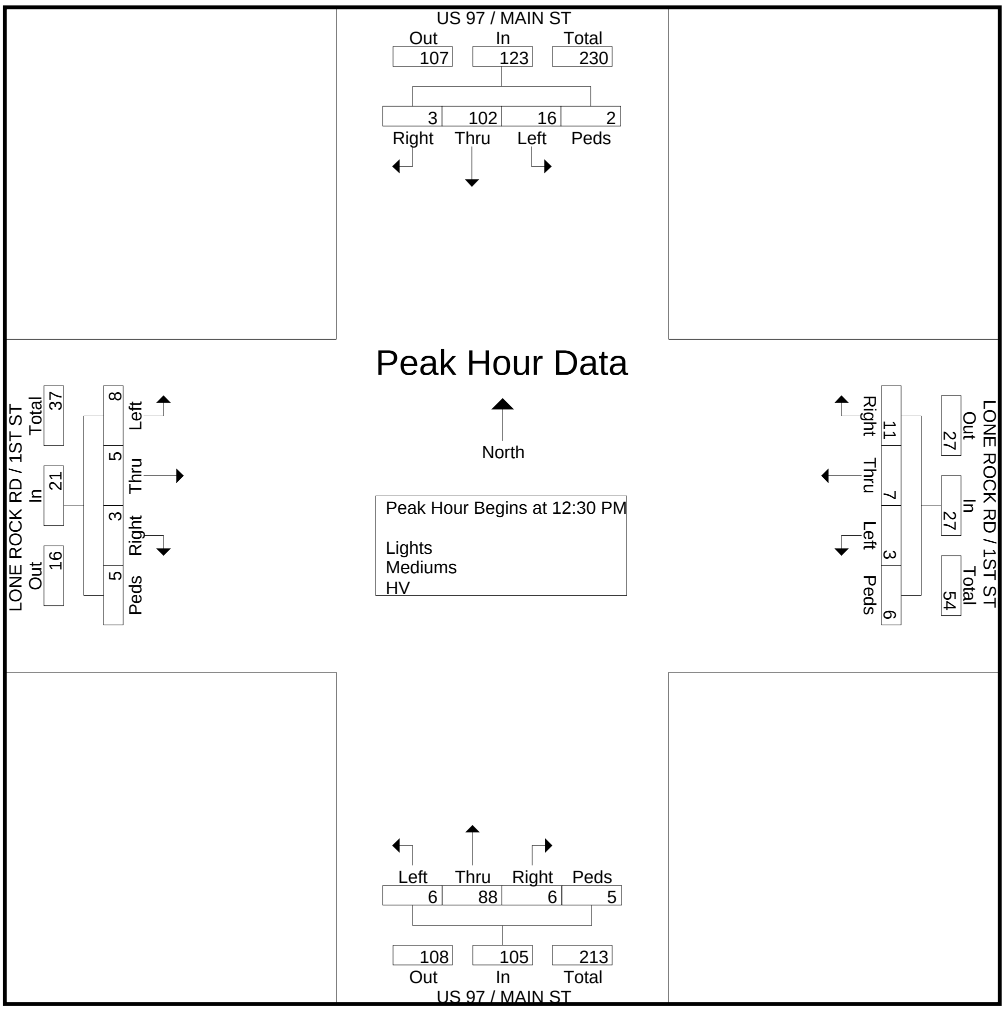

Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	28	3	0	31	5	0	1	0	6	4	**19**	0	0	**23**	0	0	**2**	0	2	62
05:00 PM	1	**42**	2	0	**45**	7	**1**	2	0	10	1	19	0	**1**	21	**2**	0	1	0	3	**79**
05:15 PM	**3**	33	3	0	39	**12**	0	**3**	0	**15**	2	16	**2**	0	20	1	1	0	**2**	4	78
05:30 PM	0	31	**5**	0	36	4	1	1	0	6	**7**	12	1	0	20	2	**2**	1	0	**5**	67
Total Volume	4	134	13	0	151	28	2	7	0	37	14	66	3	1	84	5	3	4	2	14	286
% App. Total	2.6	88.7	8.6	0		75.7	5.4	18.9	0		16.7	78.6	3.6	1.2		35.7	21.4	28.6	14.3		
PHF	.333	.798	.650	.000	.839	.583	.500	.583	.000	.617	.500	.868	.375	.250	.913	.625	.375	.500	.250	.700	.905

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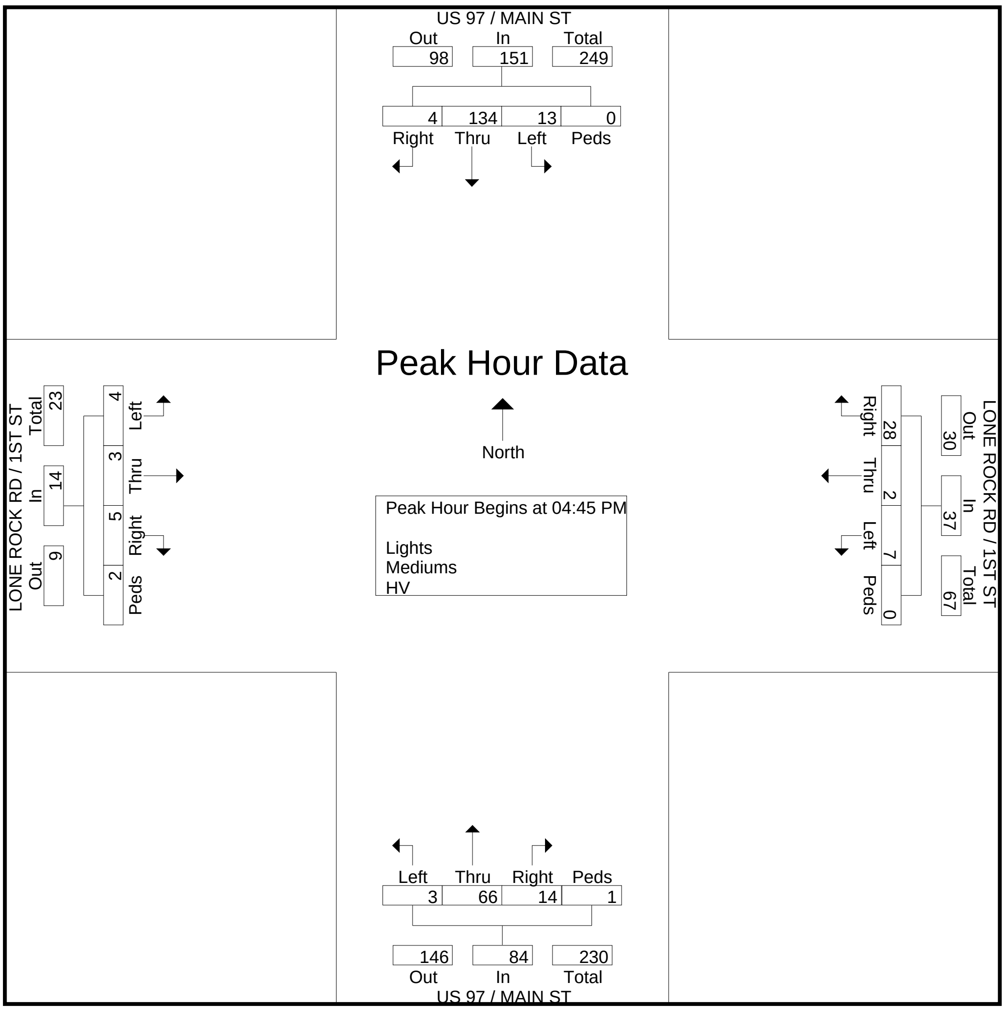

Volume
Start Date: 10/21/2014
Start Time: 12:00:00 AM
Site Code: 1
Location 1: SCOTT CANYON N-O HERIN LN

Date	Time	NB	SB
10/21/2014	12:00 AM	0	0
10/21/2014	12:15 AM	0	0
10/21/2014	12:30 AM	0	0
10/21/2014	12:45 AM	0	0
10/21/2014	01:00 AM	0	0
10/21/2014	01:15 AM	0	1
10/21/2014	01:30 AM	0	0
10/21/2014	01:45 AM	1	0
10/21/2014	02:00 AM	1	0
10/21/2014	02:15 AM	0	0
10/21/2014	02:30 AM	0	0
10/21/2014	02:45 AM	0	0
10/21/2014	03:00 AM	0	0
10/21/2014	03:15 AM	1	0
10/21/2014	03:30 AM	0	0
10/21/2014	03:45 AM	0	0
10/21/2014	04:00 AM	0	0
10/21/2014	04:15 AM	0	0
10/21/2014	04:30 AM	1	0
10/21/2014	04:45 AM	2	1
10/21/2014	05:00 AM	0	0
10/21/2014	05:15 AM	0	0
10/21/2014	05:30 AM	1	2
10/21/2014	05:45 AM	1	3
10/21/2014	06:00 AM	0	6
10/21/2014	06:15 AM	3	6
10/21/2014	06:30 AM	0	9
10/21/2014	06:45 AM	3	8
10/21/2014	07:00 AM	0	2
10/21/2014	07:15 AM	3	4
10/21/2014	07:30 AM	0	3
10/21/2014	07:45 AM	0	4
10/21/2014	08:00 AM	0	4
10/21/2014	08:15 AM	7	6
10/21/2014	08:30 AM	1	2
10/21/2014	08:45 AM	1	2
10/21/2014	09:00 AM	2	2
10/21/2014	09:15 AM	6	1
10/21/2014	09:30 AM	3	1
10/21/2014	09:45 AM	2	4
10/21/2014	10:00 AM	8	3
10/21/2014	10:15 AM	1	6
10/21/2014	10:30 AM	1	2
10/21/2014	10:45 AM	1	4
10/21/2014	11:00 AM	6	4
10/21/2014	11:15 AM	3	1
10/21/2014	11:30 AM	2	2
10/21/2014	11:45 AM	3	1
10/21/2014	12:00 PM	5	2

10/21/2014	12:15 PM	2	2
10/21/2014	12:30 PM	2	1
10/21/2014	12:45 PM	0	1
10/21/2014	01:00 PM	1	3
10/21/2014	01:15 PM	0	4
10/21/2014	01:30 PM	2	3
10/21/2014	01:45 PM	1	3
10/21/2014	02:00 PM	0	2
10/21/2014	02:15 PM	2	4
10/21/2014	02:30 PM	6	2
10/21/2014	02:45 PM	3	5
10/21/2014	03:00 PM	3	2
10/21/2014	03:15 PM	3	9
10/21/2014	03:30 PM	6	7
10/21/2014	03:45 PM	3	1
10/21/2014	04:00 PM	8	0
10/21/2014	04:15 PM	4	7
10/21/2014	04:30 PM	9	1
10/21/2014	04:45 PM	7	3
10/21/2014	05:00 PM	6	3
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10/23/2014	11:45 PM	0	0

Volume
Start Date: 10/21/2014
Start Time: 12:00:00 AM
Site Code: 3
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10/21/2014	01:15 AM	0	1
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10/21/2014	05:45 AM	1	2
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10/21/2014	06:15 AM	3	3
10/21/2014	06:30 AM	0	0
10/21/2014	06:45 AM	3	4
10/21/2014	07:00 AM	1	0
10/21/2014	07:15 AM	2	6
10/21/2014	07:30 AM	0	2
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10/21/2014	08:00 AM	1	3
10/21/2014	08:15 AM	7	5
10/21/2014	08:30 AM	0	1
10/21/2014	08:45 AM	3	2
10/21/2014	09:00 AM	2	0
10/21/2014	09:15 AM	2	1
10/21/2014	09:30 AM	0	3
10/21/2014	09:45 AM	3	1
10/21/2014	10:00 AM	6	6
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10/22/2014	01:30 AM	0	0
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10/22/2014	05:45 AM	1	2
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10/22/2014	06:45 AM	1	6
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10/22/2014	04:00 PM	2	3

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10/23/2014	05:00 AM	1	4
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10/23/2014	07:45 AM	2	1
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Volume
Start Date: 10/21/2014
Start Time: 12:00:00 AM
Site Code: 4
Location 1: MAIN ST N-O 1ST ST

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10/23/2014	11:45 PM	0	0

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Site Code: 5
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10/21/2014	12:45 AM	0	1
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10/21/2014	01:15 AM	0	0
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10/21/2014	06:30 AM	5	6
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Volume
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Start Time: 12:00:00 AM
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10/22/2014	11:30 AM	1	4
10/22/2014	11:45 AM	3	5
10/22/2014	12:00 PM	1	4
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10/22/2014	12:45 PM	2	6
10/22/2014	01:00 PM	4	5
10/22/2014	01:15 PM	1	12
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10/22/2014	02:15 PM	2	7
10/22/2014	02:30 PM	7	2
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10/22/2014	03:00 PM	7	5
10/22/2014	03:15 PM	4	3
10/22/2014	03:30 PM	9	5
10/22/2014	03:45 PM	6	1
10/22/2014	04:00 PM	10	6

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10/22/2014	04:30 PM	4	4
10/22/2014	04:45 PM	6	3
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10/23/2014	11:00 PM	0	1
10/23/2014	11:15 PM	0	0
10/23/2014	11:30 PM	0	0
10/23/2014	11:45 PM	1	1

Volume
Start Date: 10/21/2014
Start Time: 12:00:00 AM
Site Code: 7
Location 1: 1ST ST W-O MAIN ST

Date	Time	EB	WB
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10/21/2014	12:30 AM	0	1
10/21/2014	12:45 AM	1	0
10/21/2014	01:00 AM	0	0
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Appendix C Methodology Memorandum

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

Methodology Memorandum

Date:	February 16, 2015	Project #: 18054
To:	Michael Duncan, ODOT Region 4	
From:	Casey Bergh, PE, Marc Butorac, PE, and Ashleigh Griffin	
cc:		

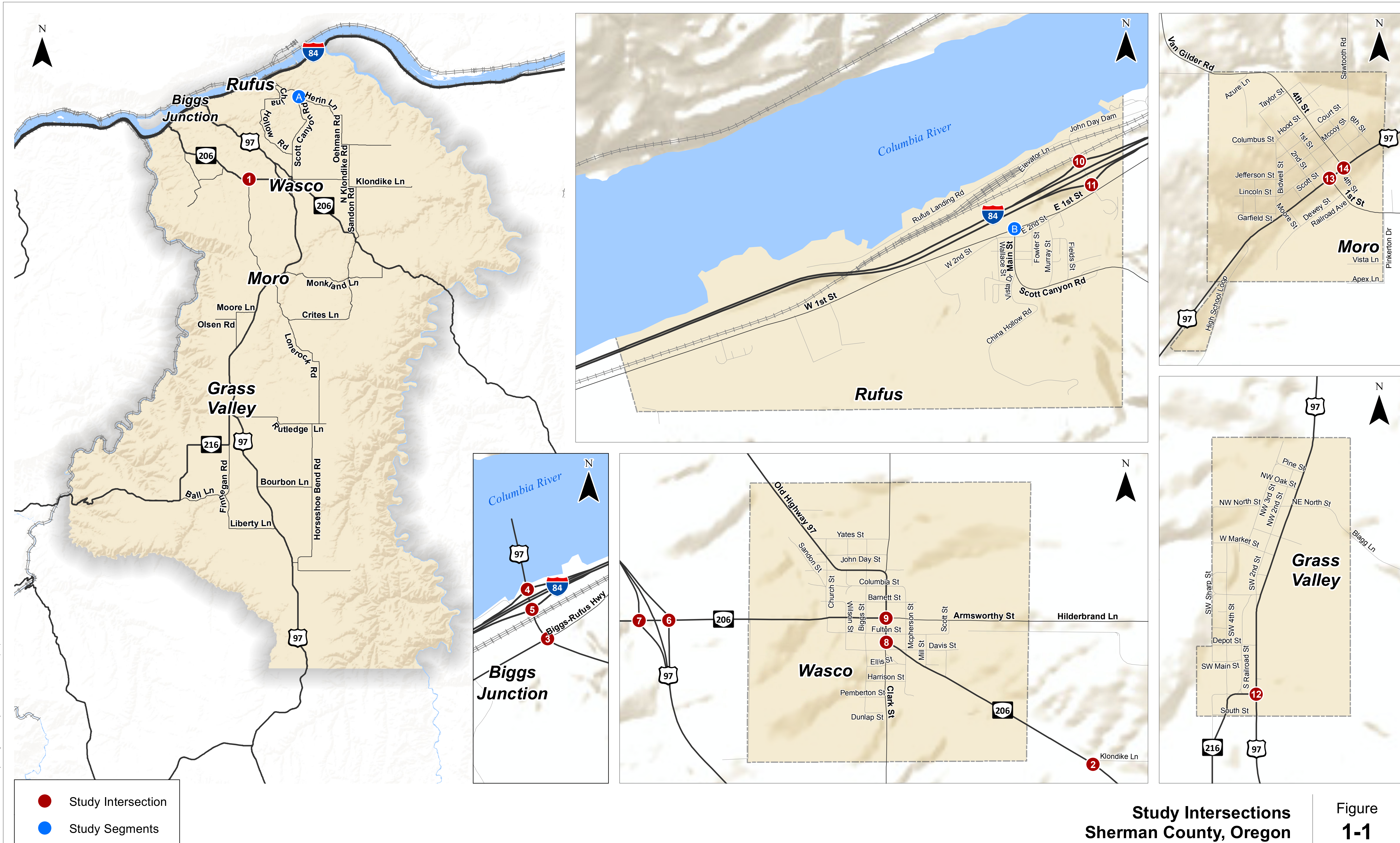
This memorandum documents the methodology and key assumptions to be used in preparation of the existing and future conditions analyses for the Sherman County Transportation System Plan (TSP) Update. The methodologies included in this memorandum are based on guidance provided in the Oregon Department of Transportation (ODOT) *Transportation System Plan Guidelines (2008)* and the *Analysis Procedures Manual* (APM), Versions 1 and 2 as they relate to rural counties in central Oregon.

STUDY INTERSECTIONS

Intersection turning movement traffic counts used for this study were conducted by All Traffic Data on Tuesday October 21, 2014. The locations for these intersection counts were agreed upon by ODOT, the County, and the consultant team during the development of the project scope. The counts were 16-hour intersection classification counts and will be used to provide pedestrian volumes, bicycle volumes, truck volumes, passenger car volumes, and various calculation factors. Table 1 provides the locations where 16-hour counts were conducted, and Figure 1 shows the location of the study intersections.

Table 1. Study Intersections (Location of 16-Hour Intersection Classification Count)

ID Number	East-West Name	North-South Name
1	Van Gilder Rd.	OR 206
2	Klondike	OR 206
3	Biggs-Rufus Hwy	US 97
4	I-84 WB	US 97
5	I-84 EB	US 97
6	OR 206	US 97 NB
7	OR 206	US 97 SB
8	Clark St.	OR 206/Old Wasco-Heppner Hwy
9	Clark St.	OR 206
10	I-84 WB	John Day Dam Rd.
11	I-84 EB	John Day Dam Rd.
12	Krusow St./OR 216	Mill St./US 97
13	Lone Rock Rd.	US 97
14	4^{th} St.	US 97



Study Intersections
Sherman County, Oregon

Figure 1-1

Kittelson & Associates, Inc.
Transportation Engineering/Planning

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

PEAK HOUR DEVELOPMENT

As shown on Figure 1, the study intersections are spread throughout the County. Therefore, the application of a County-wide system peak hour does not apply. Intersections were analyzed based on system peak-hours within each City as follows:

- Intersections 1, 2, 6, 7, 8, and 9 were analyzed for the Wasco system-peak hour, which occurred from 4:30 to 5:30 p.m.
- Intersections 3, 4, and 5 were analyzed for the Biggs Junction system-peak hour, which occurred from 4:15 to 5:15 p.m.
- Intersections 10 and 11 were analyzed for the Rufus system-peak hour, which occurred from 4:45 to 5:45 p.m.
- Intersections 13 and 14 were analyzed for the Moro system-peak hour, which occurred from 4:30 to 5:30 p.m.
- Intersection 12 was the only study intersection in Grass Valley and therefore was analyzed during the peak hour for that intersection, which occurred between 1:30 and 2:30 p.m.

INTERSECTION OPERATIONAL STANDARDS

Per the project scope, we will present the following performance thresholds for the study intersections, regardless of jurisdictional control:

- Volume-to-capacity (v/c) ratio;
- Level-of-service (LOS);
- Delay;
- 95th Percentile queuing (not-simulation based); and
- Turning movement counts.

This information will be provided in tables, figures, and/or technical appendices, but where possible will be provided in figures to give the general public a more clear and relatable understanding of the analysis results.

ODOT Facilities

For reference, this section summarizes the applicable performance thresholds for study intersections that fall within ODOT's jurisdiction.

ODOT assesses intersection operations based on volume-to-capacity (V/C) ratio. Table 6 of the *Oregon Highway Plan* (OHP) provides volume-to-capacity targets for facilities outside the Metro area. The OHP ratios are used to evaluate existing and future no-build conditions, while Table 10-2 of the ODOT 2012 Highway Design Manual (HDM) provides V/C ratios used to assist in identifying future system deficiencies and evaluating future alternatives on state highways.

SEASONAL ADJUSTMENT FACTOR

30th highest hour design volumes will be based on applicable adjustment factors. Version 2 of the APM identifies three methods for identifying seasonal adjustment factors for highway traffic volumes. All three methods utilize information provided by Automatic Traffic Recorders (ATR) located in select locations throughout the State Highway System that collect traffic data 24-hours a day/365 days a year. There are two permanent ATR stations in Sherman County:

- ATR 28-001: Located on US 97, 0.83 miles northeast of 1st Street;
- ATR 28-002: Located on I-84, 0.44 miles west of Rufus/John Day Dam interchange.

Based on the locations of ATR stations in Sherman County, a combination of the On-Site ATR method and the ATR Characteristic Table Method will be used to calculate volumes at study intersections.

On-Site ATR Method

The On-Site ATR Method requires that the ATR be located within or near the project area. If the ATR is located outside the project area, there should be no major intersections between the ATR and the project area, and the Average Annual Daily Traffic (AADT) collected by the ATR must be within 10 percent of the AADT near the project area. *ODOT's Transportation Volume Tables will be used to identify AADT for highway segments*. Based on these requirements, the two ATR stations in Sherman County can be used to calculate seasonal adjustment factors for the movements involving I-84 and US 97. The seasonal adjustment factors were calculated following the process outlined in the Version 2 APM, as summarized in Appendix A. The resulting seasonal adjustment factors based on each ATR station are summarized in Table 2. *The average of these factors will be applied to the ramp terminals at US 97/I-84, as summarized in Appendix 2.*

Table 2. On-Site ATR Method Seasonal Adjustment Method

ATR Station	Weekly Traffic Trend	October Seasonal Adjustment Factor
ATR 28-001	Weekend	1.23
ATR 28-002	Weekday	1.32

ATR Characteristic Table Method

The ATR Characteristic Table Method is proposed to calculate seasonal adjustment factors along OR 206, OR 216, Biggs-Rufus Highway, and the other local study streets. The Characteristic Table Method requires:

1) The ATR must be located on a facility that shares similar characteristics with the facility to be adjusted, such as seasonal traffic trends, area type, and number of lanes.
2) AADT collected by the ATR must be within 10 percent of the AADT near the project area.

Three ATR stations, 03-014, 11-004, and 11-007 were identified based on: the seasonal traffic trend identified for this area (Summer < 2500), AADT, and Weekday traffic trends. The seasonal adjustment factors calculated for these ATRs are shown in Table 3 and will be applied to the roadways as reported in the table. *Appendix 2 summaries the seasonal adjustment factors that will be applied to each approach.*

Table 3 ATR Characteristic Table Method Seasonal Adjustments

ATR Station	Weekly Traffic Trend	October Seasonal Adjustment Factor	Roadways Applied To
ATR 03-014	Weekday	1.03	Biggs-Rufus Highway
ATR 11-004	Weekday	1.09	OR 216; Clark Street; OR 206
ATR 11-007	Weekday	1.01	OR 206

STUDY SEGMENTS

ODOT conducted 48-hour tube counts at two segment locations during weekdays in October of 2014. These tube counts will be used to conduct two-lane highway capacity analysis at the two locations shown in Table 4. HCM 2010 methodologies will be used for the two-way highway capacity analysis. The tube counts did not contain vehicle classification information and therefore cannot be used to calculate the percentage of heavy vehicles using the roadways.

Table 4. Study Segments (48-Hour Tube Count Locations)

ID Number	Roadway Name
A	Herin Lane at Scott Canyon Road
B	Main Street and 1st Street/Biggs-Rufus Highway

ANALYSIS MODEL PARAMETERS

The bullets below identify the proposed sources of data and methodologies to be used to analyze traffic conditions in Sherman County. Analyses of all state facilities will be conducted according to the most-recent version of the APM, unless otherwise agreed upon by both ODOT's Transportation Planning and Analysis Unit (TPAU) and the consultant team.

1. *Intersection/Roadway Geometry* (lane numbers and arrangements, cross-section elements, signal phasing, etc.) will be verified for consistency with previous work efforts, reviewed through aerial photography, and confirmed through a site visit. Available as-built data may also be used to verify existing roadway geometry. The analysis models will be built on scaled roadway line work from GIS or aerial photography in Vistro analysis software. ODOT's two-

way stop-controlled intersection calculator tool will be used to calculate expected queue lengths for two-way stop-controlled intersections.

2. *Operational Data* (such as posted speeds, intersection control, parking, right-turn on red, etc.) will be field verified. Data will be reviewed during a site visit and supplemented by available GIS data, aerials, photos, and the ODOT Video Log.

3. *Peak Hour Factors* (PHF) will be calculated for each intersection and applied to the existing conditions analyses. PHFs of 0.95 will be used for the future analysis for high-order facilities (arterials), with 0.90 applied to medium-order facilities (collectors) and 0.85 applied to local roads. If the existing PHF is greater than these default future values, the existing PHF will be applied.

4. Traffic Operations

    a. The 2010 Highway Capacity Manual (HCM) methodology shall be used for intersection analyses of the design hour conditions. The existing and future no-build analysis will utilize Vistro software for all study intersections. Roundabouts (if applicable) will be analyzed using HCM 2010 analysis methods. Level-of-service, delay, and volume-to-capacity ratios will be reported at each of the study intersections regardless of roadway jurisdiction.

    b. Queuing analysis methodology will be based on Vistro 95^{th} percentile queue lengths as appropriate. Microsimulation is not proposed as part of the long-range planning effort.

TRAFFIC ANALYSIS SOFTWARE AND INPUT ASSUMPTIONS

Vistro software will be used for the intersection analysis. The reported results will be the level of service, intersection delay, v/c ratios, and 95^{th} percentile queue lengths generated by the HCM report. None of the study intersections are signalized intersections; therefore no parameters have been provided for signal timing. Analysis assumptions are listed in Table 4.

Table 5. Operations Parameters/Assumptions

Arterial Intersection Parameters	Existing Conditions
Peak Hour Factor	From traffic counts
Conflicting Bikes and Pedestrian per Hour	From traffic counts, as available
Ideal Saturation Flow Rate (for all movements)	1,750 passenger cars per hour green per lane
Lane Width	12 feet unless field observations suggest otherwise
Percent Heavy Vehicles	From traffic counts by movement, as available
Bus Blockages	None
95th percentile vehicle queues	Vistro HCM summary output

CRASH ANALYSES

The most recent five years (2009 through 2013) of crash data will be reviewed at the study intersections and study segments (where tube count data was collected). Any state highways in Sherman County that are identified as a Safety Priority Index System site will be included in the crash data. The data will be analyzed for a variety of factors to include type, severity, general conditions, and location to identify potential crash patterns or anomalies. Additional details will be provided on countywide crash trends and any issues that are identified through the overall review at the County, corridor/segment, and intersection level, and will include specific details on fatalities and crashes involving pedestrians and bicyclists.

Intersection crash rates will be calculated and compared to statewide crash rate performance thresholds to determine which segments or intersections have crash rates higher than similar facilities. Given the limited number of study intersections to be studied, calculation of a critical crash rate based on the Highway Safety Manual methodology is not a reliable method for identifying a safety performance threshold. Therefore, we will use the established crash rate performance threshold based on the 90th percentile crash rates for statewide rural intersections by traffic control type as documented in Exhibit 4-1 of the APM. Crash patterns and potential countermeasures/safety improvements will be identified and presented at intersections that exceed the statewide crash rate performance threshold.

FORECAST YEAR VOLUME DEVELOPMENT

We developed 20-year growth factors using ODOT's historical trends method, which relies on traffic volumes from previous years to develop a growth pattern for use in projected 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 Sherman County, all Sherman County locations were selected from the Future Volumes Tables. Based on guidance from ODOT's Analysis Procedures Manual (APM), data with a R-squared value (RSQ, a measure of fit) of less than 0.75 was not used. The growth rates of the remaining locations were averaged to develop the 1.3 percent annual growth rate, which was used to project future traffic volumes at all study intersections and segments. Table 6 shows the ODOT Future Volumes Table and the calculations used to obtain the 1.3 percent annual growth rate.

NON-AUTOMOBILE TRANSPORTATION ANALYSIS

Per the scope, the non-automobile transportation analysis will include a review of collector and arterial roadways to identify deficiencies (availability of sidewalks and bicycle lanes, and gaps in primary routes) based on available GIS data and online mapping.

Table 6. ODOT Future Volume Table (Sherman County Locations with RSQ > 0.75)

HWY	MP	Description	Traffic Volumes					RSQ*	Project Area	RSQ > 0.75?	Calculated Growth Rate
			2010 [1]	2011	2012	2013	2033				
002	109.51	Rufus Automatic Traffic Recorder, Sta. 28-002, 0.44 mile west of Rufus/John Day Dam Interchange		10600			13300	0.5111	I-84	No	1.16%
002	110.25	0.30 mile east of Rufus Interchange		10500			13300	0.6022	I-84	No	1.21%
002	114.55	Sherman-Gilliam County Line, 0.32 mile east of W. John Day Interchange		10500			13500	0.6297	I-84	No	1.30%
042	-0.06	0.07 mile south of Columbia River Highway (I-84)	7900				9400	0.8084	US 97	Yes	0.83%
042	0.05	0.02 mile south of Celilo-Wasco Highway Spur	3700				5200	0.9038	US 97	Yes	1.76%
042	7.80	0.30 mile south of Wasco-Heppner Highway (OR206)	2700				4200	0.7986	US 97	Yes	2.42%
042	9.22	0.40 mile south of Celilo-Wasco Highway (OR206)	2100				2800	0.2686	US 97	No	1.45%
042	17.36	Wasco Automatic Traffic Recorder, Sta. 28-001, 0.83 mile northwest of 1st Street	2700				3200	0.8500	US 97	Yes	0.81%
042	18.21	0.02 mile southwest of 1st Street	2800				3100	0.2094	US 97 - Moro	No	0.47%
042	27.68	0.02 mile south of North Street	2700				3000	0.8239	US 97	Yes	0.48%
042	27.91	0.02 mile north of Union Street	2400				2800	0.5503	US 97	No	0.72%
042	28.34	0.02 mile north of Sherars Bridge Highway (OR216)	2100				2400	0.0192	US 97 - Grass Valley	No	0.62%
042	28.45	0.02 mile south of South Street, south city limits of Grass Valley	2000				2800	0.4502	US 97	No	1.74%
290	8.30	Wasco-Sherman County Line			80		90	0.5123	OR 216	No	0.60%
290	16.06	0.02 mile west of Payne Road			60		70	0.2486	OR 216	No	0.79%
290	18.61	0.02 mile north of Finnegan Road			70		80	0.3907	OR 216	No	0.68%
290	21.33	0.02 mile north of Davis Lane			70		110	0.5499	OR 216	No	2.72%
290	24.76	0.02 mile east of Stradley Road			90		100	0.2428	OR 216	No	0.53%
290	25.81	0.02 mile east of Finnegan Road			100		110	0.0188	OR 216	No	0.48%
290	28.23	0.02 mile south of South Street			130		170	0.1991	OR 216	No	1.47%
290	28.40	0.02 mile west of Sherman Highway (US97)			160		210	0.3774	OR 216	No	1.49%
300	-1.67	0.30 mile east of Sherman Highway (US97)			680		700	0.1530	Old US 97	No	0.14%
300	-0.28	0.02 mile west of Clark Street			710		970	0.6562	Old US 97	No	1.74%
300	-0.11	0.02 mile north of Celilo-Wasco Highway (OR206)			930		940	0.5189	Old US 97	No	0.05%
300	-0.07	0.02 mile south of Celilo-Wasco Highway (OR206)			1400		1500	0.0643	Old US 97	No	0.34%
300	0.02	0.02 mile east of Clark Street			880		950	0.2918	OR 206 - East of Wasco (in CL)	No	0.38%
300	0.58	East city limits of Wasco			630		990	0.9406	OR 206 - East of Wasco (in CL)	Yes	2.72%
300	0.88	0.02 mile southeast of Klondike Road			500		590	0.7636	OR 206 - East of Wasco	Yes	0.86%
300	6.63	At Hay Canyon Bridge			480		640	0.6162	OR 206 - East of Wasco	No	1.59%

300	9.40	0.02 mile west of Fairview Road			430		560	0.7752	OR 206 - East of Wasco	Yes	1.44%
300	9.44	0.02 mile east of Fairview Road			350		440	0.5137	OR 206 - East of Wasco	No	1.22%
300	14.95	Sherman-Gilliam County Line			330		400	0.4024	OR 206 - East of Wasco	No	1.01%
301	4.78	0.02 mile west of Celilo-Wasco Highway Spur	630				750	0.2194	OR 206 - West of Wasco	No	0.83%
301	4.82	0.02 mile south of Celilo-Wasco Highway Spur	430				580	0.6038	OR 206 - West of Wasco	No	1.52%
301	12.45	0.02 mile west of Van Gilder Road	460				540	0.2085	OR 206 - West of Wasco	No	0.76%
301	14.53	0.20 mile west of Sherman Highway (US97)	260				350	0.1244	OR 206 - West of Wasco	No	1.51%
301	15.07	West city limits of Wasco, 0.26 mile west of Church Street	460				630	0.5196	OR 206 - West of Wasco	No	1.61%
301	15.55	0.02 mile west of Wasco-Heppner Highway (OR206)	550				680	0.2204	OR 206 - West of Wasco (in CL)	No	1.03%
487	4.82	0.02 mile east of Celilo-Wasco Highway (OR206)	210				230	0.1333	Frontage Road	No	0.41%
487	7.60	0.02 mile west of Sherman Highway (US97)	4100				5300	0.8101	Frontage Road	Yes	1.27%

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

Calculations: (1.27% + 1.44% + 0.86% + 2.72% + 0.48% + 0.47% + 0.81% + 2.42% + 1.76% + 0.83%)/10 = 1.3%

The calculated 1.3% growth per year will be applied for analysis.

Appendix 1 On-site ATR Characteristics

exclude the highest and lowest

	US 97		
	Intersctions 13 and 14		
	US 97 legs of 12		
ATR 28-001			
		daily	wkdy
2013	August	126	123
2012	August	129	126
2011	August	129	125
2010	August	129	125
2009	August	131	128
	avg	**129**	**125.3**
Count Month			
2013	October	100	101
2012	October	99	102
2011	October	100	103
2010	October	102	102
2009	October	94	94
	avg	**99.67**	**101.7**
seasonal adjustment			
		1.29	1.23

	I-84		
Intersections 4, 5, 10, and 11			
ATR 28-002			
		daily	wkdy
2013	July	134	123
2012	July	132	120
2011	July	131	122
2010	July	132	125
2009	July	130	122
	avg	**131.7**	**122.3**
2013	October	100	92
2012	October	101	94
2011	October	99	92
2010	October	100	93
2009	October	104	99
	avg	**100.3**	**93**
		1.31	1.32

	OR 206						**OR 206**		
	Clark Street								
		OR 216							
ATR 11-004						ATR 11-007			
		daily	wkdy					daily	wkdy
2013	August	-	121			2013	July	-	127
2012	August	-	137			2012	July	-	135
2011	August	-	126			2011	July	-	131
2010	August	-	128			2010	July	-	149
2009	August	-	131			2009	July	-	136
	avg	**-**	**128.3**				**avg**	**-**	**134**
Count Month									
2013	October	-	119			2013	October	-	132
2012	October	-	122			2012	October	-	131
2011	October	-	115			2011	October	-	117
2010	October	-	120			2010	October	-	148
2009	October	-	111			2009	October	-	136
	avg	**-**	**118**				**avg**	**-**	**133**
			1.09						1.01
					avg	1.05			

	Biggs-Rufus Hwy		
ATR 03-014			
		daily	wkdy
2013	September	-	110
2012	September	-	119
2011	September	-	111
2010	September	-	107
2009	September	-	108
	avg	-	**108.7**
Count Month			
2013	October	-	104
2012	October	-	111
2011	October	-	107
2010	October	-	107
2009	October	-	101
	avg	-	**106**
seasonal adjustment			
			1.03

Appendix 2 Seasonal Adjustment Factors by Intersection

ATR 11-004/7

Van Gilder Rd. / OR 206 — 2:45 to 3:45 p.m. — TEV: 13 — 1 — 0.86 — 2014 10 21

1.05 1.05 1.05

Uses average of US 97 and I-84

ATR 28-002

US 97 / I-84 EB — 1:30 to 2:30 p.m. — TEV: 15 — 5 — 0.95 — 2014 10 21

1.27 1.27 1.27

ATR 11-004 E/W
ATR 11-004/7 N/S

OR 206 / Clark St. — 4:00 to 5:00 p.m. — TEV: 13 — 9 — 0.89 — 2014 10 21

1.05 1.05 1.05 / 1.09

ATR 28-001

US 97 / Lone Rock Rd. — 4:45 to 5:45 p.m. — TEV: 15 — 13 — 0.88 — 2014 10 21

1.23 1.23 1.23

ATR 11-004/7

OR 206 / Klondike — 2:45 to 3:45 p.m. — TEV: 13 — 2 — 0.77 — 2014 10 21

1.05 1.05 1.05

Int 6&7 uses avg of US 97 and OR 206

ATR 28-001 N/S

US 97 NB / OR 206 — 4:00 to 5:00 p.m. — TEV: 14 — 6 — 0.67 — yyyy mm dd

1.14 1.14 1.14

10 & 11 use avg of I-84 and Or 206

ATR 28-002

John Day Dam Rd. / I-84 WB — 4:30 to 5:30 p.m. — TEV: 14 — 10 — 0.49 — 2014 10 21

1.18 1.18 1.18

ATR 28-001

US 97 / 4th St. — 4:30 to 5:30 p.m. — TEV: 15 — 14 — 0.87 — 2014 10 21

1.23 1.23 1.23

ATR 03-014 E/W
ATR 28-001 N/S

US 97 / Biggs-Rufus Hwy — 4:15 to 5:15 p.m. — TEV: 14 — 3 — 0.96 — 2014 10 21

1.23 1.23 1.23 / 1.03

ATR 11-004/7 E/W
ATR 28-001 N/S

US 97 NB / OR 206 — 5:45 to 6:45 p.m. — TEV: 14 — 7 — 0.85 — 2014 10 21

1.14 1.14 1.14

ATR 28-002

John Day Dam Rd. / I-84 EB — 4:45 to 5:45 p.m. — TEV: 14 — 11 — 0.76 — 2014 10 21

1.18 1.18 1.18

ATR 28-002 E/W
ATR 28-001 N/S

US 97 / I-85 WB — 4:30 to 5:30 p.m. — TEV: 15 — 4 — 0.87 — 2014 10 21

1.27 1.27 1.27

ATR 11-004 E/W
ATR 11-004/7 N/S

OR 206/Old Wasco-Heppner Hwy / Clark St. — 4:30 to 5:30 p.m. — TEV: 13 — 8 — 0.91 — 2014 10 21

1.05 1.05 1.05 / 1.09

ATR 11-004 E/W
ATR 28-001 N/S

Mill St/US 97 / Krusow St./OR 216 — 2:00 to 3:00 p.m. — TEV: 14 — 12 — 0.96 — 2014 10 21

1.23 1.23 1.23 / 1.09

	US 97		
	Intersctions 13 and 14		
	US 97 legs of 12		
ATR 28-001			
		daily	wkdy
2013	August	126	123
2012	August	129	126
2011	August	129	125
2010	August	129	125
2009	August	131	128
	avg	**129**	**125.33**
Count Month			
2013	October	100	101
2012	October	99	102
2011	October	100	103
2010	October	102	102
2009	October	94	94
	avg	**99.667**	**101.67**
seasonal adjustment			
		1.29	1.23

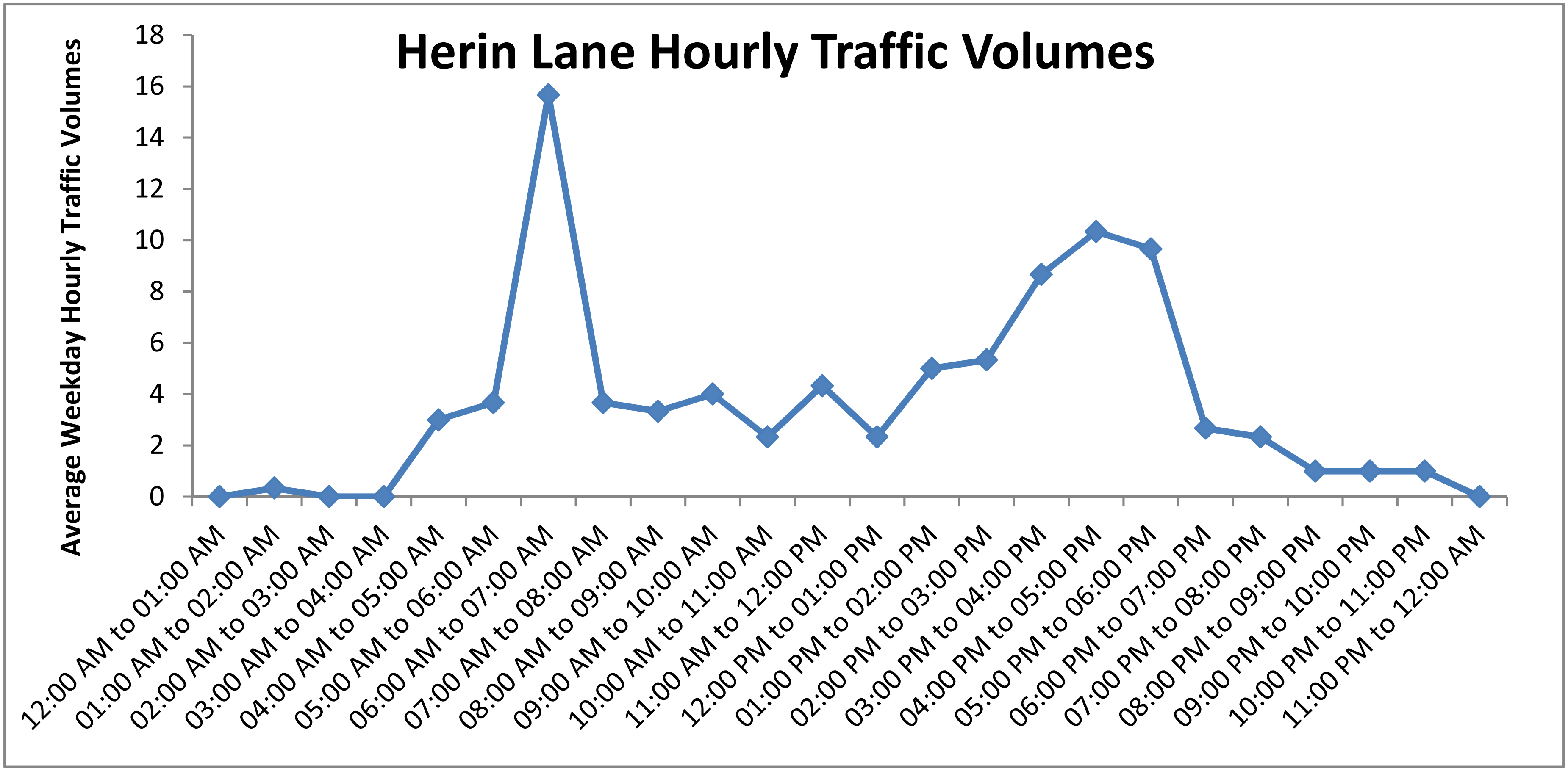
	I-84		
Intersections 4, 5, 10, and 11			
ATR 28-002			
		daily	wkdy
2013	July	134	123
2012	July	132	120
2011	July	131	122
2010	July	132	125
2009	July	130	122
	avg	**131.67**	**122.3**
2013	October	100	92
2012	October	101	94
2011	October	99	92
2010	October	100	93
2009	October	104	99
	avg	**100.33**	**93**
		1.31	1.32

exclude the highest and lowest

	OR 206						**OR 206**	
	Clark Street							
		OR 216						
ATR 11-004						ATR 11-007		<--two other ATR stations exclud
		daily	wkdy				daily	wkdy
2013	August	-	121		2013	July	-	127
2012	August	-	137		2012	July	-	135
2011	August	-	126		2011	July	-	131
2010	August	-	128		2010	July	-	149
2009	August	-	131		2009	July	-	136
	avg	**-**	**128.3**			**avg**	**-**	**134**
Count Month								
2013	October	-	119		2013	October	-	132
2012	October	-	122		2012	October	-	131
2011	October	-	115		2011	October	-	117
2010	October	-	120		2010	October	-	148
2009	October	-	111		2009	October	-	136
	avg	**-**	**118**			**avg**	**-**	**133**
			1.09					1.01
				avg	1.05			

	Biggs-Rufus Hwy			
ATR 03-014				<--used b/c ADT is within 10%
		daily	wkdy	
2013	September	-	110	
2012	September	-	119	
2011	September	-	111	
2010	September	-	107	
2009	September	-	108	
	avg	-	**108.67**	
Count Month				
2013	October	-	104	
2012	October	-	111	
2011	October	-	107	
2010	October	-	107	
2009	October	-	101	
	avg	-	**106**	
seasonal adjustment				
			1.03	

Appendix D Roadway Segment Traffic Volume Profiles


Herin Lane Hourly Traffic Volumes
Average Weekday Hourly Traffic Volumes
0
2
4
6
8
10
12
14
16
18
12:00 AM to 01:00 AM
01:00 AM to 02:00 AM
02:00 AM to 03:00 AM
03:00 AM to 04:00 AM
04:00 AM to 05:00 AM
05:00 AM to 06:00 AM
06:00 AM to 07:00 AM
07:00 AM to 08:00 AM
08:00 AM to 09:00 AM
09:00 AM to 10:00 AM
10:00 AM to 11:00 AM
11:00 AM to 12:00 PM
12:00 PM to 01:00 PM
01:00 PM to 02:00 PM
02:00 PM to 03:00 PM
03:00 PM to 04:00 PM
04:00 PM to 05:00 PM
05:00 PM to 06:00 PM
06:00 PM to 07:00 PM
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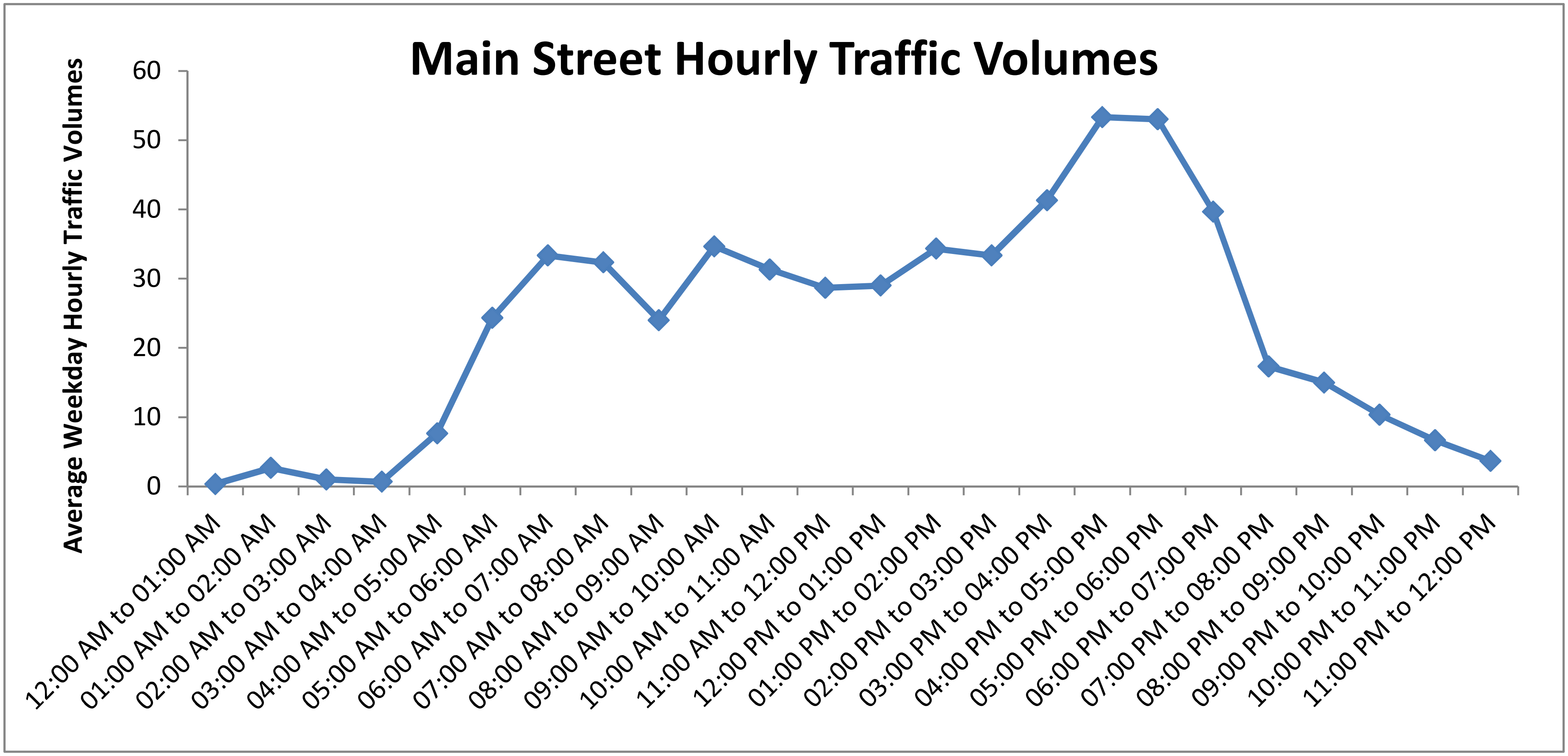
10:00 PM to 11:00 PM
11:00 PM to 12:00 AM



Main Street Hourly Traffic Volumes
Average Weekday Hourly Traffic Volumes
60
50
40
30
20
10
0
12:00 AM to 01:00 AM
01:00 AM to 02:00 AM
02:00 AM to 03:00 AM
03:00 AM to 04:00 AM
04:00 AM to 05:00 AM
05:00 AM to 06:00 AM
06:00 AM to 07:00 AM
07:00 AM to 08:00 AM
08:00 AM to 09:00 AM
09:00 AM to 10:00 AM
10:00 AM to 11:00 AM
11:00 AM to 12:00 PM
12:00 PM to 01:00 PM
01:00 PM to 02:00 PM
02:00 PM to 03:00 PM
03:00 PM to 04:00 PM
04:00 PM to 05:00 PM
05:00 PM to 06:00 PM
06:00 PM to 07:00 PM
07:00 PM to 08:00 PM
08:00 PM to 09:00 PM
09:00 PM to 10:00 PM
10:00 PM to 11:00 PM
11:00 PM to 12:00 PM

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

Sherman County TSP Update

Vistro File: H:\...\Existing Conditions-ajg.vistro | Scenario: Base Scenario

Report File: H:\...\Existing Conditions Report - Final.pdf | 10/7/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Van Gilder Road / OR 206	Two-way stop	HCM2010	NBL	0.021	8.8	A
2	Klondike Road / OR 206	Two-way stop	HCM2010	WBL	0.000	8.7	A
3	Biggs-Rufus Highway / US 97	Two-way stop	HCM2010	NEBL	0.211	14.9	B
4	I-84 WB / US 97	Two-way stop	HCM2010	WBT	0.003	18.3	C
5	I-84 EB / US 97	Two-way stop	HCM2010	EBT	0.002	16.2	C
6	OR 206 / US 97 NB	Two-way stop	HCM2010	NBT	0.000	9.3	A
7	OR 206 / US 97 SB	Two-way stop	HCM2010	SBT	0.000	9.3	A
8	Clark St /OR 206/Old Wasco Heppner Hwy	Two-way stop	HCM2010	WBT	0.018	10.0	B
9	Clark St / OR 206	Two-way stop	HCM2010	NWBL	0.001	9.5	A
10	I-84 WB / John Day Dam Road	Two-way stop	HCM2010	WBT	0.000	10.8	B
11	I-84 EB / John Day Dam Road	Two-way stop	HCM2010	EBT	0.001	9.8	A
12	Krusow St/OR 216 / Mill St/US 97	Two-way stop	HCM2010	EBL	0.006	10.1	B
13	Lone Rock Road / US 97	Two-way stop	HCM2010	NWBT	0.002	11.6	B
14	4th Street / US 97	Two-way stop	HCM2010	SEBT	0.000	11.7	B

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
#1: Van Gilder Road / OR 206

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name						
Base Volume Input [veh/h]	15	0	16	12	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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]	15	0	16	12	0	17
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	5	4	0	6
Total Analysis Volume [veh/h]	20	0	22	16	0	23
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
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	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.85	8.53	0.00	0.00	7.29	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	1.60	1.60	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.85		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.18					
Intersection LOS	A					

Intersection Level Of Service Report
#2: Klondike Road / OR 206

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Westbound		Northwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name						
Base Volume Input [veh/h]	0	2	16	0	0	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	2	16	0	0	13
Peak Hour Factor	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	6	0	0	5
Total Analysis Volume [veh/h]	0	3	24	0	0	20
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.00
d_M, Delay for Movement [s/veh]	8.73	8.43	0.00	0.00	7.26	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.21	0.21	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.43		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.54					
Intersection LOS	A					

Intersection Level Of Service Report
#3: Biggs-Rufus Highway / US 97

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.211

Intersection Setup

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
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	1	0	0	1	0	0	1	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	130.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	95	19	33	7	12	58	12	70	16	62	107	144
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	95	19	33	7	12	58	12	70	16	62	107	144
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980
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]	24	5	8	2	3	15	3	18	4	16	27	37
Total Analysis Volume [veh/h]	97	19	34	7	12	59	12	71	16	63	109	147
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	0.21	0.04	0.04	0.01	0.03	0.06	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	14.92	12.73	9.63	12.75	13.34	9.08	7.78	0.00	0.00	7.49	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.79	0.25	0.25	0.05	0.28	0.28	0.03	0.00	0.00	0.80	0.80	0.80
95th-Percentile Queue Length [ft]	19.73	6.32	6.32	1.13	7.08	7.08	0.69	0.00	0.00	20.00	20.00	20.00
d_A, Approach Delay [s/veh]	13.45			10.07			0.94			1.48		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	5.21											
Intersection LOS	B											

Generated with PTV VISTRO

Version 3.00-00

Sherman County TSP Update

Intersection Level Of Service Report
#4: I-84 WB / US 97

Control Type:	Two-way stop	Delay (sec / veh):	18.3
Analysis Method:	HCM2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name												
Approach	Northbound			Southbound			Westbound			Northeastbound		
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]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	94	191	0	0	135	136	90	1	22	0	0	2
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	94	191	0	0	135	136	90	1	22	0	0	2
Peak Hour Factor	0.980	0.980	1.000	1.000	0.980	0.980	0.980	0.980	0.980	1.000	1.000	1.000
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]	24	49	0	0	34	35	23	0	6	0	0	1
Total Analysis Volume [veh/h]	96	195	0	0	138	139	92	1	22	0	0	2
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	0.07	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.03	0.00	0.00	0.00	0.00	0.00	17.27	18.31	12.24	14.69	0.00	9.33
Movement LOS	A	A			A	A	C	C	B	B		A
95th-Percentile Queue Length [veh]	0.87	0.87	0.00	0.00	0.00	0.00	1.06	1.06	1.06	0.01	0.00	0.01
95th-Percentile Queue Length [ft]	21.78	21.78	0.00	0.00	0.00	0.00	26.48	26.48	26.48	0.18	0.00	0.18
d_A, Approach Delay [s/veh]	2.65			0.00			16.32			9.33		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	3.89											
Intersection LOS	C											

Intersection Level Of Service Report

#5: I-84 EB / US 97

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Southwestbound		
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]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	0	195	78	10	213	0	104	1	104	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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	195	78	10	213	0	104	1	104	0	0	0
Peak Hour Factor	1.000	0.960	0.960	0.960	0.960	1.000	0.960	0.960	0.960	1.000	1.000	1.000
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	51	20	3	55	0	27	0	27	0	0	0
Total Analysis Volume [veh/h]	0	203	81	10	222	0	108	1	108	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	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			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	0.22	0.00	0.13	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.84	0.00	0.00	15.58	16.16	12.62	0.00	0.00	0.00
Movement LOS		A	A	A	A		C	C	B			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.66	0.66	0.00	1.60	1.60	1.60	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	16.55	16.55	0.00	40.04	40.04	40.04	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.34			14.11			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	4.28											
Intersection LOS	C											

Intersection Level Of Service Report
#6: OR 206 / US 97 NB

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name												
Approach	Northbound			Eastbound			Westbound			Southeastbound		
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]	45.00			55.00			55.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	0	0	1	0	19	0	0	21	11	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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	0	1	0	19	0	0	21	11	0	0	0
Peak Hour Factor	0.820	0.820	0.820	0.820	0.820	1.000	1.000	0.820	0.820	1.000	1.000	1.000
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	0	0	0	6	0	0	6	3	0	0	0
Total Analysis Volume [veh/h]	0	0	1	0	23	0	0	26	13	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free	Stop
Flared Lane	no			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	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]	8.82	9.35	8.42	7.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A	A	A			A	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.42			0.00			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.13											
Intersection LOS	A											

Intersection Level Of Service Report
#7: OR 206 / US 97 SB

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
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]	45.00			55.00			55.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	2	0	0	0	18	0	2	19	0	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	2	0	0	0	18	0	2	19	0	0	0	0
Peak Hour Factor	0.770	0.770	0.770	1.000	0.770	0.770	0.770	0.770	1.000	1.000	1.000	1.000
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	0	0	0	6	0	1	6	0	0	0	0
Total Analysis Volume [veh/h]	3	0	0	0	23	0	3	25	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free	Stop
Flared Lane	no			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	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]	8.83	9.32	8.44	0.00	0.00	0.00	7.27	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A		A	A	A	A				
95th-Percentile Queue Length [veh]	0.01	0.01	0.01	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.24	0.24	0.24	0.00	0.00	0.00	1.34	1.34	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.83			0.00			0.78			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.89											
Intersection LOS	A											

Intersection Level Of Service Report
#8: Clark St /OR 206/Old Wasco Heppner Hwy

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name												
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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	22	47	3	1	41	1	3	5	14	10	12	3
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	22	47	3	1	41	1	3	5	14	10	12	3
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960
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]	6	12	1	0	11	0	1	1	4	3	3	1
Total Analysis Volume [veh/h]	23	49	3	1	43	1	3	5	15	10	13	3
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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.00
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	7.32	0.00	0.00	9.63	9.99	8.61	9.72	10.04	8.70
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.15	0.15	0.15	0.09	0.09	0.09	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft]	3.77	3.77	3.77	2.24	2.24	2.24	1.94	1.94	1.94	2.58	2.58	2.58
d_A, Approach Delay [s/veh]	2.25			0.16			9.04			9.76		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.77											
Intersection LOS	B											

Intersection Level Of Service Report
#9: Clark St / OR 206

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):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	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	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name						
Base Volume Input [veh/h]	35	0	25	37	1	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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]	35	0	25	37	1	38
Peak Hour Factor	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	7	11	0	11
Total Analysis Volume [veh/h]	42	0	30	44	1	45
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	0.02	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.50	8.67
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.15	0.15	0.14	0.14
95th-Percentile Queue Length [ft]	0.00	0.00	3.71	3.71	3.53	3.53
d_A, Approach Delay [s/veh]	0.00		2.98		8.68	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.83					
Intersection LOS	A					

Intersection Level Of Service Report
#10: I-84 WB / John Day Dam Road

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name												
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
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]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	18	0	1	0	0	0	28	8	0	0	21	31
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	18	0	1	0	0	0	28	8	0	0	21	31
Peak Hour Factor	0.520	0.520	0.520	1.000	1.000	1.000	0.520	0.520	1.000	1.000	0.520	0.520
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]	9	0	0	0	0	0	13	4	0	0	10	15
Total Analysis Volume [veh/h]	35	0	2	0	0	0	54	15	0	0	40	60
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			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.07	10.77	8.63	0.00	0.00	0.00	7.50	0.00	0.00	0.00	0.00	0.00
Movement LOS	B	B	A				A	A			A	A
95th-Percentile Queue Length [veh]	0.15	0.15	0.15	0.00	0.00	0.00	0.15	0.15	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	3.85	3.85	3.85	0.00	0.00	0.00	3.63	3.63	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.00			0.00			5.87			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.76											
Intersection LOS	B											

Intersection Level Of Service Report
#11: I-84 EB / John Day Dam Road

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name												
Approach	Eastbound			Southwestbound			Northwestbound			Southeastbound		
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]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	2	1	27	0	0	0	0	34	17	2	38	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	2	1	27	0	0	0	0	34	17	2	38	0
Peak Hour Factor	0.780	0.780	0.780	1.000	1.000	1.000	1.000	0.780	0.780	0.780	0.780	1.000
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	0	9	0	0	0	0	11	5	1	12	0
Total Analysis Volume [veh/h]	3	1	35	0	0	0	0	44	22	3	49	0
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			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	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	0.03	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]	9.30	9.84	8.68	0.00	0.00	0.00	0.00	0.00	0.00	7.35	0.00	0.00
Movement LOS	A	A	A					A	A	A	A	
95th-Percentile Queue Length [veh]	0.12	0.12	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.00
95th-Percentile Queue Length [ft]	3.05	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	2.63	2.63	0.00
d_A, Approach Delay [s/veh]	8.76			0.00			0.00			0.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.32											
Intersection LOS	A											

Intersection Level Of Service Report
#12: Krusow St/OR 216 / Mill St/US 97

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):	0.006

Intersection Setup

Name						
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	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	yes		yes		yes	

Volumes

Name						
Base Volume Input [veh/h]	0	97	129	9	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	97	129	9	3	0
Peak Hour Factor	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	38	3	1	0
Total Analysis Volume [veh/h]	0	115	154	11	4	0
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	0.01	0.00
d_M, Delay for Movement [s/veh]	7.55	0.00	0.00	0.00	10.06	9.09
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.42	0.42
d_A, Approach Delay [s/veh]	0.00		0.00		10.06	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
#13: Lone Rock Road / US 97

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
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			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name												
Base Volume Input [veh/h]	4	88	12	16	158	5	14	1	33	4	4	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	4	88	12	16	158	5	14	1	33	4	4	4
Peak Hour Factor	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880
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	25	3	5	45	1	4	0	9	1	1	1
Total Analysis Volume [veh/h]	5	100	14	18	180	6	16	1	38	5	5	5
Pedestrian Volume [ped/h]	1			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	0.03	0.00	0.04	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.60	0.00	0.00	7.47	0.00	0.00	11.37	11.62	9.13	11.48	11.46	9.33
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh]	0.28	0.28	0.28	0.48	0.48	0.48	0.22	0.22	0.22	0.07	0.07	0.07
95th-Percentile Queue Length [ft]	7.02	7.02	7.02	12.00	12.00	12.00	5.52	5.52	5.52	1.80	1.80	1.80
d_A, Approach Delay [s/veh]	0.32			0.66			9.83			10.76		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	2.23											
Intersection LOS	B											

Intersection Level Of Service Report
#14: 4th Street / US 97

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
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			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name												
Base Volume Input [veh/h]	18	106	0	2	158	10	0	1	2	22	0	25
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	18	106	0	2	158	10	0	1	2	22	0	25
Peak Hour Factor	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910
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]	5	29	0	1	43	3	0	0	1	6	0	7
Total Analysis Volume [veh/h]	20	116	0	2	174	11	0	1	2	24	0	27
Pedestrian Volume [ped/h]	1			0			0			3		
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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.03
d_M, Delay for Movement [s/veh]	7.64	0.00	0.00	7.45	0.00	0.00	11.29	11.40	8.86	11.41	11.72	9.60
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh]	0.33	0.33	0.33	0.44	0.44	0.44	0.01	0.01	0.01	0.23	0.23	0.23
95th-Percentile Queue Length [ft]	8.17	8.17	8.17	10.88	10.88	10.88	0.29	0.29	0.29	5.77	5.77	5.77
d_A, Approach Delay [s/veh]	1.12			0.08			9.71			10.45		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	1.94											
Intersection LOS	B											

Sherman County TSP Update

Vistro File: H:\...\Existing Conditions-ajg.vistro

Scenario: Base Scenario

Report File: H:\...\Existing Conditions Report - Final.pdf

10/7/2015

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
1	Van Gilder Road / OR 206	15	0	16	12	0	17	60

ID	Intersection Name	Westbound		Northwestbound		Southeastbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Klondike Road / OR 206	0	2	16	0	0	13	31

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Biggs-Rufus Highway / US 97	95	19	33	7	12	58	12	70	16	62	107	144	635

ID	Intersection Name	Northbound		Southbound		Westbound			Northeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	Left	Right	
4	I-84 WB / US 97	94	191	135	136	90	1	22	0	2	671

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
5	I-84 EB / US 97	195	78	10	213	104	1	104	705

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
6	OR 206 / US 97 NB	0	0	1	0	19	21	11	52

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
7	OR 206 / US 97 SB	2	0	0	18	0	2	19	41

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Clark St /OR 206/Old Wasco Heppner Hwy	22	47	3	1	41	1	3	5	14	10	12	3	162

ID	Intersection Name	Northbound		Southbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
9	Clark St / OR 206	35	0	25	37	1	38	136

ID	Intersection Name	Westbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
10	I-84 WB / John Day Dam Road	18	0	1	28	8	21	31	107

ID	Intersection Name	Eastbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
11	I-84 EB / John Day Dam Road	2	1	27	34	17	2	38	121

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
12	Krusow St/OR 216 / Mill St/US 97	0	97	129	9	3	0	238

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Lone Rock Road / US 97	4	88	12	16	158	5	14	1	33	4	4	4	343

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	4th Street / US 97	18	106	0	2	158	10	0	1	2	22	0	25	344

Sherman County TSP Update

Vistro File: H:\...\Existing Conditions-ajg.vistro Scenario: Base Scenario

Report File: H:\...\Existing Conditions Report - Final.pdf 10/7/2015

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
1	Van Gilder Road / OR 206	Final Base	15	0	16	12	0	17	60
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**15**	**0**	**16**	**12**	**0**	**17**	**60**

ID	Intersection Name	Volume Type	Westbound		Northwestbound		Southeastbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Klondike Road / OR 206	Final Base	0	2	16	0	0	13	31
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**2**	**16**	**0**	**0**	**13**	**31**

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Biggs-Rufus Highway / US 97	Final Base	95	19	33	7	12	58	12	70	16	62	107	144	635
		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	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**95**	**19**	**33**	**7**	**12**	**58**	**12**	**70**	**16**	**62**	**107**	**144**	**635**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Northeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	Left	Right	
4	I-84 WB / US 97	Final Base	94	191	135	136	90	1	22	0	2	671
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0
		Future Total	**94**	**191**	**135**	**136**	**90**	**1**	**22**	**0**	**2**	**671**

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound			Total Volume
			Thru	Right	Left	Thru	Left	Thru	Right	
5	I-84 EB / US 97	Final Base	195	78	10	213	104	1	104	705
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**195**	**78**	**10**	**213**	**104**	**1**	**104**	**705**

ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
6	OR 206 / US 97 NB	Final Base	0	0	1	0	19	21	11	52
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**1**	**0**	**19**	**21**	**11**	**52**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
7	OR 206 / US 97 SB	Final Base	2	0	0	18	0	2	19	41
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**2**	**0**	**0**	**18**	**0**	**2**	**19**	**41**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Clark St /OR 206/Old Wasco Heppner Hwy	Final Base	22	47	3	1	41	1	3	5	14	10	12	3	162
		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	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**22**	**47**	**3**	**1**	**41**	**1**	**3**	**5**	**14**	**10**	**12**	**3**	**162**

ID	Intersection Name	Volume Type	Northbound		Southbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
9	Clark St / OR 206	Final Base	35	0	25	37	1	38	136
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**35**	**0**	**25**	**37**	**1**	**38**	**136**

ID	Intersection Name	Volume Type	Westbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
10	I-84 WB / John Day Dam Road	Final Base	18	0	1	28	8	21	31	107
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**18**	**0**	**1**	**28**	**8**	**21**	**31**	**107**

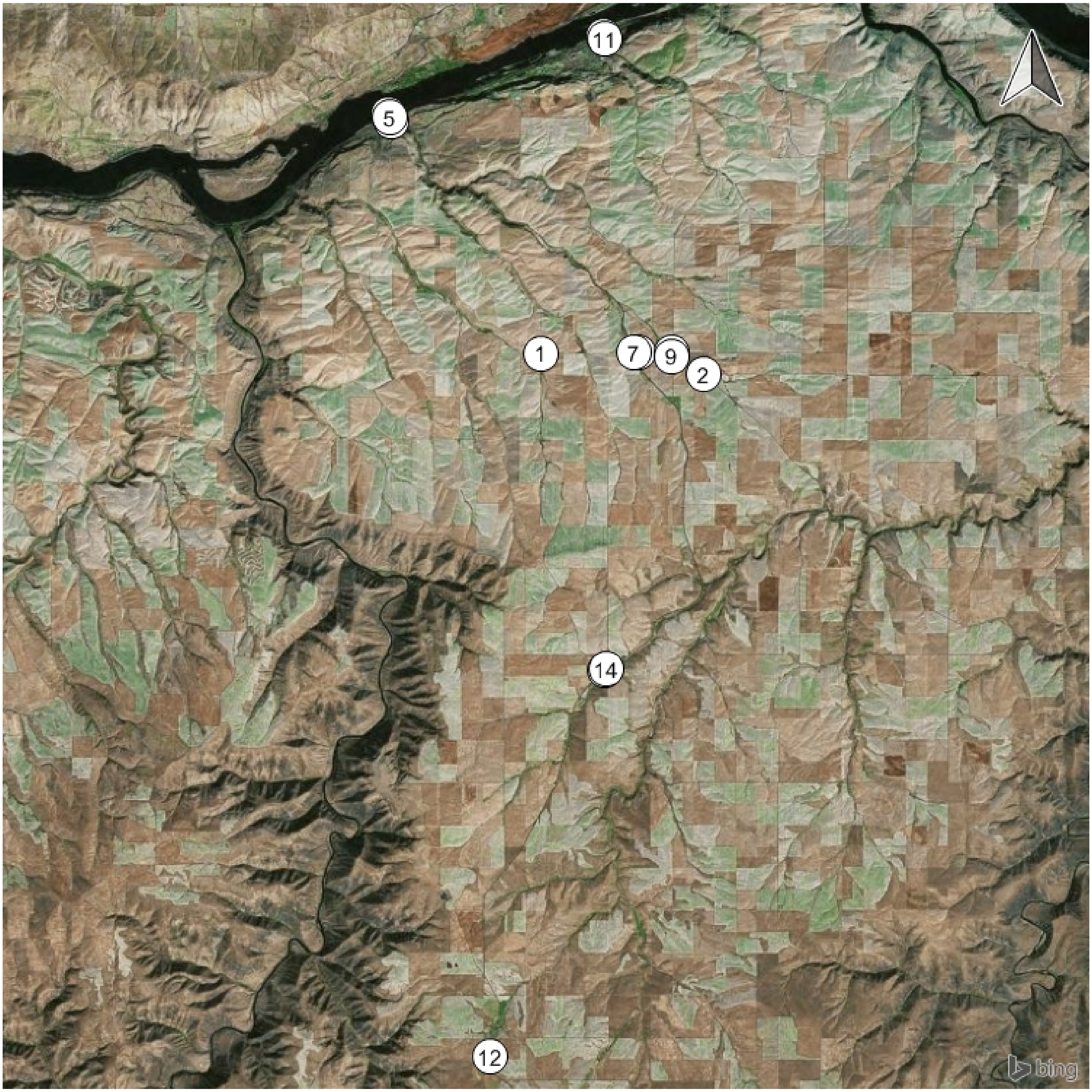
ID	Intersection Name	Volume Type	Eastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
11	I-84 EB / John Day Dam Road	Final Base	2	1	27	34	17	2	38	121
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**2**	**1**	**27**	**34**	**17**	**2**	**38**	**121**

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
12	Krusow St/OR 216 / Mill St/US 97	Final Base	0	97	129	9	3	0	238
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**97**	**129**	**9**	**3**	**0**	**238**

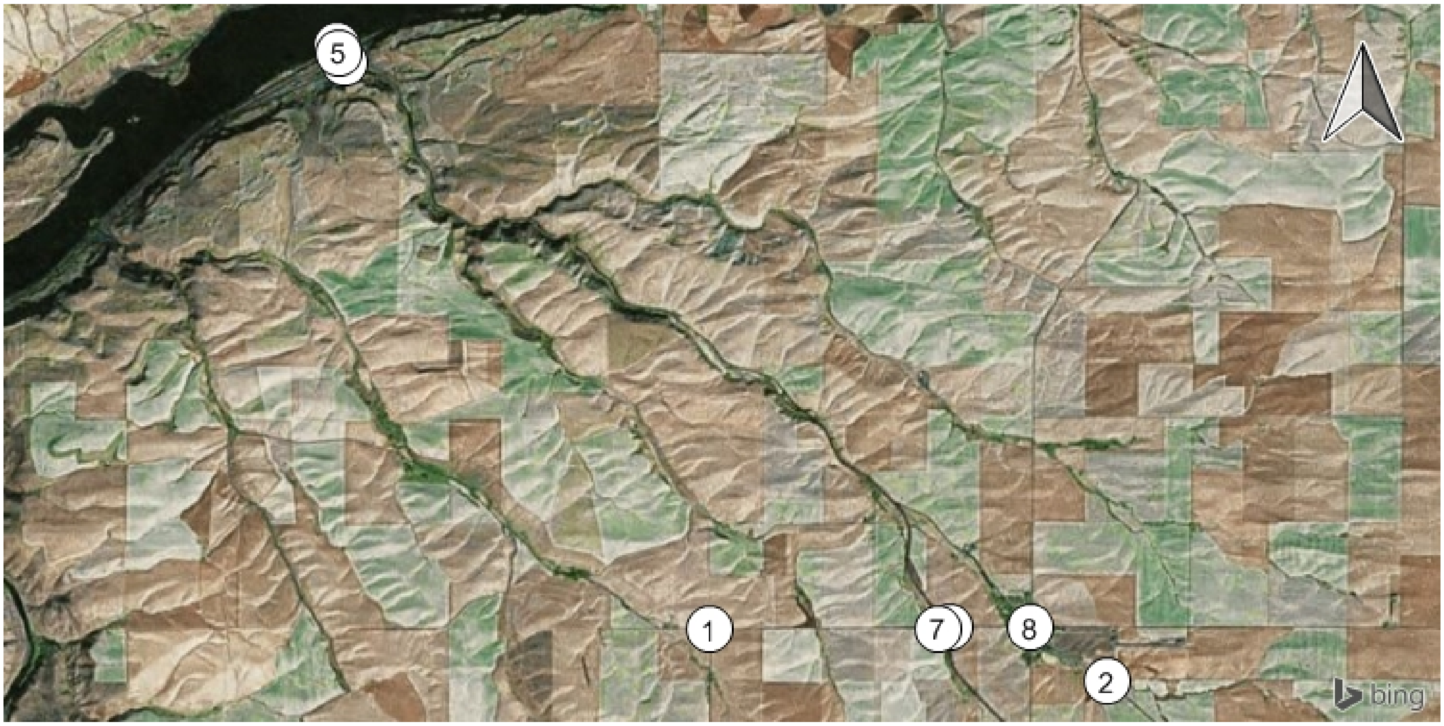
ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Lone Rock Road / US 97	Final Base	4	88	12	16	158	5	14	1	33	4	4	4	343
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**4**	**88**	**12**	**16**	**158**	**5**	**14**	**1**	**33**	**4**	**4**	**4**	**343**

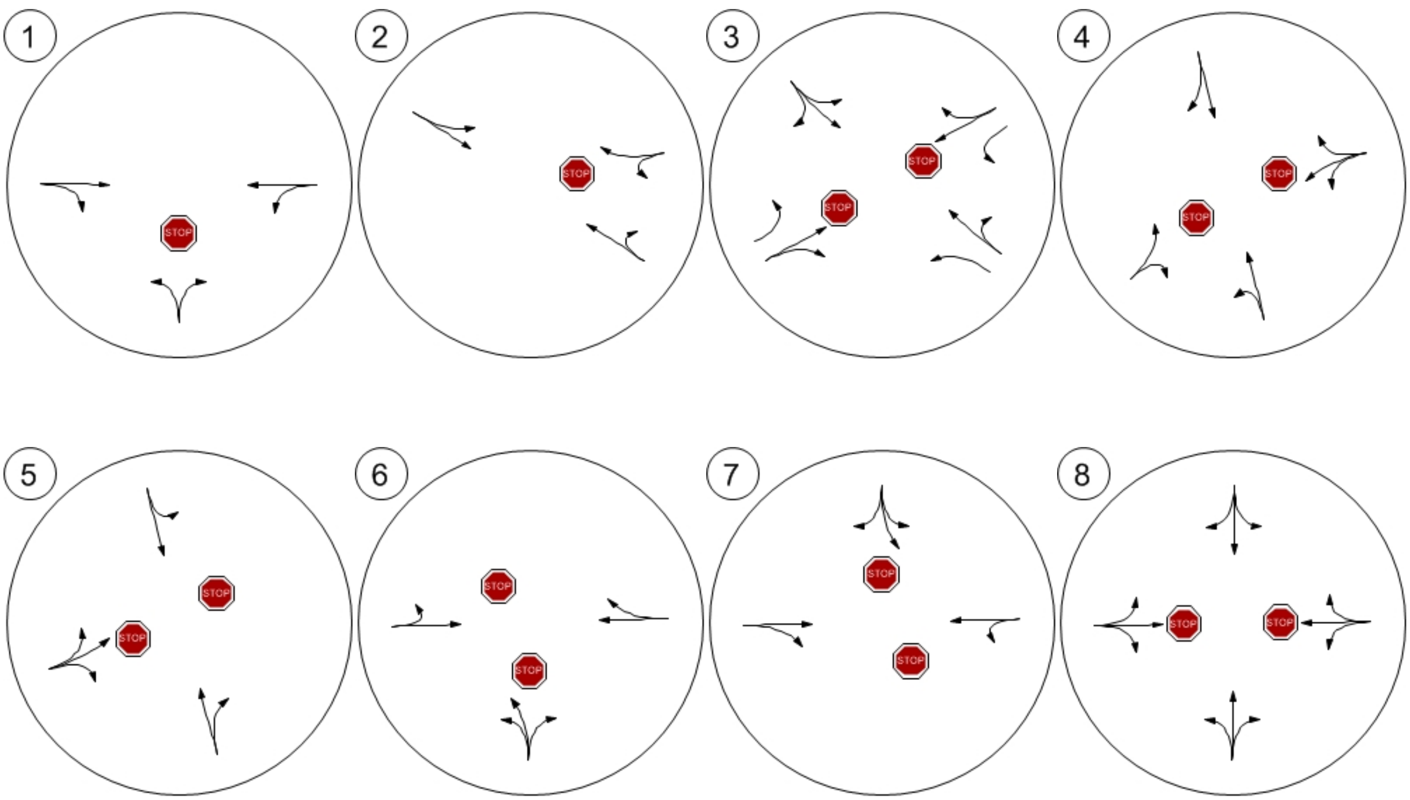
ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	4th Street / US 97	Final Base	18	106	0	2	158	10	0	1	2	22	0	25	344
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**18**	**106**	**0**	**2**	**158**	**10**	**0**	**1**	**2**	**22**	**0**	**25**	**344**

Study Intersections

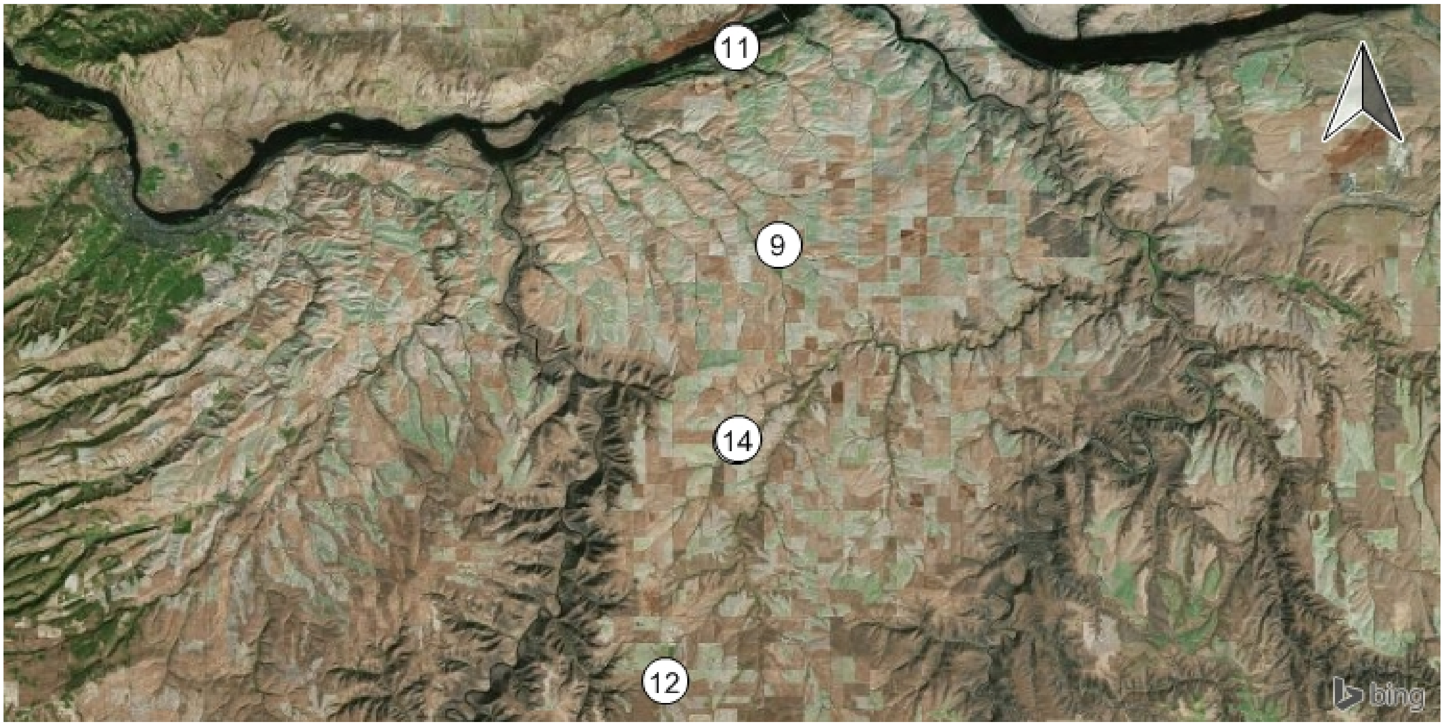


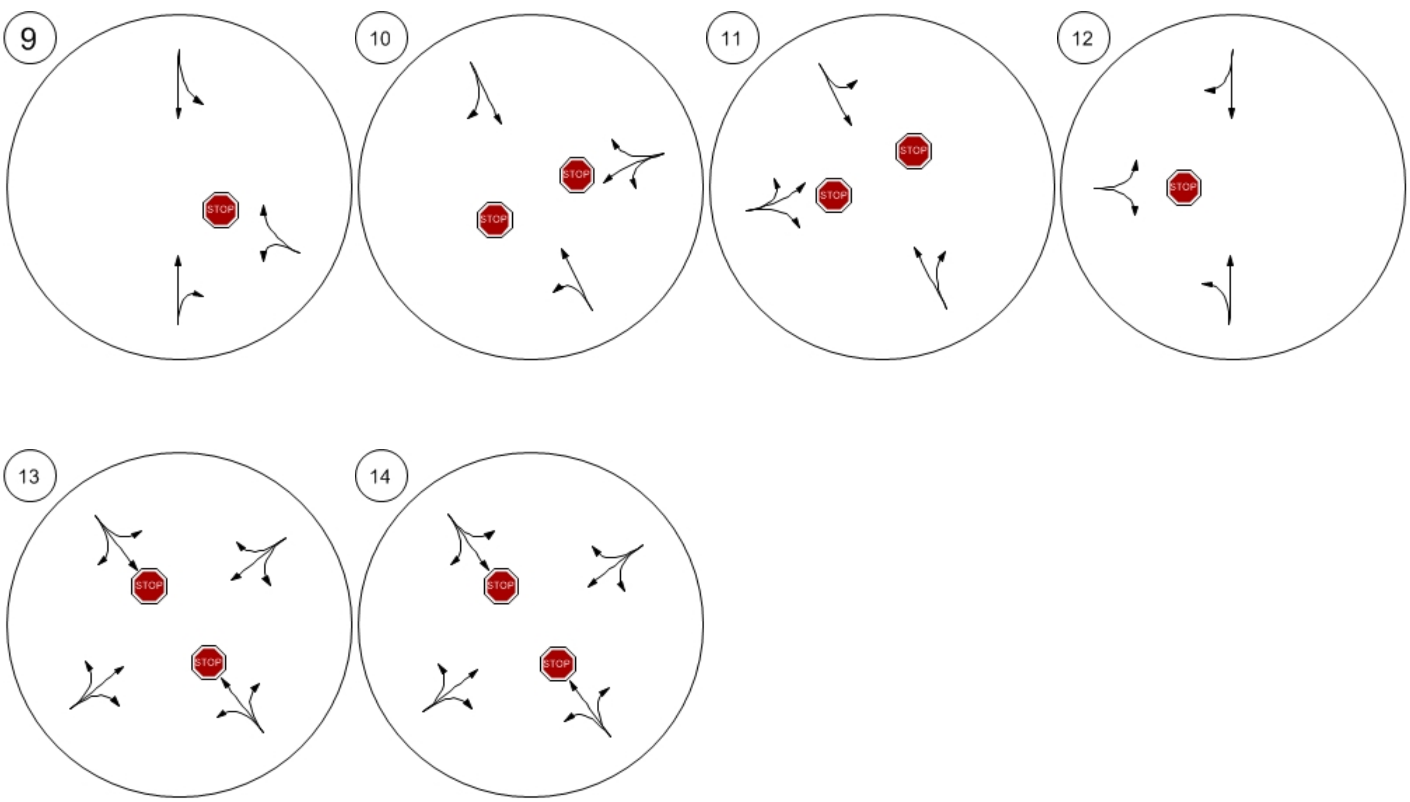
Lane Configuration and Traffic Control



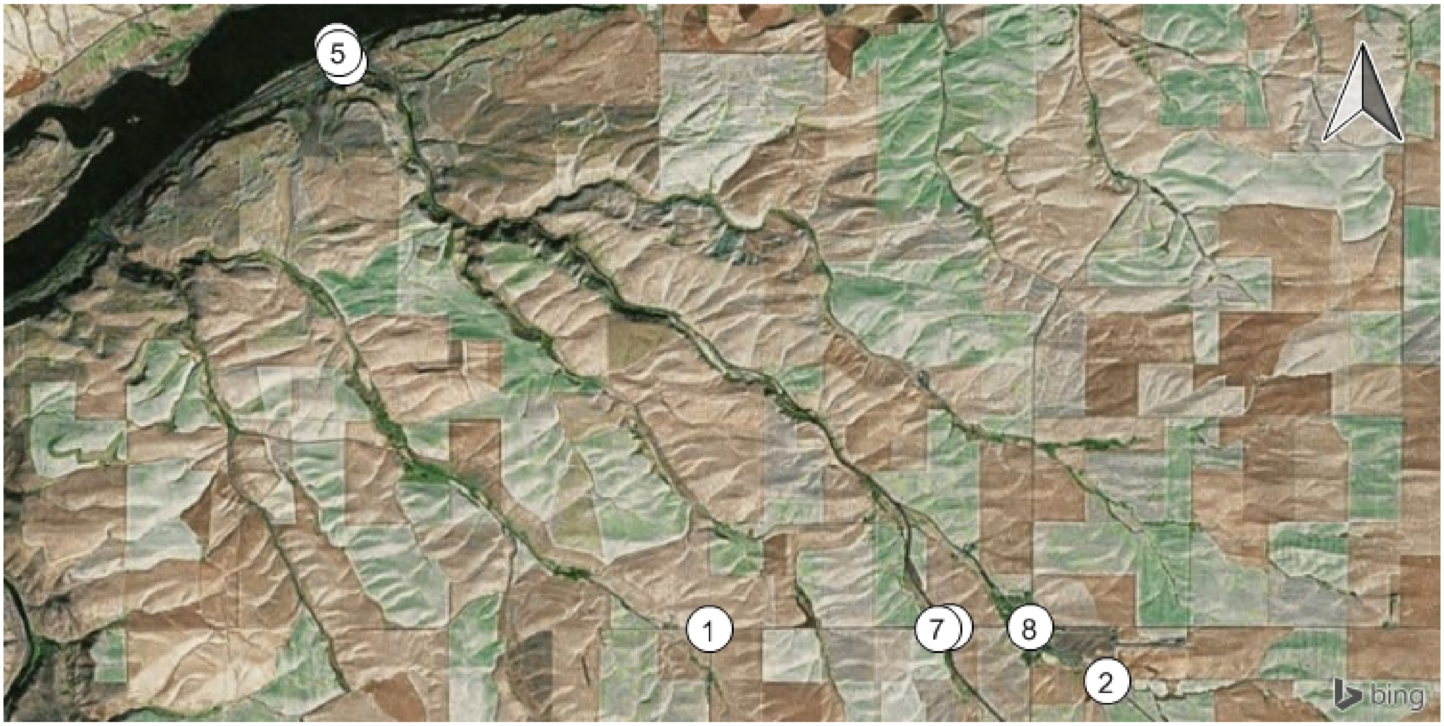


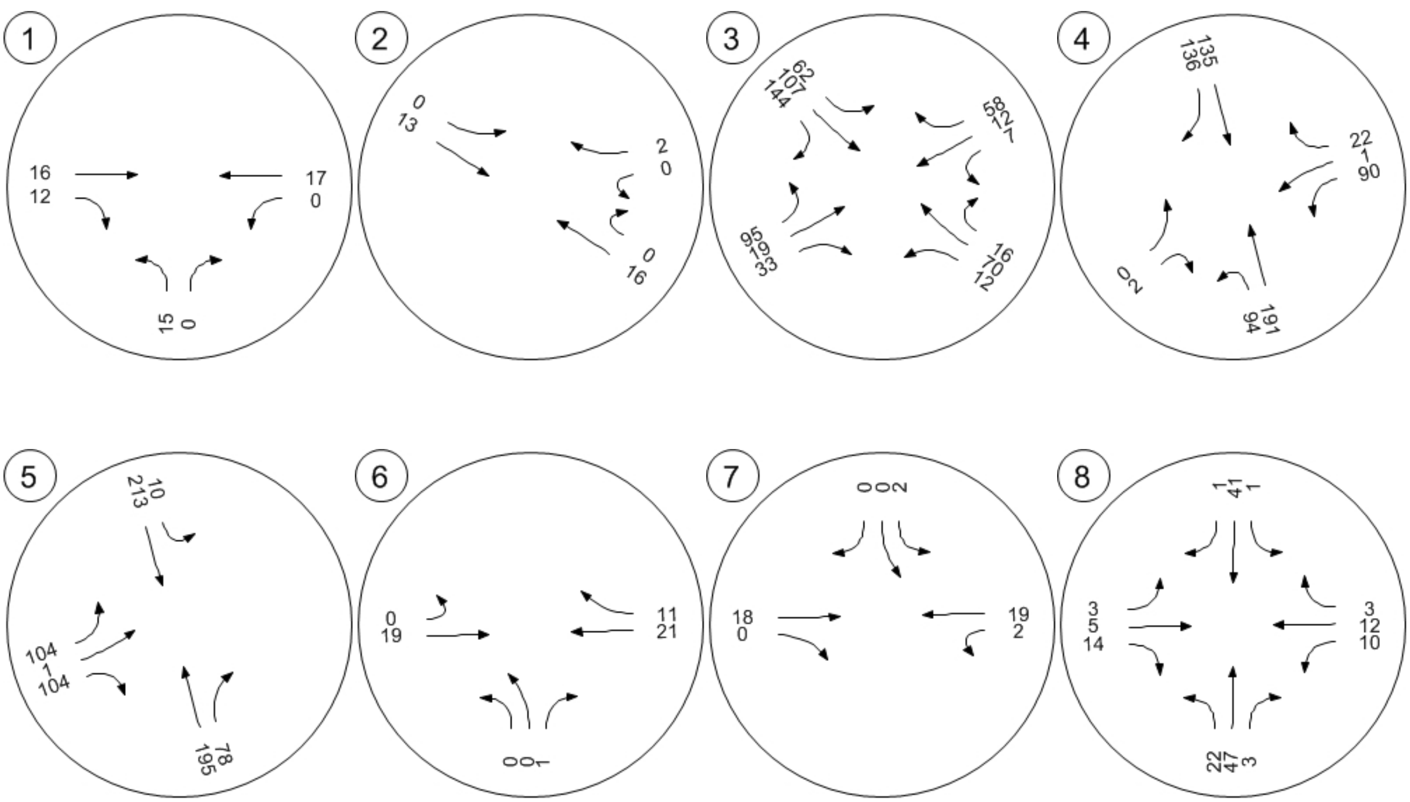
Lane Configuration and Traffic Control



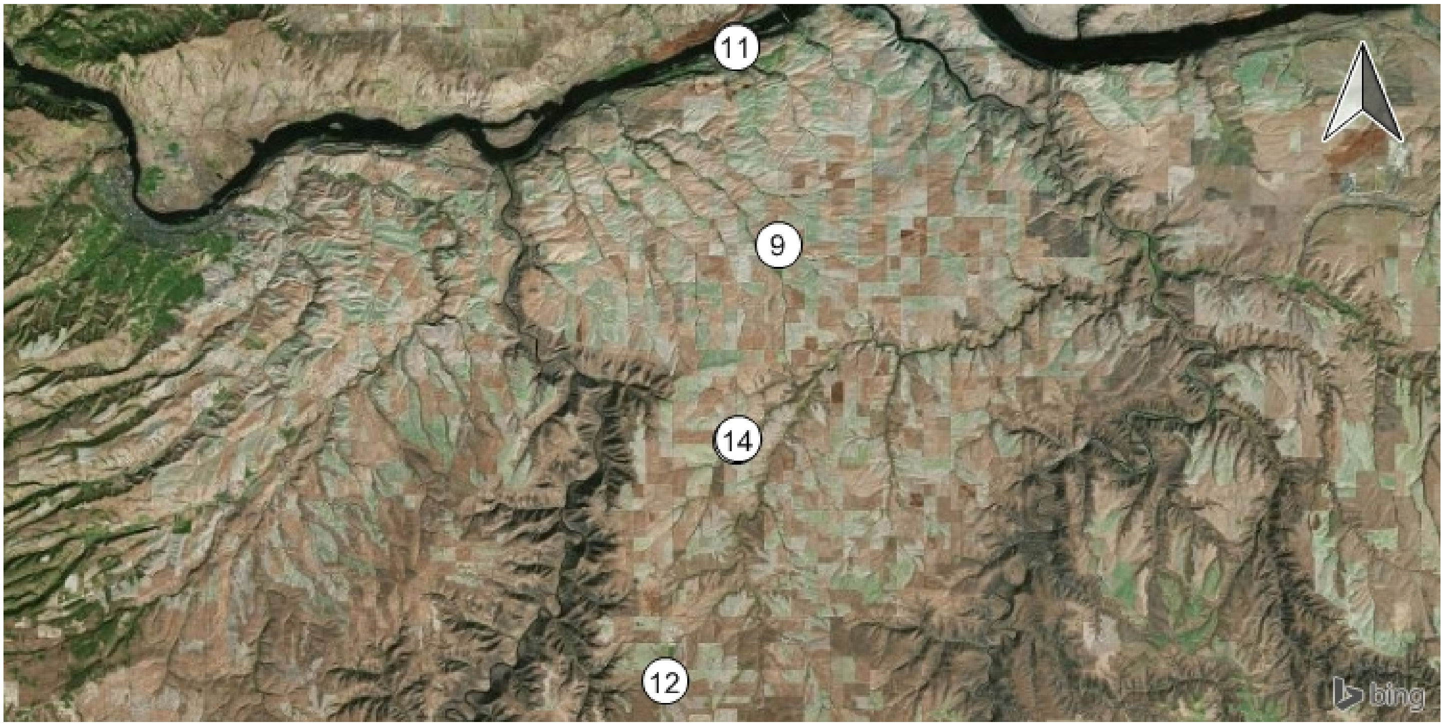


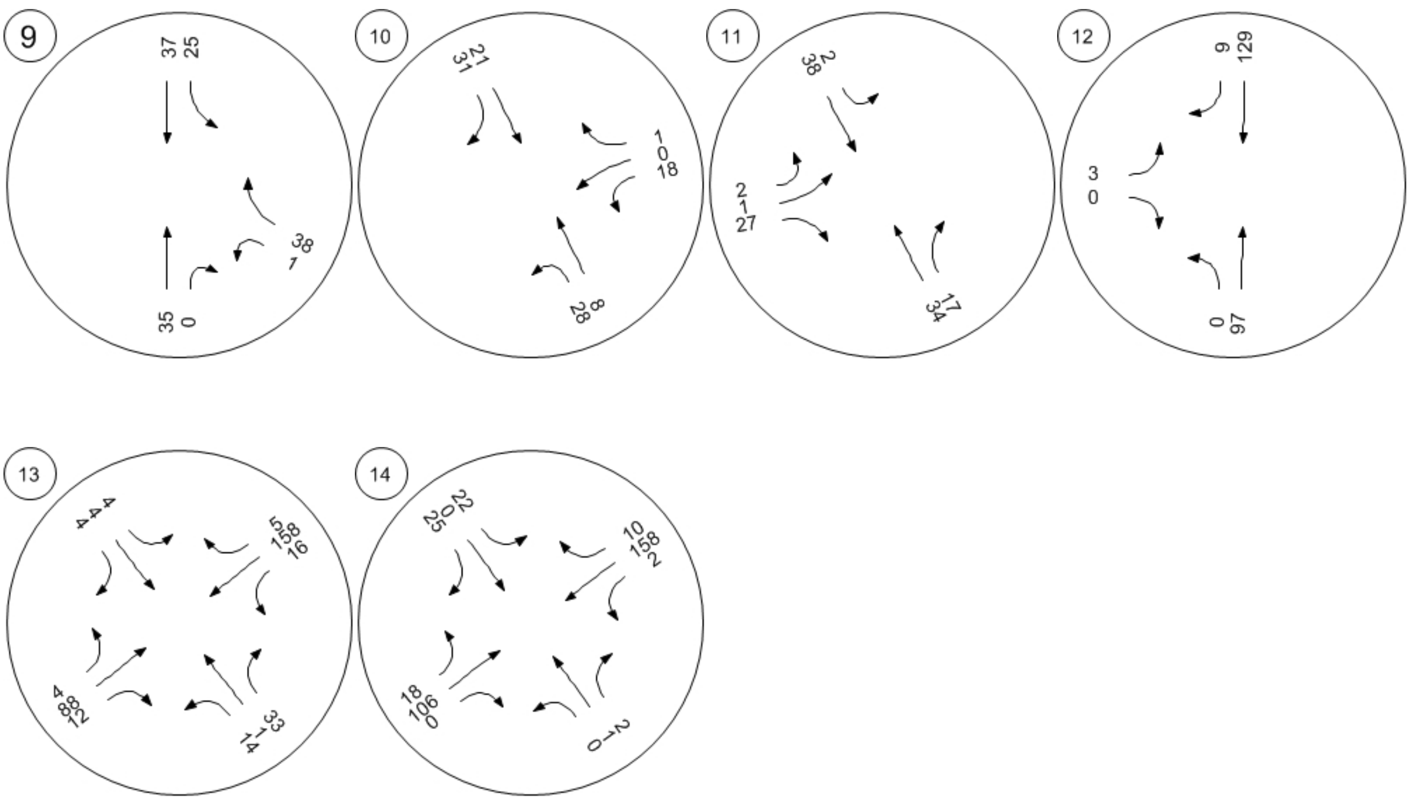
Traffic Volume - Base Volume



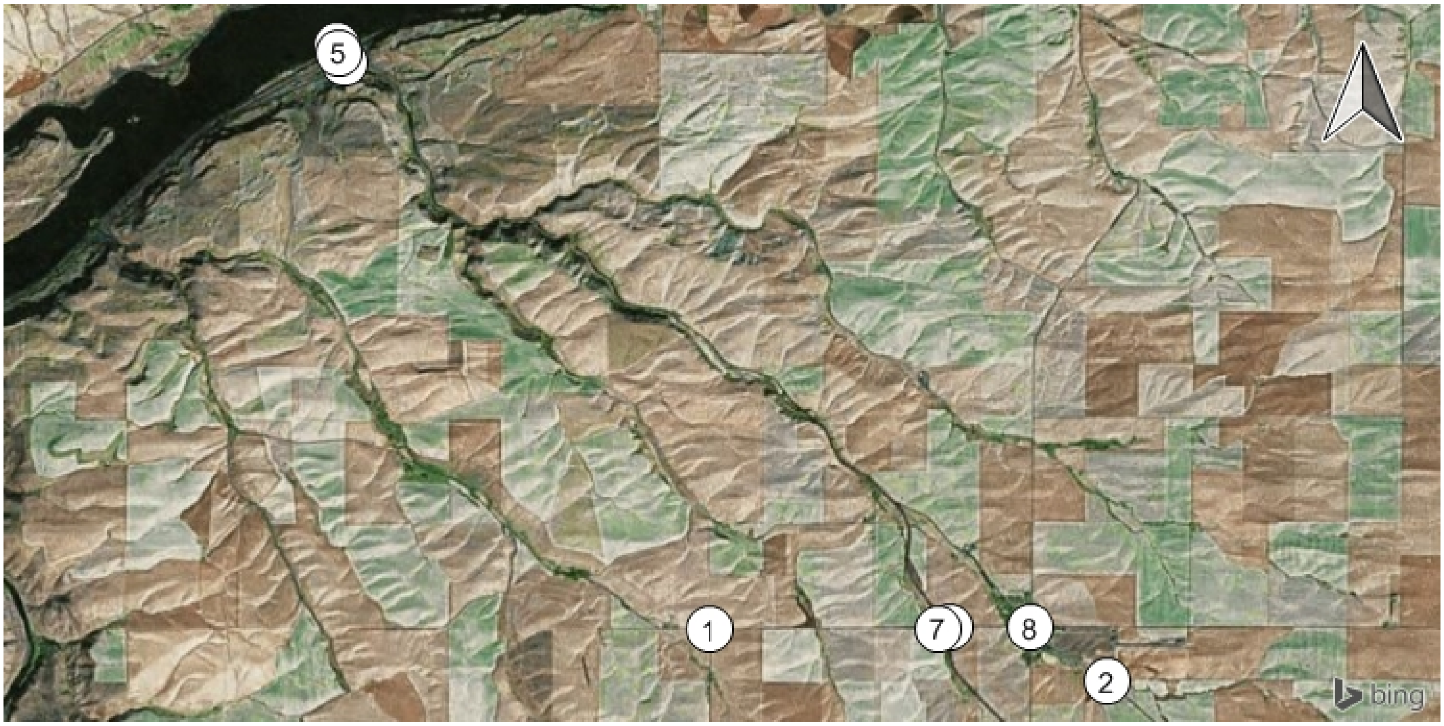


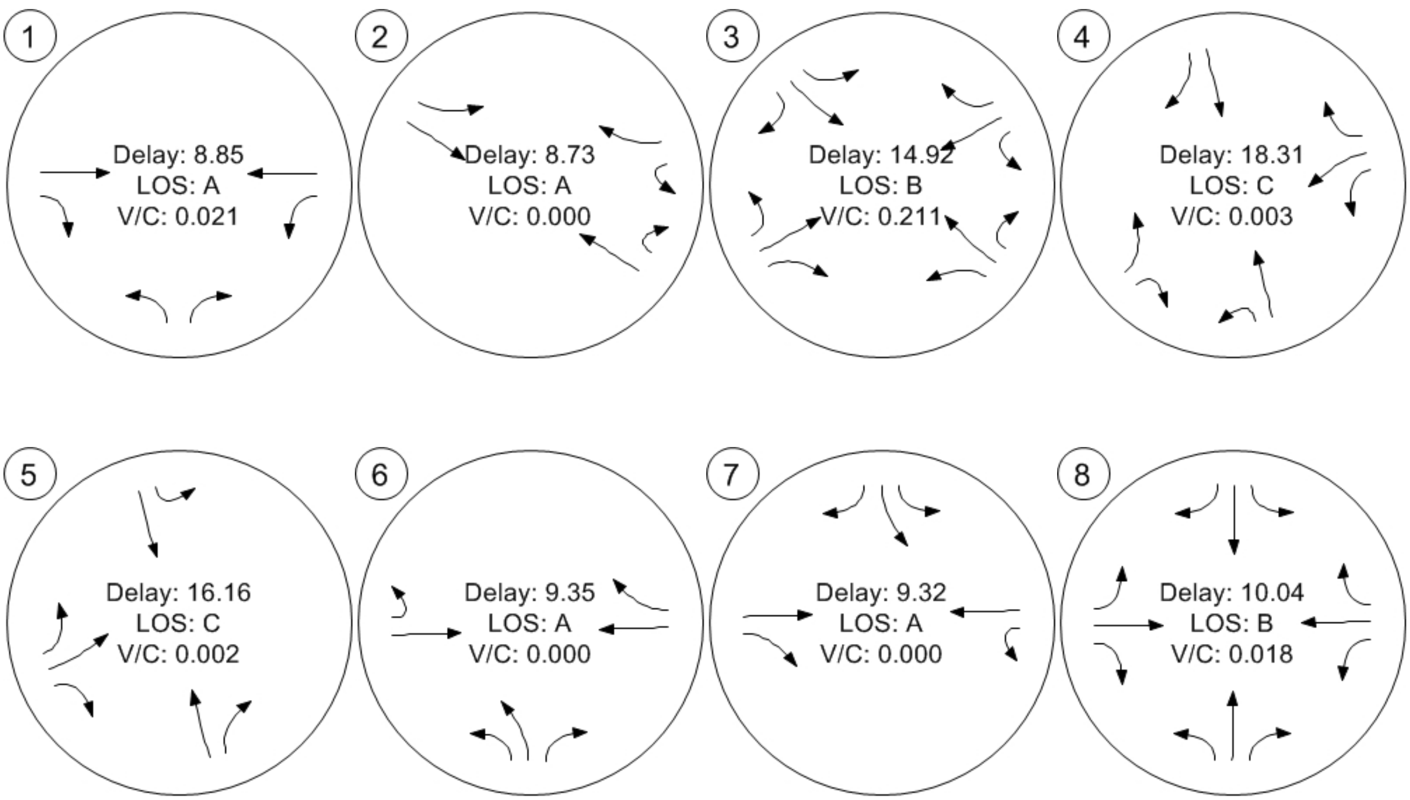
Traffic Volume - Base Volume



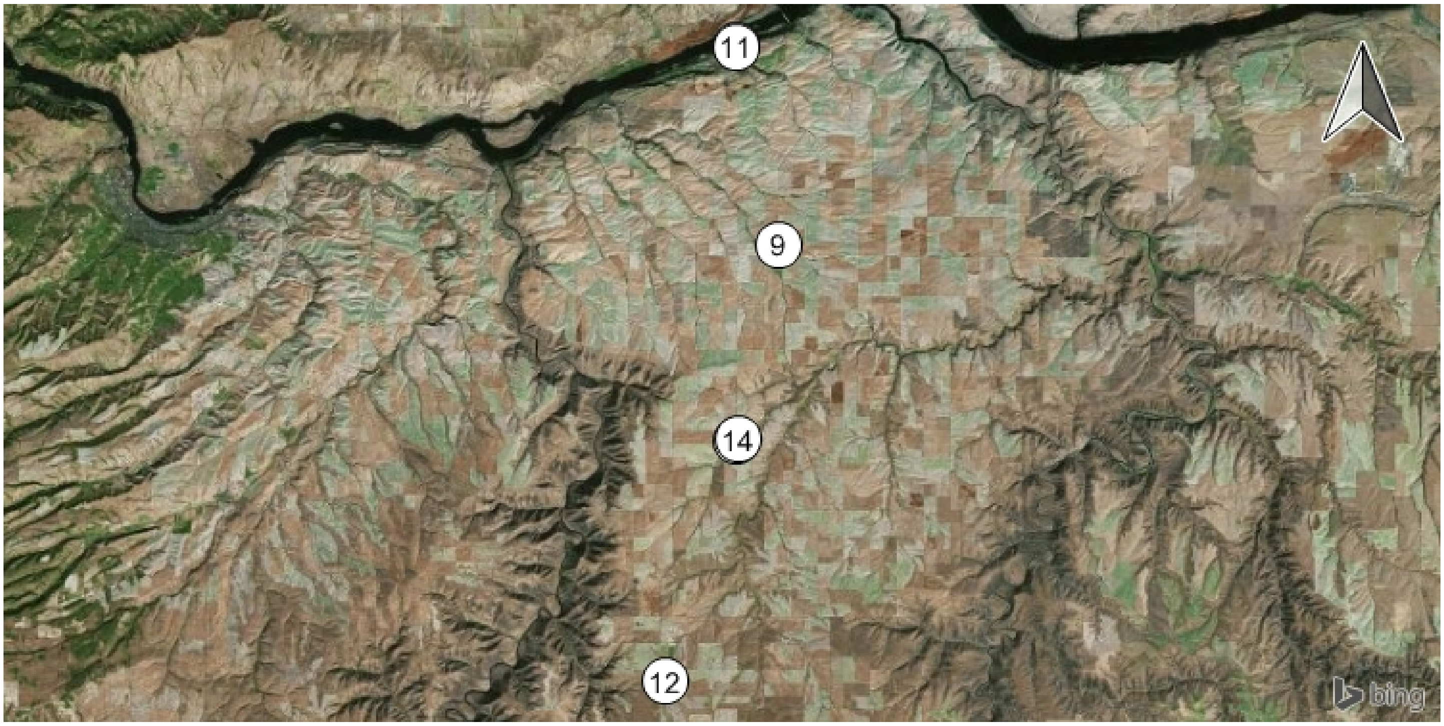


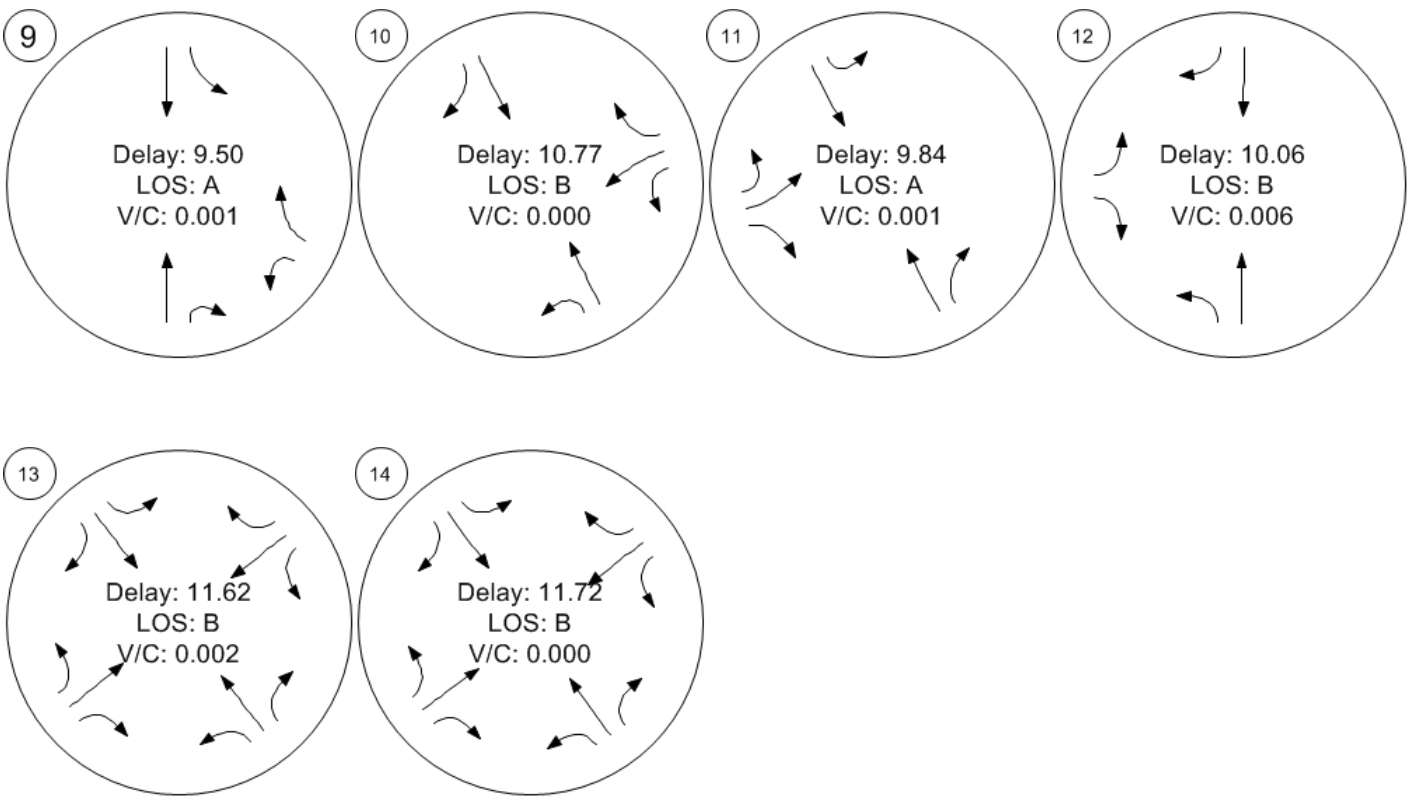
Traffic Conditions





Traffic Conditions





Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	1		
East/West Street:	OR 206		
North/South Street:	Van Gilder 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	MNLR	15	2.0%	39	0	0	**19**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	14		
East/West Street:	4th Street		
North/South Street:	US 97		

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	47	2.0%	295	0	0	**30**
WB	MNLTR	4	2.0%	294	0	0	**16**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	13		
East/West Street:	Lonerock Road		
North/South Street:	US 97		

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	11	2.0%	283	0	0	**17**
WB	MNLTR	48	2.0%	283	0	0	**30**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	1:30 - 2:30 PM		
Intersection:	12		
East/West Street:	OR 216		
North/South Street:	US 97		

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	MNLR	3	2.0%	235	0	0	**18**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information			
Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:45 - 5:45 PM		
Intersection:	11		
East/West Street:	I-84 WB		
North/South Street:	John Day Dam 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
EB	MNLTR	31	2.0%	91	0	0	**21**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:45 - 5:45 PM		
Intersection:	10		
East/West Street:	I-84 WB		
North/South Street:	John Day Dam 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
WB	MNLTR	19	2.0%	89	0	0	**18**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	9		
East/West Street:	OR 206		
North/South Street:	Clark St		

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
WB	MNLR	39	2.0%	35	0	0	**29**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	8		
East/West Street:	OR 206		
North/South Street:	Clark St		

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	23	2.0%	115	0	0	**19**
WB	MNLTR	25	2.0%	115	0	0	**20**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	7		
East/West Street:	OR 206		
North/South Street:	US 97 SB Ramps		

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
SB	MNLTR	2	2.0%	21	0	0	**13**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	6		
East/West Street:	OR 206		
North/South Street:	US 97 NB Ramps		

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	1	2.0%	19	0	0	**13**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	2		
East/West Street:	OR 206		
North/South Street:	Klondike		

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
WB	MNLR	2	2.0%	29	0	0	**15**

Appendix F ODOT Crash Data (2009-2013)

Crash_ID	Crash_Mont	Crash_Day	Crash_Year	Week_Day_C	Crash_Hour	County	Latitude_D	Longitude_	Milepoint	Posted_Spe	Road_Chara	Off_Roadwa	Intersecti	Intersec_1	Roundabout	Driveway_R	Crash_Type	Collision_	Crash_Seve	Weather_Co	Road_Surfa	Light_Cond	Crash_Se_1
1504591.000000	April	9.000000	2013.000000	Tuesday	7:00:00_AM	Sherman	45.592636	-120.697950	_______	55	Straight_roadway	Yes__	_	No	No	No	Parked_motor_vehicle	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1504596.000000	January	17.000000	2013.000000	Thursday	9:00:00_AM	Sherman	45.625081	-120.697214	2.13	40	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Daylight	Injury_B
1504597.000000	January	28.000000	2013.000000	Monday	7:00:00_AM	Sherman	45.649103	-120.679467	9.08	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1504599.000000	January	17.000000	2013.000000	Thursday	10:00:00_AM	Sherman	45.576956	-120.761273	1	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Fog___	Ice	Daylight	PDO
1504602.000000	January	10.000000	2013.000000	Thursday	11:00:00_AM	Sherman	45.671170	-120.834386	-0.09	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1504604.000000	January	17.000000	2013.000000	Thursday	5:00:00_PM	Sherman	45.671170	-120.834386	-0.09	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1504606.000000	April	6.000000	2013.000000	Saturday	1:00:00_PM	Sherman	45.669711	-120.833237	0.03	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1504607.000000	January	6.000000	2013.000000	Sunday	2:00:00_PM	Sherman	45.641842	-120.784222	3.53	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Ice	Daylight	PDO
1504608.000000	January	6.000000	2013.000000	Sunday	2:00:00_PM	Sherman	45.641244	-120.783648	3.58	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1504609.000000	February	2.000000	2013.000000	Saturday	6:00:00_PM	Sherman	45.636700	-120.778136	4	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1504610.000000	January	10.000000	2013.000000	Thursday	6:00:00_AM	Sherman	45.636042	-120.774573	4.18	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Ice	Darkness_û_no_street_lights	Injury_A
1504611.000000	January	22.000000	2013.000000	Tuesday	9:00:00_AM	Sherman	45.631348	-120.761687	5.03	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Wet	Daylight	PDO
1504613.000000	January	9.000000	2013.000000	Wednesday	1:00:00_AM	Sherman	45.512811	-120.683427	15	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Ice	Darkness_û_no_street_lights	PDO
1504614.000000	January	26.000000	2013.000000	Saturday	7:00:00_PM	Sherman	45.647304	-120.881877	101.7	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_C
1504617.000000	February	5.000000	2013.000000	Tuesday	3:00:00_PM	Sherman	45.671846	-120.828971	104.81	40	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1504618.000000	January	17.000000	2013.000000	Thursday	4:00:00_AM	Sherman	45.686666	-120.773428	107.68	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_B
1504620.000000	January	26.000000	2013.000000	Saturday	4:00:00_AM	Sherman	45.491119	-120.501093	13.05	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Fog___	Ice	Darkness_û_no_street_lights	Injury_B
1512790.000000	August	29.000000	2013.000000	Thursday	3:00:00_PM	Sherman	45.377003	-120.665639	999.99	__	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1512792.000000	August	20.000000	2013.000000	Tuesday	3:00:00_PM	Sherman	45.660249	-120.862313	103	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1512793.000000	July	16.000000	2013.000000	Tuesday	1:00:00_PM	Sherman	45.664004	-120.853501	103.5	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Sideswipe-overtaking	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1512795.000000	July	28.000000	2013.000000	Sunday	3:00:00_PM	Sherman	45.672324	-120.834537	104.98	0	Grade_(vertical_curve)	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1512796.000000	August	25.000000	2013.000000	Sunday	3:00:00_AM	Sherman	45.688097	-120.768225	107.95	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_with_street_lights	Injury_A
1512797.000000	June	20.000000	2013.000000	Thursday	8:00:00_AM	Sherman	45.728598	-120.654777	114.25	0	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1512798.000000	July	29.000000	2013.000000	Monday	8:00:00_AM	Sherman	45.671170	-120.834386	-0.09	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1512800.000000	May	3.000000	2013.000000	Friday	12:00:00_PM	Sherman	45.662835	-120.820754	0.86	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1512801.000000	June	16.000000	2013.000000	Sunday	6:00:00_PM	Sherman	45.656044	-120.817648	1.36	55	Straight_roadway	No_	_	No	No	No	Animal	&	Non-fatal_injury_crash	Cloudy	Dry	Daylight	Injury_C
1512802.000000	July	6.000000	2013.000000	Saturday	11:00:00_AM	Sherman	45.470151	-120.746037	19.59	55	Grade_(vertical_curve)	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1512804.000000	June	4.000000	2013.000000	Tuesday	3:00:00_PM	Sherman	45.427611	-120.767716	22.77	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1512805.000000	July	25.000000	2013.000000	Thursday	3:00:00_PM	Sherman	45.415519	-120.779704	23.76	55	Driveway_or_alley_access	No_	_	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1512807.000000	June	15.000000	2013.000000	Saturday	10:00:00_AM	Sherman	45.535648	-120.760303	4.1	0	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1512810.000000	June	3.000000	2013.000000	Monday	5:00:00_PM	Sherman	45.262239	-120.794485	3.63	__	Grade_(vertical_curve)	No_	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1527151.000000	October	17.000000	2013.000000	Thursday	9:00:00_AM	Sherman	45.667638	-120.844568	104	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1527153.000000	September	13.000000	2013.000000	Friday	3:00:00_AM	Sherman	45.703855	-120.713905	110.85	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Unknown	Darkness_û_no_street_lights	PDO
1527154.000000	September	21.000000	2013.000000	Saturday	2:00:00_PM	Sherman	45.707358	-120.695875	111.76	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1527155.000000	October	21.000000	2013.000000	Monday	9:00:00_AM	Sherman	45.708895	-120.691440	112	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1527157.000000	November	6.000000	2013.000000	Wednesday	2:00:00_PM	Sherman	45.671170	-120.834386	-0.09	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	From_opposite_direction_û_one_stopped	-	Non-fatal_injury_crash	Cloudy	Dry	Daylight	Injury_C
1527158.000000	September	20.000000	2013.000000	Friday	1:00:00_PM	Sherman	45.669711	-120.833237	0.03	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1527159.000000	October	19.000000	2013.000000	Saturday	9:00:00_AM	Sherman	45.646679	-120.794152	2.93	55	Grade_(vertical_curve)	No_	_	No	No	No	From_same_direction_û_one_stopped	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1527160.000000	October	18.000000	2013.000000	Friday	11:00:00_PM	Sherman	45.401664	-120.789427	24.88	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_B
1527161.000000	November	10.000000	2013.000000	Sunday	3:00:00_AM	Sherman	45.349974	-120.785777	28.57	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_B
1527162.000000	October	5.000000	2013.000000	Saturday	12:00:00_AM	Sherman	45.294121	-120.753638	33	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1527163.000000	September	8.000000	2013.000000	Sunday	5:00:00_AM	Sherman	45.289694	-120.748369	33.4	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_B
1527164.000000	September	1.000000	2013.000000	Sunday	11:00:00_PM	Sherman	45.200564	-120.697556	40.26	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_C
1527167.000000	September	26.000000	2013.000000	Thursday	12:00:00_PM	Sherman	45.589278	-120.694861	0.17	40	Street/road_or_highway_intersection	No_	4-legged	No	No	Yes	From_same_direction_û_one_turn,_one_straig	Turning_Movement	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1527169.000000	September	14.000000	2013.000000	Saturday	5:00:00_PM	Sherman	45.534960	-120.606237	6.1	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1527170.000000	October	20.000000	2013.000000	Sunday	11:00:00_AM	Sherman	45.504113	-120.775108	1.18	0	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1527172.000000	October	5.000000	2013.000000	Saturday	11:00:00_AM	Sherman	45.489527	-120.650966	3.06	0	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1533464.000000	August	25.000000	2013.000000	Sunday	2:00:00_PM	Sherman	45.669711	-120.833237	0.03	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1534540.000000	December	14.000000	2013.000000	Saturday	3:00:00_AM	Sherman	45.567719	-120.761311	1.74	0	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_B
1534542.000000	December	6.000000	2013.000000	Friday	4:00:00_PM	Sherman	45.662698	-120.856715	103.32	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Snow	Ice	Dusk_(Twilight)	PDO
1534545.000000	December	13.000000	2013.000000	Friday	6:00:00_PM	Sherman	45.670025	-120.838664	104.33	0	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Wet	Darkness_û_no_street_lights	Injury_B
1534547.000000	December	6.000000	2013.000000	Friday	5:00:00_PM	Sherman	45.676168	-120.820559	105.28	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Snow	Ice	Dusk_(Twilight)	Injury_B
1534548.000000	December	6.000000	2013.000000	Friday	3:00:00_PM	Sherman	45.692035	-120.754201	108.68	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1534549.000000	December	6.000000	2013.000000	Friday	2:00:00_PM	Sherman	45.727362	-120.659534	114	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1534551.000000	December	9.000000	2013.000000	Monday	2:00:00_PM	Sherman	45.669711	-120.833237	0.03	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1534553.000000	December	4.000000	2013.000000	Wednesday	9:00:00_PM	Sherman	45.669711	-120.833237	0.03	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_with_street_lights	PDO
1534554.000000	December	21.000000	2013.000000	Saturday	3:00:00_PM	Sherman	45.623761	-120.745901	6	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1534555.000000	December	17.000000	2013.000000	Tuesday	5:00:00_AM	Sherman	45.517848	-120.685112	14.65	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1538509.000000	November	6.000000	2013.000000	Wednesday	Unknown_Time	Sherman	45.693310	-120.745367	109.12	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Snow	Ice	Daylight	Injury_C
1402322.000000	January	3.000000	2011.000000	Monday	4:00:00_PM	Sherman	45.638369	-120.691549	8.08	__	Street/road_or_highway_intersection	No_	3-legged	No	No	No	From_same_direction_û_one_turn,_one_straig	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Dusk_(Twilight)	PDO
1402323.000000	January	5.000000	2011.000000	Wednesday	10:00:00_AM	Sherman	45.228736	-120.773989	0.75	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Unknown	Unknown	Daylight	PDO
1404879.000000	January	12.000000	2011.000000	Wednesday	8:00:00_AM	Sherman	45.695204	-120.739561	109.43	65	Straight_roadway	Yes__	_	No	No	No	Parked_motor_vehicle	Rear-End	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1404881.000000	January	12.000000	2011.000000	Wednesday	6:00:00_AM	Sherman	45.684337	-120.781264	107.32	65	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Rain__	Ice	Darkness_û_no_street_lights	Injury_C
1404883.000000	January	12.000000	2011.000000	Wednesday	8:00:00_AM	Sherman	45.702982	-120.717741	110.68	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1404884.000000	January	9.000000	2011.000000	Sunday	6:00:00_PM	Sherman	45.171842	-120.695402	42.43	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Darkness_û_no_street_lights	PDO
1404886.000000	January	19.000000	2011.000000	Wednesday	6:00:00_AM	Sherman	45.538760	-120.692629	12.94	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Cloudy	Ice	Darkness_û_no_street_lights	PDO
1404887.000000	January	22.000000	2011.000000	Saturday	8:00:00_AM	Sherman	45.414187	-120.781291	23.88	__	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Ice	Daylight	PDO
1404890.000000	February	28.000000	2011.000000	Monday	6:00:00_AM	Sherman	45.669711	-120.833237	0.03	55	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Rain__	Wet	Darkness_û_with_street_lights	PDO
1404891.000000	January	27.000000	2011.000000	Thursday	5:00:00_PM	Sherman	45.669711	-120.833237	0.03	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Cloudy	Dry	Dusk_(Twilight)	PDO
1404892.000000	February	18.000000	2011.000000	Friday	7:00:00_AM	Sherman	45.119946	-120.687289	46.11	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Daylight	Injury_C
1404895.000000	January	27.000000	2011.000000	Thursday	8:00:00_PM	Sherman	45.170558	-120.695096	42.52	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_C
1404897.000000	February	21.000000	2011.000000	Monday	9:00:00_AM	Sherman	45.170421	-120.695029	42.53	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_A
1404898.000000	February	22.000000	2011.000000	Tuesday	7:00:00_AM	Sherman	45.287156	-120.747712	33.58	55	Straight_roadway	No_	_	No	No	No	Parked_motor_vehicle	Rear-End	Non-fatal_injury_crash	Rain__	Ice	Dawn_(Twilight)	Injury_C
1406137.000000	March	26.000000	2011.000000	Saturday	1:00:00_PM	Sherman	45.527459	-120.757912	4.75	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Sleet_	Ice	Daylight	Injury_B
1406139.000000	March	8.000000	2011.000000	Tuesday	8:00:00_PM	Sherman	45.707485	-120.696035	111.76	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Non-fatal_injury_crash	Cloudy	Ice	Darkness_û_no_street_lights	Injury_B
1406142.000000	March	25.000000	2011.000000	Friday	3:00:00_PM	Sherman	45.495667	-120.527950	11.46	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Sleet_	Ice	Daylight	PDO
1406143.000000	March	19.000000	2011.000000	Saturday	12:00:00_AM	Sherman	45.545377	-120.692311	12.46	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Darkness_û_no_street_lights	PDO
1406145.000000	March	3.000000	2011.000000	Thursday	3:00:00_PM	Sherman	45.636497	-120.777595	4.03	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Rain__	Wet	Daylight	PDO
1406146.000000	April	25.000000	2011.000000	Monday	7:00:00_AM	Sherman	45.669711	-120.833237	0.03	__	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Rain__	Wet	Daylight	PDO
1406147.000000	March	28.000000	2011.000000	Monday	6:00:00_AM	Sherman	45.547531	-120.692161	12.3	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Ice	Daylight	Injury_B
1408016.000000	April	21.000000	2011.000000	Thursday	12:00:00_PM	Sherman	45.383181	-120.789023	26.15	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1409646.000000	March	2.000000	2011.000000	Wednesday	11:00:00_PM	Sherman	45.716095	-120.678599	112.8	65	Grade_(vertical_curve)	No_	_	No	No	No	Other_object	Fixed-Object_or_Other-Object	Fatal_crash	Clear_	Dry	Darkness_û_no_street_lights	Fatal
1409939.000000	March	2.000000	2011.000000	Wednesday	11:00:00_PM	Sherman	45.716095	-120.678599	112.8	65	Grade_(vertical_curve)	No_	_	No	No	No	Other_non-collision	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1414377.000000	May	28.000000	2011.000000	Saturday	2:00:00_PM	Sherman	45.164740	-120.689678	43	55	Straight_roadway	No_	_	No	No	No	From_opposite_direction_û_both_going_straig	Head-On	Fatal_crash	Clear_	Dry	Daylight	Fatal
1423581.000000	May	12.000000	2011.000000	Thursday	2:00:00_PM	Sherman	45.378252	-120.787058	26.5	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_A
1423874.000000	May	18.000000	2011.000000	Wednesday	4:00:00_PM	Sherman	45.688627	-120.717436	1.59	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Rain__	Wet	Daylight	Injury_A
1423880.000000	May	25.000000	2011.000000	Wednesday	1:00:00_PM	Sherman	45.669711	-120.833237	0.03	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Cloudy	Wet	Daylight	PDO
1423883.000000	May	27.000000	2011.000000	Friday	2:00:00_PM	Sherman	45.669711	-120.833237	0.03	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	From_same_direction_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO

1423889.000000	May	27.000000	2011.000000	Friday	11:00:00_PM	Sherman	45.591715	-120.771751	11.98	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_C
1423892.000000	June	5.000000	2011.000000	Sunday	1:00:00_AM	Sherman	45.654414	-120.816040	1.5	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_B
1423898.000000	June	7.000000	2011.000000	Tuesday	6:00:00_PM	Sherman	45.672284	-120.834763	-0.17	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	From_same_direction_û_one_stopped	Rear-End	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_A
1423900.000000	June	11.000000	2011.000000	Saturday	2:00:00_PM	Sherman	45.693996	-120.742862	109.25	65	Straight_roadway	No_	_	No	No	No	Animal	&	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1423907.000000	June	23.000000	2011.000000	Thursday	8:00:00_AM	Sherman	45.228678	-120.719891	38	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1423917.000000	July	5.000000	2011.000000	Tuesday	1:00:00_PM	Sherman	45.637045	-120.901712	100.5	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1423921.000000	July	12.000000	2011.000000	Tuesday	8:00:00_AM	Sherman	45.658477	-120.626732	3.61	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1423924.000000	July	15.000000	2011.000000	Friday	12:00:00_AM	Sherman	45.697274	-120.733862	109.75	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1423927.000000	July	12.000000	2011.000000	Tuesday	7:00:00_AM	Sherman	45.571750	-120.694698	10.55	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1424361.000000	July	16.000000	2011.000000	Saturday	12:00:00_PM	Sherman	45.669711	-120.833237	0.03	45	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1424367.000000	July	20.000000	2011.000000	Wednesday	5:00:00_PM	Sherman	45.661796	-120.858833	103.2	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1424388.000000	July	20.000000	2011.000000	Wednesday	5:00:00_AM	Sherman	45.464356	-120.747454	20	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Dawn_(Twilight)	PDO
1424403.000000	July	29.000000	2011.000000	Friday	2:00:00_PM	Sherman	45.591816	-120.701932	15.36	__	Street/road_or_highway_intersection	No_	Cross	No	No	No	Pedalcyclist	Angle	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1424408.000000	September	7.000000	2011.000000	Wednesday	11:00:00_AM	Sherman	45.671170	-120.834386	104.56	__	Street/road_or_highway_intersection	No_	Cross	No	No	No	From_same_direction_û_one_stopped	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1424419.000000	August	29.000000	2011.000000	Monday	11:00:00_PM	Sherman	45.361642	-120.783881	27.75	35	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_B
1424823.000000	August	31.000000	2011.000000	Wednesday	3:00:00_PM	Sherman	45.627393	-120.754306	5.5	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1424972.000000	September	15.000000	2011.000000	Thursday	6:00:00_PM	Sherman	45.670252	-120.833864	-0.02	__	Bridge_structure_(overpass_and_underpas	No_	_	No	No	No	From_same_direction_û_one_stopped	Rear-End	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1424977.000000	September	27.000000	2011.000000	Tuesday	7:00:00_PM	Sherman	45.636702	-120.778140	4	55	roadway_and_considered_"located"	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Cloudy	Dry	Dusk_(Twilight)	PDO
1427104.000000	September	5.000000	2011.000000	Monday	Unknown_Time	Sherman	45.255384	-121.002192	10.8	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Fatal_crash	Clear_	Dry	Unknown	Fatal
1429458.000000	September	6.000000	2011.000000	Tuesday	2:00:00_PM	Sherman	45.709234	-120.697572	_______	__	Driveway_or_alley_access	No_	_	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1434519.000000	December	19.000000	2011.000000	Monday	10:00:00_AM	Sherman	45.535510	-120.606893	6.05	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Daylight	Injury_B
1434522.000000	December	17.000000	2011.000000	Saturday	8:00:00_AM	Sherman	45.514042	-120.581665	8.15	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Fog___	Ice	Daylight	Injury_B
1434525.000000	December	30.000000	2011.000000	Friday	6:00:00_PM	Sherman	45.254714	-120.732422	36.06	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Cloudy	Ice	Darkness_û_no_street_lights	Injury_C
1434526.000000	December	6.000000	2011.000000	Tuesday	11:00:00_AM	Sherman	45.289296	-120.748114	33.43	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1434528.000000	December	11.000000	2011.000000	Sunday	8:00:00_AM	Sherman	45.602660	-120.721860	7.96	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Fog___	Ice	Daylight	PDO
1434529.000000	November	19.000000	2011.000000	Saturday	3:00:00_AM	Sherman	45.422469	-120.771694	23.16	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Snow	Ice	Darkness_û_no_street_lights	Injury_B
1434531.000000	November	19.000000	2011.000000	Saturday	7:00:00_AM	Sherman	45.446806	-120.753568	21.27	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1434533.000000	November	19.000000	2011.000000	Saturday	11:00:00_AM	Sherman	45.257741	-120.736259	35.78	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1434534.000000	November	15.000000	2011.000000	Tuesday	9:00:00_AM	Sherman	45.112704	-120.687233	46.61	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Parked_motor_vehicle	Rear-End	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1434535.000000	September	10.000000	2011.000000	Saturday	9:00:00_PM	Sherman	45.371213	-120.781632	27.07	55	Straight_roadway	No_	_	No	No	No	Animal	&	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_B
1434536.000000	October	15.000000	2011.000000	Saturday	6:00:00_PM	Sherman	45.544838	-120.692350	12.5	55	Straight_roadway	No_	_	No	No	No	Animal	&	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_C
1434537.000000	August	22.000000	2011.000000	Monday	6:00:00_PM	Sherman	45.623763	-120.745904	6	55	Grade_(vertical_curve)	No_	_	No	No	No	From_same_direction_û_both_going_straight	Sideswipe-overtaking	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1434539.000000	August	21.000000	2011.000000	Sunday	9:00:00_PM	Sherman	45.164740	-120.689678	43	55	Grade_(vertical_curve)	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1434541.000000	August	18.000000	2011.000000	Thursday	2:00:00_AM	Sherman	45.609232	-120.725302	7.45	55	Grade_(vertical_curve)	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1434542.000000	August	15.000000	2011.000000	Monday	4:00:00_PM	Sherman	45.288315	-120.747778	33.5	55	Grade_(vertical_curve)	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1434543.000000	August	13.000000	2011.000000	Saturday	10:00:00_AM	Sherman	45.093667	-120.674162	48.11	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1434544.000000	October	24.000000	2011.000000	Monday	10:00:00_PM	Sherman	45.660417	-120.819995	1.03	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1434551.000000	October	21.000000	2011.000000	Friday	1:00:00_PM	Sherman	45.672284	-120.834763	-0.17	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Non-fatal_injury_crash	Cloudy	Dry	Daylight	Injury_B
1434552.000000	August	17.000000	2011.000000	Wednesday	1:00:00_AM	Sherman	45.708654	-120.692409	111.95	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_B
1434553.000000	August	3.000000	2011.000000	Wednesday	6:00:00_AM	Sherman	45.669823	-120.839205	104.3	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Dawn_(Twilight)	PDO
1434557.000000	August	12.000000	2011.000000	Friday	4:00:00_PM	Sherman	45.661463	-120.859509	103.16	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1434559.000000	August	19.000000	2011.000000	Friday	2:00:00_PM	Sherman	45.664441	-120.852425	103.56	__	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1434562.000000	November	10.000000	2011.000000	Thursday	6:00:00_PM	Sherman	45.672284	-120.834763	104.99	55	Street/road_or_highway_intersection	No_	3-legged	No	No	No	From_same_direction_û_one_stopped	Rear-End	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_C
1434563.000000	November	22.000000	2011.000000	Tuesday	11:00:00_AM	Sherman	45.672284	-120.834763	104.99	55	Street/road_or_highway_intersection	No_	3-legged	No	No	No	From_same_direction_û_one_stopped	Rear-End	Property_damage_only_crash_(PDO)	Rain__	Wet	Daylight	PDO
1434566.000000	December	19.000000	2011.000000	Monday	7:00:00_AM	Sherman	45.682419	-120.691166	6.68	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Daylight	Injury_C
1434568.000000	December	21.000000	2011.000000	Wednesday	12:00:00_PM	Sherman	45.684955	-120.699461	7.18	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Ice	Daylight	Injury_B
1434570.000000	August	24.000000	2011.000000	Wednesday	10:00:00_AM	Sherman	45.499268	-120.744885	3.85	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1434571.000000	December	20.000000	2011.000000	Tuesday	8:00:00_AM	Sherman	45.533233	-120.757885	4	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Ice	Daylight	PDO
1434573.000000	December	17.000000	2011.000000	Saturday	8:00:00_AM	Sherman	45.591440	-120.613386	4	55	Street/road_or_highway_intersection	Yes__	3-legged	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Fog___	Ice	Daylight	Injury_B
1434574.000000	November	23.000000	2011.000000	Wednesday	5:00:00_PM	Sherman	45.611400	-120.810056	9.62	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Unknown	Unknown	Dusk_(Twilight)	PDO
1439475.000000	August	16.000000	2011.000000	Tuesday	Unknown_Time	Sherman	45.228921	-120.720136	37.98	55	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1443616.000000	December	17.000000	2011.000000	Saturday	9:00:00_AM	Sherman	45.591440	-120.613386	4.11	__	Street/road_or_highway_intersection	Yes__	3-legged	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Fog___	Ice	Daylight	Injury_B
1357883.000000	January	8.000000	2010.000000	Friday	10:00:00_PM	Sherman	45.572407	-120.695087	10.5	55	roadway_and_considered_"located"	No_	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Sleet_	Ice	Darkness_û_no_street_lights	PDO
1357890.000000	January	14.000000	2010.000000	Thursday	7:00:00_AM	Sherman	45.302249	-120.763859	32.25	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Dawn_(Twilight)	Injury_B
1357893.000000	January	24.000000	2010.000000	Sunday	2:00:00_PM	Sherman	45.431189	-120.765030	22.5	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Snow	Snow	Daylight	Injury_A
1357896.000000	January	9.000000	2010.000000	Saturday	9:00:00_AM	Sherman	45.563715	-120.649690	3	__	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Daylight	Injury_A
1357899.000000	January	26.000000	2010.000000	Tuesday	11:00:00_AM	Sherman	45.718048	-120.675458	113	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Wet	Daylight	PDO
1358093.000000	January	3.000000	2010.000000	Sunday	3:00:00_PM	Sherman	45.672445	-120.833854	104.95	__	Straight_roadway	No_	_	No	No	No	From_same_direction_û_one_stopped	Rear-End	Property_damage_only_crash_(PDO)	Rain__	Ice	Daylight	PDO
1358656.000000	January	10.000000	2010.000000	Sunday	5:00:00_PM	Sherman	45.678233	-120.805973	106	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Darkness_û_no_street_lights	PDO
1360378.000000	February	28.000000	2010.000000	Sunday	5:00:00_PM	Sherman	45.669711	-120.833237	0.03	__	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1360382.000000	February	6.000000	2010.000000	Saturday	6:00:00_AM	Sherman	45.671170	-120.834386	-0.09	40	Street/road_or_highway_intersection	Yes__	Cross	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Dry	Dawn_(Twilight)	PDO
1360605.000000	January	8.000000	2010.000000	Friday	12:00:00_AM	Sherman	45.658432	-120.623868	6.1	__	Street/road_or_highway_intersection	Yes__	Cross	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Ice	Darkness_û_no_street_lights	PDO
1360942.000000	May	18.000000	2010.000000	Tuesday	12:00:00_AM	Sherman	45.235214	-120.724261	37.5	55	Grade_(vertical_curve)	No_	_	No	No	No	From_opposite_direction_û_both_going_straig	Head-On	Fatal_crash	Rain__	Wet	Darkness_û_no_street_lights	Fatal
1365515.000000	February	5.000000	2010.000000	Friday	12:00:00_AM	Sherman	45.676477	-120.808497	105.88	__	roadway_and_considered_"located"	No_	_	No	No	No	Other_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1365519.000000	March	21.000000	2010.000000	Sunday	7:00:00_PM	Sherman	45.671170	-120.834386	104.56	__	Street/road_or_highway_intersection	No_	Cross	No	No	No	From_same_direction_û_one_stopped	Rear-End	Property_damage_only_crash_(PDO)	Cloudy	Wet	Darkness_û_with_street_lights	PDO
1365526.000000	March	17.000000	2010.000000	Wednesday	12:00:00_PM	Sherman	45.127108	-120.665189	1	__	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1366135.000000	April	14.000000	2010.000000	Wednesday	3:00:00_PM	Sherman	45.669269	-120.832168	0.09	__	Driveway_or_alley_access	No_	_	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1366144.000000	January	1.000000	2010.000000	Friday	9:00:00_PM	Sherman	45.727360	-120.659539	114	__	Bridge_structure_(overpass_and_underpas	No_	_	No	No	No	Other_non-collision	&	Property_damage_only_crash_(PDO)	Unknown	Unknown	Darkness_û_no_street_lights	PDO
1366146.000000	May	5.000000	2010.000000	Wednesday	1:00:00_PM	Sherman	45.653281	-120.583982	5.2	__	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1366148.000000	May	10.000000	2010.000000	Monday	4:00:00_PM	Sherman	45.650297	-120.815078	1.8	__	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Sideswipe-overtaking	Property_damage_only_crash_(PDO)	Unknown	Unknown	Daylight	PDO
1366150.000000	May	12.000000	2010.000000	Wednesday	9:00:00_PM	Sherman	45.670348	-120.838350	104.35	__	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1366154.000000	May	16.000000	2010.000000	Sunday	2:00:00_PM	Sherman	45.669863	-120.832875	104.58	__	Driveway_or_alley_access	Yes__	_	No	No	No	From_same_direction_û_one_turn,_one_straig	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1366158.000000	May	22.000000	2010.000000	Saturday	2:00:00_PM	Sherman	45.377003	-120.665639	999.99	__	Street/road_or_highway_intersection	No_	3-legged	No	No	No	From_opposite_direction_û_one_left_turn,_or	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1369404.000000	July	10.000000	2010.000000	Saturday	10:00:00_PM	Sherman	45.494859	-120.708574	16.89	55	Grade_(vertical_curve)	Yes__	_	Yes	No	No	Fixed_object	Fixed-Object_or_Other-Object	Fatal_crash	Clear_	Dry	Darkness_û_no_street_lights	Fatal
1370329.000000	March	18.000000	2010.000000	Thursday	3:00:00_AM	Sherman	45.698676	-120.729888	110	__	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1372988.000000	August	1.000000	2010.000000	Sunday	10:00:00_PM	Sherman	45.445620	-120.700836	0.1	55	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Fatal_crash	Clear_	Dry	Darkness_û_no_street_lights	Fatal
1377609.000000	July	3.000000	2010.000000	Saturday	11:00:00_AM	Sherman	45.692888	-120.749045	109	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1377623.000000	June	22.000000	2010.000000	Tuesday	7:00:00_AM	Sherman	45.537583	-120.692646	13.28	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1377625.000000	June	25.000000	2010.000000	Friday	10:00:00_AM	Sherman	45.093401	-120.674108	48.11	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_A
1377626.000000	July	10.000000	2010.000000	Saturday	2:00:00_PM	Sherman	45.415965	-120.779173	23.72	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1377656.000000	July	3.000000	2010.000000	Saturday	3:00:00_PM	Sherman	45.581279	-120.677449	1.18	55	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1377658.000000	July	7.000000	2010.000000	Wednesday	10:00:00_AM	Sherman	45.617444	-120.822493	0.25	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1377660.000000	June	28.000000	2010.000000	Monday	8:00:00_AM	Sherman	45.613331	-120.697324	1.35	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1379968.000000	August	12.000000	2010.000000	Thursday	3:00:00_PM	Sherman	45.669711	-120.833237	0.03	__	Street/road_or_highway_intersection	No_	Cross	No	No	No	From_same_direction_û_one_turn,_one_straig	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1379971.000000	August	26.000000	2010.000000	Thursday	5:00:00_PM	Sherman	45.339284	-120.773769	29.56	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1382922.000000	August	29.000000	2010.000000	Sunday	4:00:00_AM	Sherman	45.377003	-120.665639	999.99	__	Straight_roadway	No_	_	No	No	No	Animal	&	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_C
1382923.000000	September	26.000000	2010.000000	Sunday	1:00:00_PM	Sherman	45.672284	-120.834763	-0.17	55	Street/road_or_highway_intersection	Yes__	Cross	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1386287.000000	December	22.000000	2010.000000	Wednesday	10:00:00_PM	Sherman	45.377003	-120.665639	999.99	55	Straight_roadway	No_	_	No	No	No	Animal	&	Non-fatal_injury_crash	Fog___	Ice	Darkness_û_no_street_lights	Injury_C
1386927.000000	November	14.000000	2010.000000	Sunday	3:00:00_PM	Sherman	45.659010	-120.864348	102.87	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1386930.000000	November	16.000000	2010.000000	Tuesday	1:00:00_PM	Sherman	45.727268	-120.659459	114	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Ice	Daylight	Injury_C

1386932.000000	December	6.000000	2010.000000	Monday	5:00:00_PM	Sherman	45.716822	-120.677226	112.88	65	Straight_roadway	No_	_	No	No	No	Other_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Dusk_(Twilight)	PDO
1386935.000000	November	23.000000	2010.000000	Tuesday	4:00:00_PM	Sherman	45.730282	-120.650571	114.5	__	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Unknown	Unknown	Daylight	Injury_C
1386949.000000	December	20.000000	2010.000000	Monday	10:00:00_AM	Sherman	45.695429	-120.738289	109.56	65	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1386952.000000	December	9.000000	2010.000000	Thursday	6:00:00_PM	Sherman	45.730282	-120.650571	114.5	65	Straight_roadway	No_	_	No	No	No	Other_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Rain__	Wet	Darkness_û_no_street_lights	PDO
1386954.000000	December	12.000000	2010.000000	Sunday	1:00:00_PM	Sherman	45.672284	-120.834763	104.99	65	Street/road_or_highway_intersection	No_	Cross	No	No	No	From_same_direction_û_one_stopped	Rear-End	Non-fatal_injury_crash	Rain__	Wet	Daylight	Injury_B
1386958.000000	November	12.000000	2010.000000	Friday	10:00:00_AM	Sherman	45.591449	-120.760441	12.5	55	Driveway_or_alley_access	No_	_	No	No	No	From_same_direction_û_one_turn,_one_straig	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1386959.000000	November	10.000000	2010.000000	Wednesday	5:00:00_PM	Sherman	45.642209	-120.874626	5.3	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Wet	Dusk_(Twilight)	Injury_B
1386960.000000	December	13.000000	2010.000000	Monday	5:00:00_AM	Sherman	45.633209	-120.863668	6.24	__	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Fog___	Wet	Darkness_û_no_street_lights	Injury_C
1386962.000000	November	14.000000	2010.000000	Sunday	10:00:00_PM	Sherman	45.340999	-120.774887	29.43	55	roadway_and_considered_"located"	No_	_	No	No	No	From_opposite_direction_û_both_going_straig	Sideswipe-meeting	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_B
1386964.000000	October	18.000000	2010.000000	Monday	10:00:00_AM	Sherman	45.669711	-120.833237	0.03	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1386967.000000	November	16.000000	2010.000000	Tuesday	7:00:00_AM	Sherman	45.178383	-120.695370	41.98	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Dawn_(Twilight)	Injury_C
1386968.000000	November	23.000000	2010.000000	Tuesday	1:00:00_PM	Sherman	45.589550	-120.714073	8.96	__	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1386969.000000	October	19.000000	2010.000000	Tuesday	5:00:00_PM	Sherman	45.221670	-120.711411	38.63	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Dusk_(Twilight)	PDO
1386970.000000	November	28.000000	2010.000000	Sunday	6:00:00_AM	Sherman	45.647548	-120.804643	2.38	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Dawn_(Twilight)	Injury_C
1386972.000000	November	29.000000	2010.000000	Monday	12:00:00_PM	Sherman	45.112705	-120.687233	46.61	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1386973.000000	December	18.000000	2010.000000	Saturday	11:00:00_AM	Sherman	45.489801	-120.717988	17.46	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Snow	Daylight	PDO
1386974.000000	December	18.000000	2010.000000	Saturday	8:00:00_AM	Sherman	45.206773	-120.701015	39.8	__	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Fog___	Ice	Daylight	Injury_B
1386977.000000	December	29.000000	2010.000000	Wednesday	3:00:00_PM	Sherman	45.185644	-120.695305	41.48	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Ice	Daylight	PDO
1386980.000000	November	16.000000	2010.000000	Tuesday	9:00:00_AM	Sherman	45.671463	-120.667860	1	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Cloudy	Dry	Daylight	Injury_B
1388716.000000	December	10.000000	2010.000000	Friday	5:00:00_AM	Sherman	45.621794	-120.742907	6.2	55	roadway_and_considered_"located"	No_	_	No	No	No	From_opposite_direction_û_both_going_straig	Sideswipe-meeting	Fatal_crash	Cloudy	Ice	Darkness_û_no_street_lights	Fatal
1393811.000000	November	26.000000	2010.000000	Friday	3:00:00_PM	Sherman	45.727268	-120.659459	114	65	Bridge_structure_(overpass_and_underpas	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1394880.000000	November	11.000000	2010.000000	Thursday	6:00:00_AM	Sherman	45.551569	-120.691869	12	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Cloudy	Ice	Darkness_û_no_street_lights	Injury_B
1394881.000000	December	23.000000	2010.000000	Thursday	8:00:00_PM	Sherman	45.377003	-120.665639	999.99	__	Straight_roadway	No_	_	No	No	No	Animal	&	Non-fatal_injury_crash	Clear_	Ice	Darkness_û_no_street_lights	Injury_C
1316250.000000	January	24.000000	2009.000000	Saturday	12:00:00_PM	Sherman	45.379794	-120.661828	999.99	__	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1316251.000000	January	18.000000	2009.000000	Sunday	9:00:00_AM	Sherman	45.588261	-120.697811	________	__	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Fog___	Ice	Daylight	Injury_C
1316253.000000	January	16.000000	2009.000000	Friday	6:00:00_AM	Sherman	45.591819	-120.697758	-0.09	__	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Property_damage_only_crash_(PDO)	Fog___	Ice	Darkness_û_with_street_lights	PDO
1316257.000000	February	26.000000	2009.000000	Thursday	6:00:00_AM	Sherman	45.637228	-120.900356	100.56	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Ice	Dawn_(Twilight)	PDO
1316258.000000	January	25.000000	2009.000000	Sunday	12:00:00_PM	Sherman	45.648306	-120.881050	101.78	65	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1316259.000000	January	18.000000	2009.000000	Sunday	9:00:00_AM	Sherman	45.692922	-120.748019	109.05	65	Bridge_structure_(overpass_and_underpas	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Rain__	Wet	Daylight	Injury_C
1316260.000000	March	21.000000	2009.000000	Saturday	5:00:00_AM	Sherman	45.702381	-120.719419	110.6	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_B
1316261.000000	January	25.000000	2009.000000	Sunday	2:00:00_PM	Sherman	45.719758	-120.672908	113.16	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Sideswipe-overtaking	Property_damage_only_crash_(PDO)	Cloudy	Snow	Daylight	PDO
1316262.000000	January	25.000000	2009.000000	Sunday	4:00:00_PM	Sherman	45.730561	-120.650358	114.5	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Snow	Ice	Daylight	Injury_C
1316267.000000	January	25.000000	2009.000000	Sunday	4:00:00_PM	Sherman	45.729739	-120.652056	114.4	65	roadway_and_considered_"located"	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1316268.000000	January	2.000000	2009.000000	Friday	8:00:00_AM	Sherman	45.624922	-120.747172	5.9	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Ice	Daylight	Injury_B
1316270.000000	January	2.000000	2009.000000	Friday	8:00:00_AM	Sherman	45.614361	-120.734622	6.87	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Ice	Dawn_(Twilight)	Injury_B
1316271.000000	January	18.000000	2009.000000	Sunday	9:00:00_AM	Sherman	45.560900	-120.691875	11.32	55	Straight_roadway	Yes__	_	No	No	No	Other_non-collision	Non-collision	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1316273.000000	January	25.000000	2009.000000	Sunday	10:00:00_PM	Sherman	45.480558	-120.736839	18.73	35	Grade_(vertical_curve)	No_	_	No	No	No	Other_non-collision	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Darkness_û_no_street_lights	PDO
1316274.000000	January	19.000000	2009.000000	Monday	5:00:00_AM	Sherman	45.464361	-120.747453	20	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Fog___	Ice	Darkness_û_no_street_lights	Injury_C
1316275.000000	March	9.000000	2009.000000	Monday	10:00:00_PM	Sherman	45.452058	-120.751897	20.87	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Cloudy	Ice	Darkness_û_no_street_lights	Injury_B
1316276.000000	March	9.000000	2009.000000	Monday	9:00:00_PM	Sherman	45.427169	-120.768053	22.8	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Darkness_û_no_street_lights	PDO
1316279.000000	February	10.000000	2009.000000	Tuesday	11:00:00_PM	Sherman	45.385869	-120.789089	26	__	Grade_(vertical_curve)	Yes__	_	No	No	No	Parked_motor_vehicle	Sideswipe-meeting	Property_damage_only_crash_(PDO)	Snow	Ice	Darkness_û_no_street_lights	PDO
1316280.000000	March	8.000000	2009.000000	Sunday	7:00:00_AM	Sherman	45.378636	-120.787358	26.5	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1316281.000000	February	10.000000	2009.000000	Tuesday	11:00:00_PM	Sherman	45.373442	-120.783186	26.9	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Parked_motor_vehicle	Sideswipe-overtaking	Non-fatal_injury_crash	Cloudy	Ice	Darkness_û_no_street_lights	Injury_C
1316283.000000	January	18.000000	2009.000000	Sunday	12:00:00_PM	Sherman	45.333508	-120.770022	30	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Fog___	Ice	Daylight	PDO
1316284.000000	March	15.000000	2009.000000	Sunday	9:00:00_AM	Sherman	45.281047	-120.747761	34	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Cloudy	Dry	Daylight	Injury_C
1316287.000000	February	26.000000	2009.000000	Thursday	9:00:00_AM	Sherman	45.204336	-120.699656	39.98	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Daylight	Injury_C
1316289.000000	January	16.000000	2009.000000	Friday	11:00:00_PM	Sherman	45.691944	-120.723778	8.48	40	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Snow	Ice	Darkness_û_no_street_lights	Injury_B
1316290.000000	January	17.000000	2009.000000	Saturday	9:00:00_PM	Sherman	45.686008	-120.712189	7.78	50	Grade_(vertical_curve)	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Darkness_û_no_street_lights	PDO
1316292.000000	January	19.000000	2009.000000	Monday	6:00:00_AM	Sherman	45.668683	-120.653736	1.76	__	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Ice	Darkness_û_no_street_lights	PDO
1316293.000000	February	21.000000	2009.000000	Saturday	10:00:00_PM	Sherman	45.463147	-120.716994	2	45	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Fog___	Dry	Darkness_û_no_street_lights	PDO
1323679.000000	February	26.000000	2009.000000	Thursday	7:00:00_AM	Sherman	45.637322	-120.900597	100.56	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Ice	Daylight	Injury_C
1323681.000000	April	12.000000	2009.000000	Sunday	6:00:00_PM	Sherman	45.659977	-120.862111	103	__	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Wet	Daylight	PDO
1323682.000000	April	16.000000	2009.000000	Thursday	4:00:00_PM	Sherman	45.660847	-120.820110	1	__	Straight_roadway	No_	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1323684.000000	April	28.000000	2009.000000	Tuesday	4:00:00_AM	Sherman	45.101747	-120.677813	47.5	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Other_non-collision	Non-collision	Property_damage_only_crash_(PDO)	Cloudy	Wet	Darkness_û_no_street_lights	PDO
1323692.000000	April	29.000000	2009.000000	Wednesday	2:00:00_AM	Sherman	45.549955	-120.692006	12.12	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_C
1323699.000000	April	19.000000	2009.000000	Sunday	7:00:00_PM	Sherman	45.675225	-120.622550	6.21	__	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Dusk_(Twilight)	PDO
1323702.000000	April	24.000000	2009.000000	Friday	10:00:00_PM	Sherman	45.685739	-120.710161	7.68	__	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1335011.000000	May	25.000000	2009.000000	Monday	12:00:00_AM	Sherman	45.709700	-120.689732	112.1	65	Straight_roadway	No_	_	No	No	No	Parked_motor_vehicle	Sideswipe-overtaking	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1335013.000000	June	21.000000	2009.000000	Sunday	2:00:00_PM	Sherman	45.725018	-120.664054	113.73	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	&	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_A
1335015.000000	June	4.000000	2009.000000	Thursday	10:00:00_AM	Sherman	45.669711	-120.833237	0.03	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1335016.000000	July	22.000000	2009.000000	Wednesday	8:00:00_AM	Sherman	45.669711	-120.833237	0.03	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1335018.000000	June	22.000000	2009.000000	Monday	3:00:00_PM	Sherman	45.421360	-120.772790	23.25	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1335020.000000	May	9.000000	2009.000000	Saturday	4:00:00_PM	Sherman	45.379703	-120.788248	26.38	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1335022.000000	June	23.000000	2009.000000	Tuesday	10:00:00_PM	Sherman	45.373749	-120.783458	26.87	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1335023.000000	July	3.000000	2009.000000	Friday	10:00:00_AM	Sherman	45.290543	-120.749143	33.33	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1335026.000000	June	6.000000	2009.000000	Saturday	10:00:00_AM	Sherman	45.274766	-120.747765	34.43	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1335027.000000	July	26.000000	2009.000000	Sunday	6:00:00_AM	Sherman	45.223003	-120.713338	38.5	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1335029.000000	June	7.000000	2009.000000	Sunday	10:00:00_AM	Sherman	45.164740	-120.689678	43	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1335032.000000	June	19.000000	2009.000000	Friday	4:00:00_PM	Sherman	45.503839	-120.729117	4.21	__	Grade_(vertical_curve)	No_	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1335034.000000	July	2.000000	2009.000000	Thursday	7:00:00_PM	Sherman	45.682511	-120.691311	6.68	40	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1335036.000000	July	7.000000	2009.000000	Tuesday	11:00:00_AM	Sherman	45.627989	-120.697144	2.35	55	roadway_and_considered_"located"	No_	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1335820.000000	July	14.000000	2009.000000	Tuesday	9:00:00_AM	Sherman	45.518769	-120.758383	5.36	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Unknown	Unknown	Daylight	PDO
1343432.000000	August	13.000000	2009.000000	Thursday	5:00:00_PM	Sherman	45.669711	-120.833237	0.03	45	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1343433.000000	November	1.000000	2009.000000	Sunday	3:00:00_PM	Sherman	45.669711	-120.833237	0.03	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1343437.000000	September	14.000000	2009.000000	Monday	2:00:00_PM	Sherman	45.669075	-120.831384	0.13	__	Driveway_or_alley_access	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1343439.000000	December	16.000000	2009.000000	Wednesday	11:00:00_PM	Sherman	45.636702	-120.778139	4	__	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Rain__	Ice	Darkness_û_no_street_lights	PDO
1343440.000000	November	11.000000	2009.000000	Wednesday	11:00:00_PM	Sherman	45.516100	-120.684194	14.78	55	Grade_(vertical_curve)	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Cloudy	Wet	Darkness_û_no_street_lights	PDO
1343442.000000	November	22.000000	2009.000000	Sunday	5:00:00_PM	Sherman	45.366807	-120.781660	27.38	__	Straight_roadway	No_	_	No	No	No	Animal	&	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_C
1343444.000000	December	30.000000	2009.000000	Wednesday	7:00:00_AM	Sherman	45.236198	-120.724614	37.43	55	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1343445.000000	September	17.000000	2009.000000	Thursday	8:00:00_AM	Sherman	45.217443	-120.706986	39	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1343446.000000	October	7.000000	2009.000000	Wednesday	1:00:00_PM	Sherman	45.200023	-120.697267	40.3	55	Street/road_or_highway_intersection	No_	3-legged	No	No	No	From_same_direction_û_one_turn,_one_straig	Turning_Movement	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1343448.000000	September	21.000000	2009.000000	Monday	7:00:00_AM	Sherman	45.164979	-120.689913	42.98	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1343449.000000	September	3.000000	2009.000000	Thursday	8:00:00_PM	Sherman	45.695308	-120.735824	109.63	40	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	-	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1343450.000000	December	30.000000	2009.000000	Wednesday	2:00:00_PM	Sherman	45.652017	-120.875768	102.14	65	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1343451.000000	December	28.000000	2009.000000	Monday	11:00:00_AM	Sherman	45.673216	-120.829903	104.82	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1343452.000000	August	30.000000	2009.000000	Sunday	4:00:00_PM	Sherman	45.646011	-120.884237	101.56	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1343453.000000	October	23.000000	2009.000000	Friday	2:00:00_PM	Sherman	45.671083	-120.834765	104.54	65	Grade_(vertical_curve)	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Non-fatal_injury_crash	Rain__	Wet	Daylight	Injury_C
1343454.000000	August	18.000000	2009.000000	Tuesday	2:00:00_PM	Sherman	45.693012	-120.748844	108.95	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1343455.000000	December	29.000000	2009.000000	Tuesday	3:00:00_PM	Sherman	45.695338	-120.739193	109.45	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Rain__	Wet	Daylight	Injury_B
1343457.000000	December	30.000000	2009.000000	Wednesday	5:00:00_PM	Sherman	45.712145	-120.684719	112.4	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Darkness_û_no_street_lights	PDO

1343458.000000	December	30.000000	2009.000000	Wednesday	1:00:00_PM	Sherman	45.712238	-120.684558	112.41	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Ice	Daylight	PDO
1343459.000000	December	30.000000	2009.000000	Wednesday	12:00:00_PM	Sherman	45.676035	-120.820461	105.32	65	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Ice	Daylight	Injury_C
1343461.000000	December	30.000000	2009.000000	Wednesday	12:00:00_PM	Sherman	45.640333	-120.892576	101	__	Straight_roadway	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1343462.000000	October	24.000000	2009.000000	Saturday	2:00:00_PM	Sherman	45.641485	-120.890115	101.14	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Parked_motor_vehicle	&	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1343464.000000	August	1.000000	2009.000000	Saturday	3:00:00_PM	Sherman	45.702403	-120.718614	110.6	65	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1343474.000000	December	28.000000	2009.000000	Monday	7:00:00_AM	Sherman	45.722140	-120.669297	113.41	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1343554.000000	October	25.000000	2009.000000	Sunday	11:00:00_AM	Sherman	45.445972	-120.809989	0	__	Street/road_or_highway_intersection	Yes__	Cross	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1455492.000000	April	19.000000	2012.000000	Thursday	10:00:00_AM	Sherman	45.595041	-120.702119	_______	__	Driveway_or_alley_access	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1455494.000000	February	2.000000	2012.000000	Thursday	3:00:00_PM	Sherman	45.648151	-120.798564	2.68	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1455497.000000	May	23.000000	2012.000000	Wednesday	4:00:00_PM	Sherman	45.644404	-120.787783	3.28	55	Bridge_structure_(overpass_and_underpas	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1455498.000000	March	22.000000	2012.000000	Thursday	7:00:00_AM	Sherman	45.602094	-120.721956	8	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Fog___	Ice	Unknown	PDO
1455499.000000	January	19.000000	2012.000000	Thursday	5:00:00_AM	Sherman	45.470275	-120.746005	19.58	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Sleet_	Ice	Darkness_û_no_street_lights	PDO
1455500.000000	January	19.000000	2012.000000	Thursday	4:00:00_AM	Sherman	45.469886	-120.746107	19.61	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Sleet_	Ice	Darkness_û_no_street_lights	PDO
1455502.000000	January	19.000000	2012.000000	Thursday	9:00:00_PM	Sherman	45.427608	-120.767719	22.77	55	Grade_(vertical_curve)	Yes__	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Non-fatal_injury_crash	Snow	Ice	Darkness_û_no_street_lights	Injury_B
1455503.000000	May	20.000000	2012.000000	Sunday	11:00:00_AM	Sherman	45.427612	-120.767716	22.77	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1455504.000000	February	25.000000	2012.000000	Saturday	6:00:00_AM	Sherman	45.424562	-120.770031	23	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Dawn_(Twilight)	Injury_C
1455505.000000	May	28.000000	2012.000000	Monday	1:00:00_PM	Sherman	45.316028	-120.768556	31.22	55	Straight_roadway	Yes__	_	No	No	No	Overturned	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1455506.000000	March	16.000000	2012.000000	Friday	11:00:00_AM	Sherman	45.236208	-120.724617	37.43	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1455507.000000	March	3.000000	2012.000000	Saturday	7:00:00_PM	Sherman	45.229041	-120.720251	37.97	55	Grade_(vertical_curve)	No_	_	No	No	No	From_opposite_direction_û_both_going_straig	Sideswipe-meeting	Non-fatal_injury_crash	Clear_	Dry	Darkness_û_no_street_lights	Injury_C
1455508.000000	March	26.000000	2012.000000	Monday	10:00:00_AM	Sherman	45.198678	-120.696520	40.4	55	Straight_roadway	Yes__	_	No	No	No	Overturned	Non-collision	Non-fatal_injury_crash	Clear_	Wet	Daylight	Injury_C
1455509.000000	March	1.000000	2012.000000	Thursday	9:00:00_AM	Sherman	45.178381	-120.695370	41.98	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Daylight	Injury_B
1455512.000000	January	16.000000	2012.000000	Monday	4:00:00_PM	Sherman	45.669099	-120.834758	7.53	__	Driveway_or_alley_access	No_	_	No	No	No	Entering_at_angle_û_all_others	Turning_Movement	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1455513.000000	January	19.000000	2012.000000	Thursday	12:00:00_PM	Sherman	45.645805	-120.883982	101.56	65	roadway_and_considered_"located"	Yes__	_	No	No	No	Overturned	Non-collision	Property_damage_only_crash_(PDO)	Rain__	Wet	Daylight	PDO
1455516.000000	April	19.000000	2012.000000	Thursday	11:00:00_AM	Sherman	45.678404	-120.804756	106.06	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_one_stopped	Rear-End	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1455517.000000	January	20.000000	2012.000000	Friday	7:00:00_AM	Sherman	45.709620	-120.689651	112.1	65	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1455518.000000	March	13.000000	2012.000000	Tuesday	12:00:00_AM	Sherman	45.673956	-120.824807	105.06	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Overturned	Non-collision	Property_damage_only_crash_(PDO)	Rain__	Wet	Darkness_û_no_street_lights	PDO
1455522.000000	February	7.000000	2012.000000	Tuesday	8:00:00_AM	Sherman	45.632035	-120.696287	7.58	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Overturned	Non-collision	Non-fatal_injury_crash	Fog___	Ice	Daylight	Injury_C
1455523.000000	May	28.000000	2012.000000	Monday	10:00:00_PM	Sherman	45.637635	-120.692200	8.02	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1455524.000000	February	4.000000	2012.000000	Saturday	6:00:00_AM	Sherman	45.522155	-120.760312	5.1	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Dawn_(Twilight)	PDO
1455525.000000	February	7.000000	2012.000000	Tuesday	8:00:00_AM	Sherman	45.651167	-120.623967	4.26	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Overturned	Non-collision	Property_damage_only_crash_(PDO)	Fog___	Ice	Daylight	PDO
1455527.000000	January	12.000000	2012.000000	Thursday	11:00:00_AM	Sherman	45.440528	-120.609827	9.68	0	Straight_roadway	No_	_	No	No	No	From_opposite_direction_û_both_going_straig	Sideswipe-meeting	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1463324.000000	June	13.000000	2012.000000	Wednesday	1:00:00_PM	Sherman	45.704348	-120.710917	111	65	Straight_roadway	No_	_	No	No	No	From_same_direction_û_both_going_straight	Rear-End	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1463326.000000	June	16.000000	2012.000000	Saturday	12:00:00_PM	Sherman	45.669711	-120.833237	0.03	45	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1463327.000000	July	21.000000	2012.000000	Saturday	8:00:00_PM	Sherman	45.519871	-120.686218	14.5	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Dusk_(Twilight)	Injury_C
1463328.000000	June	6.000000	2012.000000	Wednesday	9:00:00_AM	Sherman	45.484064	-120.730443	18.19	25	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1463330.000000	June	7.000000	2012.000000	Thursday	4:00:00_PM	Sherman	45.515690	-120.755761	5.6	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Dry	Daylight	Injury_B
1474047.000000	May	24.000000	2012.000000	Thursday	9:00:00_AM	Sherman	45.610427	-120.727040	7.33	55	Street/road_or_highway_intersection	No_	3-legged	No	No	No	From_opposite_direction_û_one_left_turn,_or	Turning_Movement	Fatal_crash	Clear_	Dry	Daylight	Fatal
1482857.000000	November	13.000000	2012.000000	Tuesday	8:00:00_AM	Sherman	45.484182	-120.730579	_______	30	Grade_(vertical_curve)	Yes__	_	No	No	No	Parked_motor_vehicle	Angle	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1482859.000000	November	2.000000	2012.000000	Friday	1:00:00_PM	Sherman	45.671880	-120.834626	104.55	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1482860.000000	December	14.000000	2012.000000	Friday	9:00:00_PM	Sherman	45.727269	-120.659457	114	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Pedestrian	Pedestrian	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_B
1482862.000000	December	15.000000	2012.000000	Saturday	2:00:00_PM	Sherman	45.730282	-120.650808	114.46	65	Bridge_structure_(overpass_and_underpas	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Snow	Snow	Daylight	PDO
1482863.000000	December	28.000000	2012.000000	Friday	10:00:00_PM	Sherman	45.730403	-120.650618	114.47	65	Bridge_structure_(overpass_and_underpas	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Darkness_û_no_street_lights	PDO
1482866.000000	November	9.000000	2012.000000	Friday	9:00:00_PM	Sherman	45.669711	-120.833237	0.03	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Non-fatal_injury_crash	Cloudy	Dry	Darkness_û_no_street_lights	Injury_C
1482868.000000	October	25.000000	2012.000000	Thursday	5:00:00_PM	Sherman	45.669711	-120.833237	0.03	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_B
1482870.000000	September	1.000000	2012.000000	Saturday	12:00:00_PM	Sherman	45.669711	-120.833237	0.03	35	Street/road_or_highway_intersection	No_	Cross	No	No	No	Entering_at_angle_û_all_others	Angle	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1482871.000000	July	4.000000	2012.000000	Wednesday	11:00:00_PM	Sherman	45.413962	-120.781559	23.9	55	Straight_roadway	No_	_	No	No	No	Animal	Miscellaneous	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1482873.000000	September	2.000000	2012.000000	Sunday	10:00:00_PM	Sherman	45.331030	-120.768743	30.18	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Overturned	Non-collision	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1482876.000000	July	23.000000	2012.000000	Monday	5:00:00_PM	Sherman	45.121831	-120.687286	45.98	55	Straight_roadway	Yes__	_	No	No	No	Other_non-collision	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1482877.000000	August	1.000000	2012.000000	Wednesday	10:00:00_PM	Sherman	45.424563	-120.770030	23	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1482880.000000	October	15.000000	2012.000000	Monday	1:00:00_PM	Sherman	45.157724	-120.687464	43.51	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Dry	Daylight	Injury_C
1482881.000000	August	26.000000	2012.000000	Sunday	12:00:00_PM	Sherman	45.635464	-120.770093	4.4	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1482883.000000	November	12.000000	2012.000000	Monday	5:00:00_PM	Sherman	45.648786	-120.811611	2	55	Grade_(vertical_curve)	No_	_	No	No	No	Animal	Miscellaneous	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	PDO
1482885.000000	November	20.000000	2012.000000	Tuesday	8:00:00_AM	Sherman	45.304085	-120.766160	32.08	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Rain__	Wet	Daylight	PDO
1482887.000000	December	7.000000	2012.000000	Friday	6:00:00_PM	Sherman	45.636700	-120.778136	4	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Darkness_û_no_street_lights	PDO
1482889.000000	December	17.000000	2012.000000	Monday	6:00:00_PM	Sherman	45.641595	-120.784011	3.55	55	roadway_and_considered_"located"	Yes__	_	No	No	No	Overturned	Non-collision	Non-fatal_injury_crash	Cloudy	Ice	Darkness_û_no_street_lights	Injury_B
1482890.000000	July	19.000000	2012.000000	Thursday	2:00:00_PM	Sherman	45.644141	-120.787272	3.31	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Dry	Daylight	PDO
1482891.000000	December	29.000000	2012.000000	Saturday	10:00:00_AM	Sherman	45.538464	-120.692631	12.96	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Cloudy	Ice	Daylight	PDO
1482892.000000	December	24.000000	2012.000000	Monday	7:00:00_AM	Sherman	45.660844	-120.820110	1	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Ice	Dawn_(Twilight)	PDO
1482897.000000	December	29.000000	2012.000000	Saturday	7:00:00_PM	Sherman	45.143328	-120.687413	44.5	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Overturned	Non-collision	Non-fatal_injury_crash	Snow	Ice	Darkness_û_no_street_lights	Injury_A
1482898.000000	June	16.000000	2012.000000	Saturday	4:00:00_PM	Sherman	45.554906	-120.639408	3.78	55	Grade_(vertical_curve)	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_A
1482899.000000	October	28.000000	2012.000000	Sunday	7:00:00_PM	Sherman	45.602451	-120.796666	10.5	55	Straight_roadway	Yes__	_	No	No	No	Overturned	Non-collision	Non-fatal_injury_crash	Rain__	Wet	Darkness_û_no_street_lights	Injury_B
1482904.000000	November	1.000000	2012.000000	Thursday	2:00:00_PM	Sherman	45.644597	-120.876601	5.07	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1482940.000000	August	10.000000	2012.000000	Friday	5:00:00_PM	Sherman	45.613500	-120.856136	7.39	__	Straight_roadway	No_	_	No	No	No	Animal	&	Property_damage_only_crash_(PDO)	Clear_	Dry	Daylight	PDO
1482943.000000	November	18.000000	2012.000000	Sunday	2:00:00_PM	Sherman	45.696236	-120.639078	1	__	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Non-fatal_injury_crash	Cloudy	Wet	Daylight	Injury_A
1482944.000000	December	15.000000	2012.000000	Saturday	1:00:00_PM	Sherman	45.532922	-120.757728	4.35	55	roadway_and_considered_"located"	Yes__	_	No	No	No	&	Non-collision	Property_damage_only_crash_(PDO)	Snow	Ice	Daylight	PDO
1496044.000000	December	26.000000	2012.000000	Wednesday	10:00:00_AM	Sherman	45.192461	-120.695767	41	55	Straight_roadway	Yes__	_	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Ice	Daylight	PDO

Appendix G Bridge Inventory

Bridge ID	Year Built	Owner Name	Structure Name	Length (ft)	Deck Area (Sq Ft)	Functional Classification of Roadway	Carries	Crosses	Sufficiency Rating	Posting	Operating Load (Tons)	Inventory Load (Tons)
00332C	1964	ODOT	Deschutes River, Hwy 2	580	43495.9	01 Rural Interstate	I-84 (HWY 002)	DESCHUTES RIVER	86.1	A Open, No Restriction	81	49
00340	1920	City	Gurkin Canyon Creek, E. 2nd Street	21	251.99	19 Urban Local	E. 2nd Street	GURKIN CANYON CREEK	80.5	A Open, No Restriction	75	45
00817	1961	ODOT	Slaughterhouse Creek, Hwy 42	30	1259.97	02 Rural Other Princ	US 97 (HWY 042)	SLAUGHTERHOUSE CREEK	93	A Open, No Restriction	58.8	45.4
00842A	1922	ODOT	Gordon Hollow Creek, Hwy 42	8	1175.97	02 Rural Other Princ	US 97 (HWY 042)	GORDON HOLLOW CREEK	97.6	A Open, No Restriction	""	""
00845	1922	ODOT	Slaughterhouse Creek, Hwy 42	15	0	02 Rural Other Princ	US 97 (HWY 042)	SLAUGHTERHOUSE CREEK	97.8	A Open, No Restriction	""	""
00849A	1962	ODOT	Columbia River, Hwy 42 (Biggs Rapids, Sam Hill)	2567	82142	02 Rural Other Princ	US 97 (HWY 042)	COLUMBIA R. BIGGS	48.9	A Open, No Restriction	63.49	38.69
01170	1925	ODOT	Carolyn Creek, Hwy 42 (E Fork Grass Valley Creek)	7	0	02 Rural Other Princ	US 97 (HWY 042)	CAROLYN CREEK	100	A Open, No Restriction	""	""
01171	1925	ODOT	East Fork Grass Valley Creek, Hwy 42	11	0	02 Rural Other Princ	US 97 (HWY 042)	EAST FK GRASS VALLEY CR	98	A Open, No Restriction	""	""
01750A	1955	ODOT	Fulton Canyon Creek, Hwy 301 at MP 4.76	140	4829.88	07 Rural Mjr Collector	HWY 301	FULTON CANYON CREEK	79.4	A Open, No Restriction	40	24
01750B	1964	ODOT	Fulton Canyon, Hwy 2 EB	114	4753.68	01 Rural Interstate	I-84 (HWY 002) EB	FULTON CANYON	85.2	A Open, No Restriction	41	25
01833	1933	ODOT	Gurkin Canyon Creek, Hwy 2 Frontage Rd	47	1569.76	08 Rural min Collector	FRONTAGE RD HWY 02	GURKIN CANYON CREEK	60.9	A Open, No Restriction	28.9	22.3
01839	1919	ODOT	Scott Creek, Hwy 2 Frontage Rd	18	703.48	01 Rural Interstate	FRONTAGE RD HWY 02	SCOTT CREEK	76	A Open, No Restriction	""	""
02133	1936	ODOT	Spanish Hollow Creek, Hwy 2 Frontage Rd	404	14341.65	08 Rural min Collector	I-84 (HWY 002) FR	SPANISH HOLLOW CREEK	61.2	A Open, No Restriction	39	23
02133A	1964	ODOT	Spanish Hollow Creek, Hwy 2	130	14637.64	01 Rural Interstate	I-84 (HWY 002)	SPANISH HOLLOW CREEK	96.8	A Open, No Restriction	68	35
04604	1951	ODOT	Culvert, Hwy 300 at MP "".10	7	0	07 Rural Mjr Collector	OR 206 (HWY 300)	CREEK	88.9	A Open, No Restriction	""	""
04607	1963	ODOT	Cattlepass, Hwy 42 at MP 16.63	7	0	02 Rural Other Princ	US 97 (HWY 042)	CATTLEPASS	98.4	A Open, No Restriction	""	""
04623A	1962	ODOT	John Day River, Hwy 300	441	13582.47	06 Rural Minor Arterial	OR 206 (HWY 300)	JOHN DAY RIVER	58.3	A Open, No Restriction	29.9	23
05208	1947	ODOT	Buck Hollow Creek, Hwy 290	190	5965.85	07 Rural Mjr Collector	OR 216 (HWY 290)	BUCK HOLLOW CREEK	83.1	A Open, No Restriction	43	26
06922A	1925	ODOT	Grass Valley Canyon, Hwy 42	7	0	02 Rural Other Princ	US 97 (HWY 042)	CREEK	100	A Open, No Restriction	""	""
08099	1956	ODOT	Culvert, Hwy 42 at MP 22.09	7	0	02 Rural Other Princ	US 97 (HWY 042)	CULVERT	98.6	A Open, No Restriction	""	""
08613	1959	ODOT	Hay Canyon, Hwy 300	146	4511.29	06 Rural Minor Arterial	OR 206 (HWY 300)	HAY CANYON	80.9	A Open, No Restriction	48	29
08614	1959	ODOT	Grass Valley Canyon Creek, Hwy 300	185	5716.36	06 Rural Minor Arterial	OR 206 (HWY 300)	GRASS VALLEY CANYONCREEK	82.9	A Open, No Restriction	52	31
08618A	1959	ODOT	Spanish Hollow Creek, Hwy 300	8	0	06 Rural Minor Arterial	OR 206 (HWY 300)	SPANISH HOLLOW CREEK	99.3	A Open, No Restriction	""	""
08619A	1959	ODOT	Buck Canyon, Hwy 300 at MP 6.77	10	0	06 Rural Minor Arterial	OR 206 (HWY 300)	BUCK CANYON	99.5	A Open, No Restriction	""	""
08855	1962	ODOT	Spanish Hollow Creek, Hwy 42 at MP 0.39	393	13754.67	02 Rural Other Princ	US 97 (HWY 042)	SPANISH HOLLOW	65.1	A Open, No Restriction	24.1	18.6
08892	1963	ODOT	Spanish Hollow Cr, Hwy 42 Rt @ MP2.18 (Mud Hollow)	46	1614.56	09 Rural Local	MUD HOLLOW RD	SPANISH HOLLOW CREEK	40.9	A Open, No Restriction	35.9	27.7
08893	1963	ODOT	Spanish Hollow Creek, Hwy 42 at MP 2.37	130	4523.89	02 Rural Other Princ	US 97 (HWY 042)	SPANISH HOLLOW CREEK	68.3	A Open, No Restriction	26.7	20.6
08894	1963	ODOT	Spanish Hollow Creek, Hwy 42 at MP 2.48	165	5774.86	02 Rural Other Princ	US 97 (HWY 042)	SPANISH HOLLOW CREEK	63.1	A Open, No Restriction	24.3	18.7

Bridge ID	Year Built	Owner Name	Structure Name	Length (ft)	Deck Area (Sq Ft)	Functional Classification of Roadway	Carries	Crosses	Sufficiency Rating	Posting	Operating Load (Tons)	Inventory Load (Tons)
08895	1963	ODOT	Spanish Hollow Creek, Hwy 42 at MP 3.11	336	11826.91	02 Rural Other Princ	US 97 (HWY 042)	SPANISH HOLLOW CREEK	79	A Open, No Restriction	36.1	27.8
08896	1963	ODOT	Spanish Hollow Creek, Hwy 42 at MP 3.25	332	11652.92	02 Rural Other Princ	US 97 (HWY 042)	SPANISH HOLLOW CREEK	68.3	A Open, No Restriction	26.6	20.5
08942	1963	ODOT	Hwy 2 over Conn (W John Day Intchg)	36	2836.73	01 Rural Interstate	I-84 (HWY 002)	CONN RD	91.8	A Open, No Restriction	58	35
09213	1965	ODOT	Hwy 2 WB over UPRR	458	16487.6	01 Rural Interstate	I-84 (HWY 002) WB	UPRR	78.3	A Open, No Restriction	43.4	33.5
09213A	1965	ODOT	Hwy 2 EB over UPRR	450	16199.61	01 Rural Interstate	I-84 (HWY 002) EB	UPRR	77.2	A Open, No Restriction	41.7	32.2
09218	1963	ODOT	Gordon Hollow Creek, Hwy 42	7	0	02 Rural Other Princ	US 97 (HWY 042)	GORDON HOLLOW CREEK	97.7	A Open, No Restriction	""	""
09225	1965	ODOT	Hwy 2 EB over Rufus Conn	126	5291.87	01 Rural Interstate	I-84 (HWY 002) EB	RUFUS CONN	82	A Open, No Restriction	44	26
09225A	1965	ODOT	Hwy 2 WB over Rufus Conn	127	5333.87	01 Rural Interstate	I-84 (HWY 002) WB	RUFUS CONN	86.5	A Open, No Restriction	37.6	29
09232	1965	ODOT	Scott Canyon, Hwy 2 WB	186	12740.69	01 Rural Interstate	I-84 (HWY 002) WB	SCOTT CANYON WEST	75.3	A Open, No Restriction	25.5	19.7
09232A	1965	ODOT	Scott Canyon, Hwy 2 EB	189	9222.98	01 Rural Interstate	I-84 (HWY 002) EB	SCOTT CANYON EAST	79	A Open, No Restriction	29.4	22.7
09456	1966	ODOT	Fulton Canyon Creek, Hwy 301 at MP 5.64	40	1439.96	07 Rural Mjr Collector	HWY 301	FULTON CANYON CREEK	94.1	A Open, No Restriction	40.6	31.3
09997	1973	ODOT	Spanish Hollow Creek, Hwy 42 at MP 6.20	132	6098.25	02 Rural Other Princ	US 97 (HWY 042)	SPANISH HOLLOW CREEK	94.7	A Open, No Restriction	41.6	32.1
09998	1973	ODOT	Spanish Hollow Creek, Hwy 42 at MP 6.98	122	5660.66	02 Rural Other Princ	US 97 (HWY 042)	SPANISH HOLLOW CREEK	98	A Open, No Restriction	45.5	35.1
09999	1973	ODOT	Spanish Hollow Creek, Hwy 42 at MP 7.56	12	0	02 Rural Other Princ	US 97 (HWY 042)	SPANISH HOLLOW CREEK	84.4	A Open, No Restriction	60	36
0M073	1963	ODOT	China Hollow Creek, Hwy 42	9	0	02 Rural Other Princ	US 97 (HWY 042)	CHINA HOLLOW CREEK	97.2	A Open, No Restriction	""	""
0M090	1925	ODOT	Cattlepass, Hwy 282 at MP 17.59	6	182	07 Rural Mjr Collector	OR 216 (HWY 290)	CATTLEPASS	94.3	A Open, No Restriction	""	""
0M091	1947	ODOT	Michael Creek, Hwy 290	6	0	07 Rural Mjr Collector	OR 216 (HWY 290)	MICHAEL CREEK	93.7	A Open, No Restriction	""	""
0M093	1920	ODOT	Culvert, Hwy 301 at MP 6.45	25	749.98	07 Rural Mjr Collector	HWY 301	FULTON CANYON CREEK	92.2	A Open, No Restriction	60	36
0M094	1920	ODOT	Culvert, Hwy 301 at MP 6.14	13	285.99	07 Rural Mjr Collector	HWY 301	FULTON CANYON CREEK	92.2	A Open, No Restriction	""	""
0M095	1955	ODOT	Culvert, Hwy 301 at MP 6.77	15	1109.97	07 Rural Mjr Collector	HWY 301	CREEK	99.3	A Open, No Restriction	""	""
0M096	1920	ODOT	Culvert, Hwy 301 at MP 7.27	10	0	07 Rural Mjr Collector	HWY 301	CREEK	71.9	A Open, No Restriction	""	""
0M097	1920	ODOT	Fulton Canyon Creek, Hwy 301 at MP 10.26	8	0	07 Rural Mjr Collector	HWY 301	FULTON CANYON CREEK	70.8	A Open, No Restriction	25	15
0M106	1964	ODOT	Equipment Pass, Hwy 2 at MP 100.15	14	1399.97	01 Rural Interstate	I-84 (HWY 002)	EQUIPMENT PASS	75.1	A Open, No Restriction	""	""
0M116	1955	ODOT	Culvert, Hwy 301 at MP 7.05	29	0	07 Rural Mjr Collector	HWY 301	CREEK	95.3	A Open, No Restriction	60	36
0M117	1920	ODOT	Culvert, Hwy 301 at MP 7.66	8	0	07 Rural Mjr Collector	HWY 301	CREEK	88.2	A Open, No Restriction	""	""
0M118	1920	ODOT	Dry Creek, Hwy 301 at MP 12.05	15	0	07 Rural Mjr Collector	HWY 301	DRY CREEK	96.9	A Open, No Restriction	""	""
0M119	1920	ODOT	Spanish Hollow Creek, Hwy 301	10	342.99	06 Rural Minor Arterial	HWY 301	SPANISH HOLLOW CREEK	100	A Open, No Restriction	""	""
0P107	1964	ODOT	Finnigan Creek, Hwy 42	6	0	02 Rural Other Princ	US 97 (HWY 042)	FINNIGAN CREEK	100	A Open, No Restriction	""	""

Bridge ID	Year Built	Owner Name	Structure Name	Length (ft)	Deck Area (Sq Ft)	Functional Classification of Roadway	Carries	Crosses	Sufficiency Rating	Posting	Operating Load (Tons)	Inventory Load (Tons)
0P107S	1961	ODOT	Finnigan Creek, Hwy 42 SB at MP 35.28	8	0	02 Rural Other Princ	US 97 (HWY 042) SB	FINNIGAN CREEK	100	A Open, No Restriction	""	""
0P118	1966	ODOT	Creek, Hwy 301 at MP 8.97	6	0	07 Rural Mjr Collector	HWY 301	CREEK	99.3	A Open, No Restriction	""	""
0P124	1959	ODOT	Cattlepass, Hwy 300 at MP 6.08	6	0	06 Rural Minor Arterial	OR 206 (HWY 300)	CATTLEPASS	99	A Open, No Restriction	""	""
0P125	1959	ODOT	Buck Canyon & Cattlepass, Hwy 300 at MP 7.31	17	0	06 Rural Minor Arterial	OR 206 (HWY 300)	CATTLEPASS & DRAINAGE	99.8	A Open, No Restriction	""	""
0P126	1959	ODOT	Buck Canyon & Cattlepass, Hwy 300 at MP 7.55	16	0	06 Rural Minor Arterial	OR 206 (HWY 300)	CATTLEPASS & DRAINAGE	99.8	A Open, No Restriction	""	""
0P127	1959	ODOT	Buck Canyon & Cattlepass, Hwy 300 at MP 8.52	16	2783.93	06 Rural Minor Arterial	OR 206 (HWY 300)	CATTLEPASS & DRAINAGE	99.8	A Open, No Restriction	""	""
0P128	1959	ODOT	Cottonwood Canyon & Cattlepass, Hwy 300 at MP 9.73	7	559.99	06 Rural Minor Arterial	OR 206 (HWY 300)EB	COTTONWOOD CANYON	92.4	A Open, No Restriction	""	""
0P129	1959	ODOT	Drainage & Cattlepass, Hwy 300 at MP 10.65	6	0	06 Rural Minor Arterial	OR 206 (HWY 300)	CATTLEPASS & DRAINAGE	92.4	A Open, No Restriction	""	""
0P130	1959	ODOT	Cottonwood Canyon & Cattlepass, Hwy300 at MP 11.07	7	0	06 Rural Minor Arterial	OR 206 (HWY 300)EB	COTTONWOOD CANYON	92.4	A Open, No Restriction	""	""
0P131	1959	ODOT	Cottonwood Canyon & Cattlepass, Hwy300 at MP 11.28	7	0	06 Rural Minor Arterial	OR 206 (HWY 300)EB	COTTONWOOD CANYON	92.4	A Open, No Restriction	""	""
0P132	1959	ODOT	Cattlepass, Hwy 300 at MP 14.68	7	0	06 Rural Minor Arterial	OR 206 (HWY 300)	CATTLEPASS	89	A Open, No Restriction	""	""
0P141	1964	ODOT	Helms Creek, Hwy 2	22	5609.86	01 Rural Interstate	I-84 (HWY 002)	HELMS CREEK	65	A Open, No Restriction	60	36
0P184	1959	ODOT	Cattlepass, Hwy 300 at MP 3.61	7	412.99	06 Rural Minor Arterial	OR 206 (HWY 300)	CATTLEPASS	99.3	A Open, No Restriction	""	""
0P416	1973	ODOT	Cattlepass, Hwy 42 at MP 6.55	7	0	02 Rural Other Princ	US 97 (HWY 042)	CATTLEPASS	80	A Open, No Restriction	""	""
0P417	1973	ODOT	Cattlepass, Hwy 42 at MP 7.66	7	909.98	02 Rural Other Princ	US 97 (HWY 042)	CATTLEPASS	80	A Open, No Restriction	""	""
0P418	1973	ODOT	Cattlepass, Hwy 42 at MP 7.73	7	909.98	02 Rural Other Princ	US 97 (HWY 042)	CATTLEPASS	65	A Open, No Restriction	""	""
0P419	1973	ODOT	Cattlepass, Hwy 42 at MP 9.16	7	923.98	02 Rural Other Princ	US 97 (HWY 042)	CATTLEPASS	84	A Open, No Restriction	""	""
0P420	1973	ODOT	Cattlepass, Hwy 42 at MP 10.85	7	923.98	06 Rural Minor Arterial	US 97 (HWY 042)	CATTLEPASS	80	A Open, No Restriction	""	""
0P434	1959	ODOT	South Fork Spanish Hollow Creek, Hwy 300	7	0	06 Rural Minor Arterial	HWY 300	CREEK	88	A Open, No Restriction	""	""
13548	1973	ODOT	Hwy 301 over Hwy 42 (Wasco Intchg)	208	7238.22	06 Rural Minor Arterial	HWY 301	O-XING HWY 42(WASCO INT)	96.1	A Open, No Restriction	43.9	33.8
16072	1973	ODOT	Gordon Hollow Creek, Hwy 301	12	0	07 Rural Mjr Collector	HWY 301	GORDON HOLLOW CREEK	98.6	A Open, No Restriction	""	""
18017	1957	City	Grass Valley Canyon, Blagg Ln	23	602.76	09 Rural Local	BLAGG LANE	GRASS VALLEY CANYON	64	A Open, No Restriction	25	15
18715	1986	ODOT	Cattlepass, Hwy 42 at MP 25.87	7	4499.89	02 Rural Other Princ	US 97 (HWY 042)	CATTLEPASS	98	A Open, No Restriction	75	45
20074	2004	County	Barnum Canyon, Monkland Lane	20	0	07 Rural Mjr Collector	MONKLAND LANE	BARNUM CANYON	100	A Open, No Restriction	60	36
20912	1995	State Park	Bridge on River Trail by Blackberry	0	-10.76	Not Applicable	State Park Trail	Eagle Creek	-2	A Open, No Restriction	""	""
21487	2014	ODOT	Hwy 42 over UPRR	145	12759.69	02 Rural Other Princ	US 97 (HWY 042)	UPRR	78.5	G New Structure, not yet Open to Traffic	75	45
21488	2014	ODOT	Hwy 42 over Hwy 2	113	9491.77	02 Rural Other Princ	US 97 (HWY 042)	I-84 (HWY 002)	73.8	G New Structure, not yet Open to Traffic	75	16.2
558391	1957	County	Grass Valley Canyon, Monkland Ln	88	2529.46	07 Rural Mjr Collector	MONKLAND LANE	GRASS VALLEY CANYON	91.4	A Open, No Restriction	61	37

Bridge ID	Year Built	Owner Name	Structure Name	Length (ft)	Deck Area (Sq Ft)	Functional Classification of Roadway	Carries	Crosses	Sufficiency Rating	Posting	Operating Load (Tons)	Inventory Load (Tons)
558812	1960	County	Grass Valley Canyon, Lone Rock Rd	114	3304.44	07 Rural Mjr Collector	LONE ROCK ROAD	GRASS VALLEY CANYON	85.3	A Open, No Restriction	47	28
55C002	1919	County	Hay Canyon, Hay Canyon Rd	34	1356.22	07 Rural Mjr Collector	HAY CANYON ROAD	HAY CANYON	96.3	A Open, No Restriction	56	34
55C003	1920	County	Finnegan Creek, Finnegan Rd	30	871.86	08 Rural min Collector	FINNEGAN ROAD	FINNEGAN CREEK	38.7	A Open, No Restriction	46	27
55C004	1957	County	Rosebush Creek, Rutledge Rd	28	828.8	07 Rural Mjr Collector	RUTLEDGE ROAD	ROSEBUSH CREEK	80	A Open, No Restriction	48	29
55C010	1930	County	Mud Hollow Canyon, Mud Hollow Rd	31	688.87	09 Rural Local	MUD HOLLOW RD	MUD HOLLOW CANYON	91.1	A Open, No Restriction	48	29
55C011	1970	County	Barnum Canyon, Henrichs Rd	26	774.98	09 Rural Local	HENRICHS ROAD	BARNUM CANYON	85	A Open, No Restriction	91	54
55C012	1957	County	Rosebush Creek, Blagg Rd	33	861.09	09 Rural Local	BLAGG ROAD	ROSEBUSH CREEK	88.5	A Open, No Restriction	43	26
55C013	1961	County	Hay Canyon, Hay Canyon Rd	38	1173.24	09 Rural Local	HAY CANYON ROAD	HAY CANYON	94.1	A Open, No Restriction	52	31
W1750B	1964	ODOT	Fulton Canyon, Hwy 2 WB	114	4753.68	01 Rural Interstate	I-84 (HWY 002) WB	FULTON CANYON	85.2	A Open, No Restriction	41	25

Appendix H 2035 Operational Analysis Worksheets & Queue Length Calculations

Sherman County TSP Update

Vistro File: H:\...\Future Conditions-ajg-no biggs.vistro — Scenario: Base Scenario

Report File: H:\...\Future Conditions-ajg-no biggs.pdf — 10/7/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Van Gilder Road / OR 206	Two-way stop	HCM2010	NBL	0.022	8.9	A
2	Klondike Road / OR 206	Two-way stop	HCM2010	WBL	0.000	8.7	A
6	OR 206 / US 97 NB	Two-way stop	HCM2010	NBT	0.000	9.4	A
7	OR 206 / US 97 SB	Two-way stop	HCM2010	SBT	0.000	9.3	A
8	Clark St /OR 206/Old Wasco Heppner Hwy	Two-way stop	HCM2010	WBT	0.023	10.4	B
9	Clark St / OR 206	Two-way stop	HCM2010	NWBL	0.001	9.7	A
10	I-84 WB / John Day Dam Road	Two-way stop	HCM2010	WBT	0.000	10.2	B
11	I-84 EB / John Day Dam Road	Two-way stop	HCM2010	EBT	0.003	9.9	A
12	Krusow St/OR 216 / Mill St/US 97	Two-way stop	HCM2010	EBL	0.006	10.3	B
13	Lone Rock Road / US 97	Two-way stop	HCM2010	NWBT	0.004	12.2	B
14	4th Street / US 97	Two-way stop	HCM2010	SEBT	0.000	12.6	B

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
#1: Van Gilder Road / OR 206

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name						
Base Volume Input [veh/h]	19	0	20	15	0	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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]	19	0	20	15	0	21
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	6	4	0	6
Total Analysis Volume [veh/h]	21	0	22	17	0	23
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	8.53	0.00	0.00	7.29	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.07	0.07	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	1.69	1.69	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.86		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.24					
Intersection LOS	A					

Intersection Level Of Service Report
#2: Klondike Road / OR 206

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Westbound		Northwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name						
Base Volume Input [veh/h]	0	3	20	0	0	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	3	20	0	0	16
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	6	0	0	4
Total Analysis Volume [veh/h]	0	3	22	0	0	18
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.00
d_M, Delay for Movement [s/veh]	8.71	8.42	0.00	0.00	7.26	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.21	0.21	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.42		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.59					
Intersection LOS	A					

Intersection Level Of Service Report
#6: OR 206 / US 97 NB

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):	0.000

Intersection Setup

Name												
Approach	Northbound			Eastbound			Westbound			Southeastbound		
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]	45.00			55.00			55.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	0	0	1	0	25	0	0	26	15	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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	0	1	0	25	0	0	26	15	0	0	0
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	1.000	1.000	0.950	0.950	1.000	1.000	1.000
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	0	0	0	7	0	0	7	4	0	0	0
Total Analysis Volume [veh/h]	0	0	1	0	26	0	0	27	16	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free	Stop
Flared Lane	no			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	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]	8.86	9.39	8.43	7.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A	A	A			A	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.43			0.00			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.12											
Intersection LOS	A											

Intersection Level Of Service Report
#7: OR 206 / US 97 SB

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
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]	45.00			55.00			55.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	3	0	0	0	23	0	3	25	0	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	3	0	0	0	23	0	3	25	0	0	0	0
Peak Hour Factor	0.950	0.950	0.950	1.000	0.950	0.950	0.950	0.950	1.000	1.000	1.000	1.000
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	0	0	0	6	0	1	7	0	0	0	0
Total Analysis Volume [veh/h]	3	0	0	0	24	0	3	26	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free	Stop
Flared Lane	no			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	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]	8.84	9.33	8.44	0.00	0.00	0.00	7.27	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A		A	A	A	A				
95th-Percentile Queue Length [veh]	0.01	0.01	0.01	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.24	0.24	0.24	0.00	0.00	0.00	1.39	1.39	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.84			0.00			0.75			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.86											
Intersection LOS	A											

Intersection Level Of Service Report
#8: Clark St /OR 206/Old Wasco Heppner Hwy

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name												
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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	28	60	4	1	52	1	4	7	18	12	15	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	28	60	4	1	52	1	4	7	18	12	15	4
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960
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]	7	16	1	0	14	0	1	2	5	3	4	1
Total Analysis Volume [veh/h]	29	63	4	1	54	1	4	7	19	13	16	4
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	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.00
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	7.35	0.00	0.00	9.99	10.30	8.70	10.12	10.37	8.83
Movement LOS	A	A	A	A	A	A	A	B	A	B	B	A
95th-Percentile Queue Length [veh]	0.20	0.20	0.20	0.11	0.11	0.11	0.11	0.11	0.11	0.14	0.14	0.14
95th-Percentile Queue Length [ft]	4.95	4.95	4.95	2.84	2.84	2.84	2.65	2.65	2.65	3.49	3.49	3.49
d_A, Approach Delay [s/veh]	2.23			0.13			9.25			10.09		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	3.87											
Intersection LOS	B											

Intersection Level Of Service Report
#9: Clark St / OR 206

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	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	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name						
Base Volume Input [veh/h]	44	0	32	47	1	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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]	44	0	32	47	1	48
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	0	9	13	0	13
Total Analysis Volume [veh/h]	49	0	36	52	1	53
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	0.02	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	7.37	0.00	9.71	8.73
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.18	0.18	0.17	0.17
95th-Percentile Queue Length [ft]	0.00	0.00	4.49	4.49	4.21	4.21
d_A, Approach Delay [s/veh]	0.00		3.01		8.75	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.86					
Intersection LOS	A					

Intersection Level Of Service Report
#10: I-84 WB / John Day Dam Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name												
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
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]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	23	0	2	0	0	0	36	11	0	0	27	39
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	23	0	2	0	0	0	36	11	0	0	27	39
Peak Hour Factor	0.950	0.950	0.950	1.000	1.000	1.000	0.950	0.950	1.000	1.000	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]	6	0	1	0	0	0	9	3	0	0	7	10
Total Analysis Volume [veh/h]	24	0	2	0	0	0	38	12	0	0	28	41
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			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.54	10.16	8.51	0.00	0.00	0.00	7.41	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	B	A				A	A			A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.10	0.00	0.00	0.00	0.10	0.10	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	2.41	2.41	2.41	0.00	0.00	0.00	2.53	2.53	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.46			0.00			5.63			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.64											
Intersection LOS	B											

Intersection Level Of Service Report
#11: I-84 EB / John Day Dam Road

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name												
Approach	Eastbound			Southwestbound			Northwestbound			Southeastbound		
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]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	no			no			no			no		

Volumes

Name												
Base Volume Input [veh/h]	3	2	35	0	0	0	0	44	21	3	48	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	3	2	35	0	0	0	0	44	21	3	48	0
Peak Hour Factor	0.950	0.950	0.950	1.000	1.000	1.000	1.000	0.950	0.950	0.950	0.950	1.000
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	1	9	0	0	0	0	12	6	1	13	0
Total Analysis Volume [veh/h]	3	2	37	0	0	0	0	46	22	3	51	0
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			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	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	0.04	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]	9.34	9.87	8.70	0.00	0.00	0.00	0.00	0.00	0.00	7.35	0.00	0.00
Movement LOS	A	A	A					A	A	A	A	
95th-Percentile Queue Length [veh]	0.13	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.00
95th-Percentile Queue Length [ft]	3.32	3.32	3.32	0.00	0.00	0.00	0.00	0.00	0.00	2.74	2.74	0.00
d_A, Approach Delay [s/veh]	8.80			0.00			0.00			0.41		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.39											
Intersection LOS	A											

Intersection Level Of Service Report
#12: Krusow St/OR 216 / Mill St/US 97

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):	0.006

Intersection Setup

Name						
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	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	yes		yes		yes	

Volumes

Name						
Base Volume Input [veh/h]	0	124	165	11	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	124	165	11	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	43	3	1	0
Total Analysis Volume [veh/h]	0	131	174	12	4	0
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	0.01	0.00
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.31	9.20
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.44	0.44
d_A, Approach Delay [s/veh]	0.00		0.00		10.31	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	B					

Intersection Level Of Service Report
#13: Lone Rock Road / US 97

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
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			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name												
Base Volume Input [veh/h]	5	111	16	20	201	6	17	2	42	5	5	5
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	5	111	16	20	201	6	17	2	42	5	5	5
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	29	4	5	53	2	4	1	11	1	1	1
Total Analysis Volume [veh/h]	5	117	17	21	212	6	18	2	44	5	5	5
Pedestrian Volume [ped/h]	1			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	0.03	0.00	0.05	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.67	0.00	0.00	7.52	0.00	0.00	12.04	12.23	9.33	12.19	12.00	9.53
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh]	0.34	0.34	0.34	0.59	0.59	0.59	0.28	0.28	0.28	0.08	0.08	0.08
95th-Percentile Queue Length [ft]	8.58	8.58	8.58	14.74	14.74	14.74	6.89	6.89	6.89	1.95	1.95	1.95
d_A, Approach Delay [s/veh]	0.28			0.66			10.18			11.24		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.22											
Intersection LOS	B											

Intersection Level Of Service Report
#14: 4th Street / US 97

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
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			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name												
Base Volume Input [veh/h]	24	135	0	3	201	13	0	2	3	28	0	31
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	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]	24	135	0	3	201	13	0	2	3	28	0	31
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]	6	36	0	1	53	3	0	1	1	7	0	8
Total Analysis Volume [veh/h]	25	142	0	3	212	14	0	2	3	29	0	33
Pedestrian Volume [ped/h]	1			0			0			3		
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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.04
d_M, Delay for Movement [s/veh]	7.75	0.00	0.00	7.50	0.00	0.00	12.23	12.15	9.01	12.41	12.63	10.01
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh]	0.43	0.43	0.43	0.56	0.56	0.56	0.02	0.02	0.02	0.32	0.32	0.32
95th-Percentile Queue Length [ft]	10.69	10.69	10.69	14.12	14.12	14.12	0.55	0.55	0.55	7.89	7.89	7.89
d_A, Approach Delay [s/veh]	1.16			0.10			10.27			11.13		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.07											
Intersection LOS	B											

Sherman County TSP Update

Vistro File: H:\...\Future Conditions-ajg-no biggs.vistro Scenario: Base Scenario

Report File: H:\...\Future Conditions-ajg-no biggs.pdf 10/7/2015

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
1	Van Gilder Road / OR 206	19	0	20	15	0	21	75

ID	Intersection Name	Westbound		Northwestbound		Southeastbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Klondike Road / OR 206	0	3	20	0	0	16	39

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
6	OR 206 / US 97 NB	0	0	1	0	25	26	15	67

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
7	OR 206 / US 97 SB	3	0	0	23	0	3	25	54

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Clark St /OR 206/Old Wasco Heppner Hwy	28	60	4	1	52	1	4	7	18	12	15	4	206

ID	Intersection Name	Northbound		Southbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
9	Clark St / OR 206	44	0	32	47	1	48	172

ID	Intersection Name	Westbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
10	I-84 WB / John Day Dam Road	23	0	2	36	11	27	39	138

ID	Intersection Name	Eastbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
11	I-84 EB / John Day Dam Road	3	2	35	44	21	3	48	156

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
12	Krusow St/OR 216 / Mill St/US 97	0	124	165	11	4	0	304

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Lone Rock Road / US 97	5	111	16	20	201	6	17	2	42	5	5	5	435

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	4th Street / US 97	24	135	0	3	201	13	0	2	3	28	0	31	440

Sherman County TSP Update

Vistro File: H:\...\Future Conditions-ajg-no biggs.vistro | Scenario: Base Scenario

Report File: H:\...\Future Conditions-ajg-no biggs.pdf | 10/7/2015

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
1	Van Gilder Road / OR 206	Final Base	19	0	20	15	0	21	75
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**19**	**0**	**20**	**15**	**0**	**21**	**75**

ID	Intersection Name	Volume Type	Westbound		Northwestbound		Southeastbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Klondike Road / OR 206	Final Base	0	3	20	0	0	16	39
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**3**	**20**	**0**	**0**	**16**	**39**

ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
6	OR 206 / US 97 NB	Final Base	0	0	1	0	25	26	15	67
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**1**	**0**	**25**	**26**	**15**	**67**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
7	OR 206 / US 97 SB	Final Base	3	0	0	23	0	3	25	54
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**3**	**0**	**0**	**23**	**0**	**3**	**25**	**54**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Clark St /OR 206/Old Wasco Heppner Hwy	Final Base	28	60	4	1	52	1	4	7	18	12	15	4	206
		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	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**28**	**60**	**4**	**1**	**52**	**1**	**4**	**7**	**18**	**12**	**15**	**4**	**206**

ID	Intersection Name	Volume Type	Northbound		Southbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
9	Clark St / OR 206	Final Base	44	0	32	47	1	48	172
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**44**	**0**	**32**	**47**	**1**	**48**	**172**

ID	Intersection Name	Volume Type	Westbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
10	I-84 WB / John Day Dam Road	Final Base	23	0	2	36	11	27	39	138
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**23**	**0**	**2**	**36**	**11**	**27**	**39**	**138**

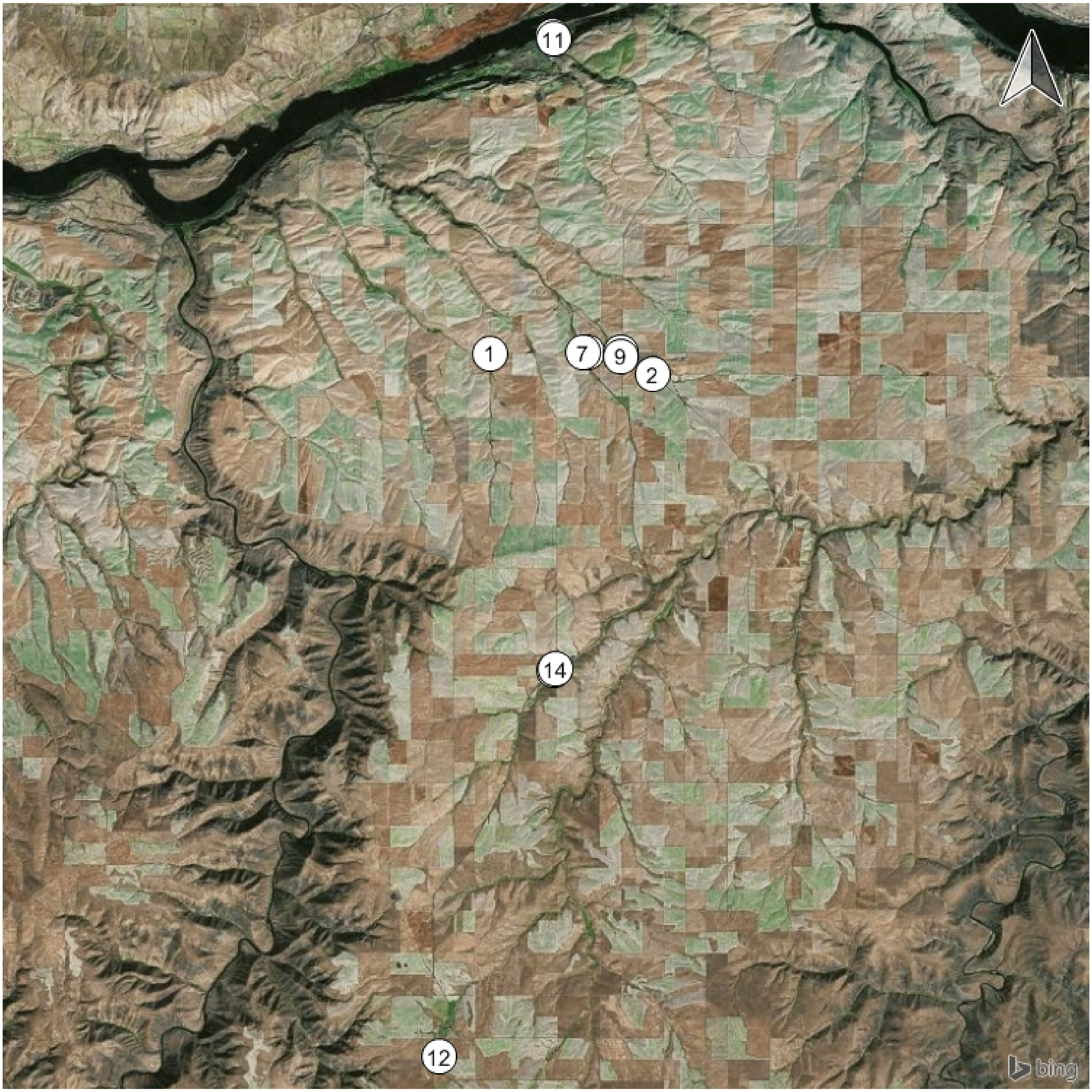
ID	Intersection Name	Volume Type	Eastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
11	I-84 EB / John Day Dam Road	Final Base	3	2	35	44	21	3	48	156
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**3**	**2**	**35**	**44**	**21**	**3**	**48**	**156**

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
12	Krusow St/OR 216 / Mill St/US 97	Final Base	0	124	165	11	4	0	304
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**124**	**165**	**11**	**4**	**0**	**304**

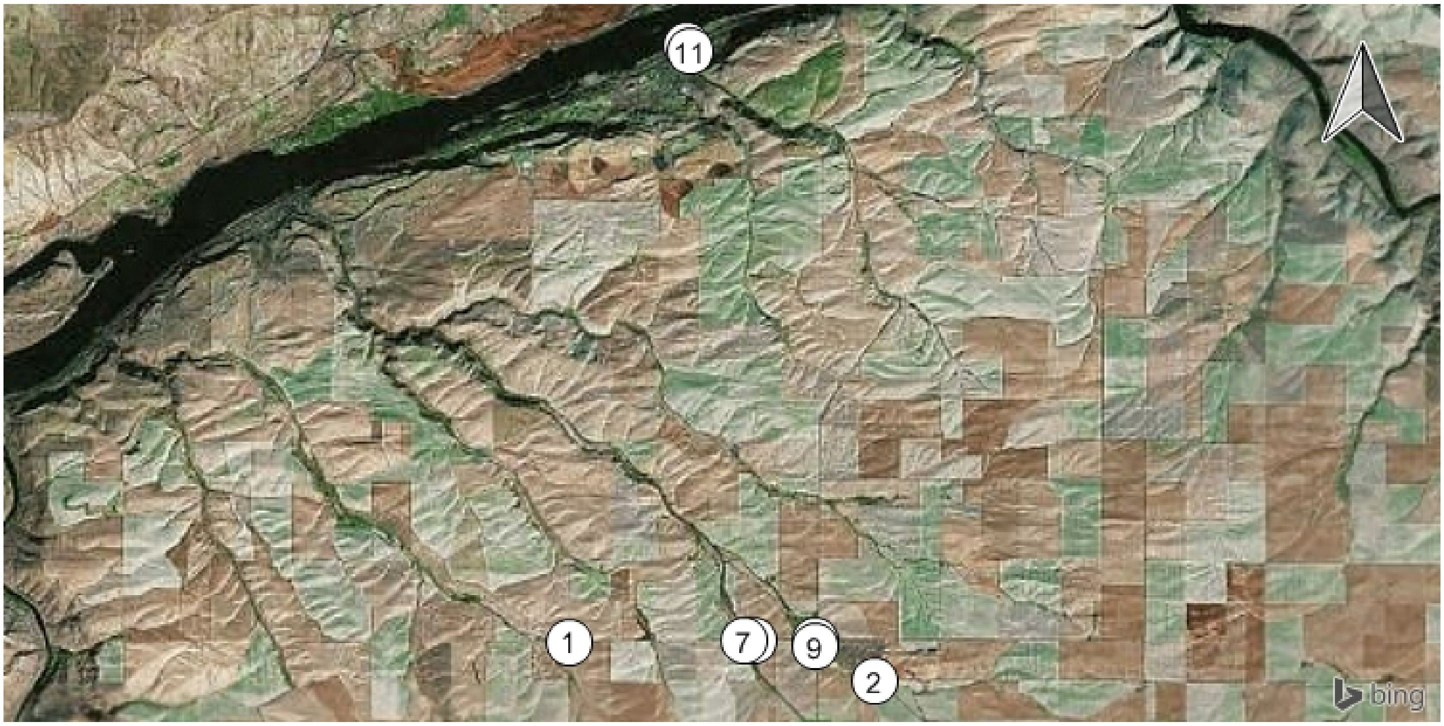
ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Lone Rock Road / US 97	Final Base	5	111	16	20	201	6	17	2	42	5	5	5	435
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**5**	**111**	**16**	**20**	**201**	**6**	**17**	**2**	**42**	**5**	**5**	**5**	**435**

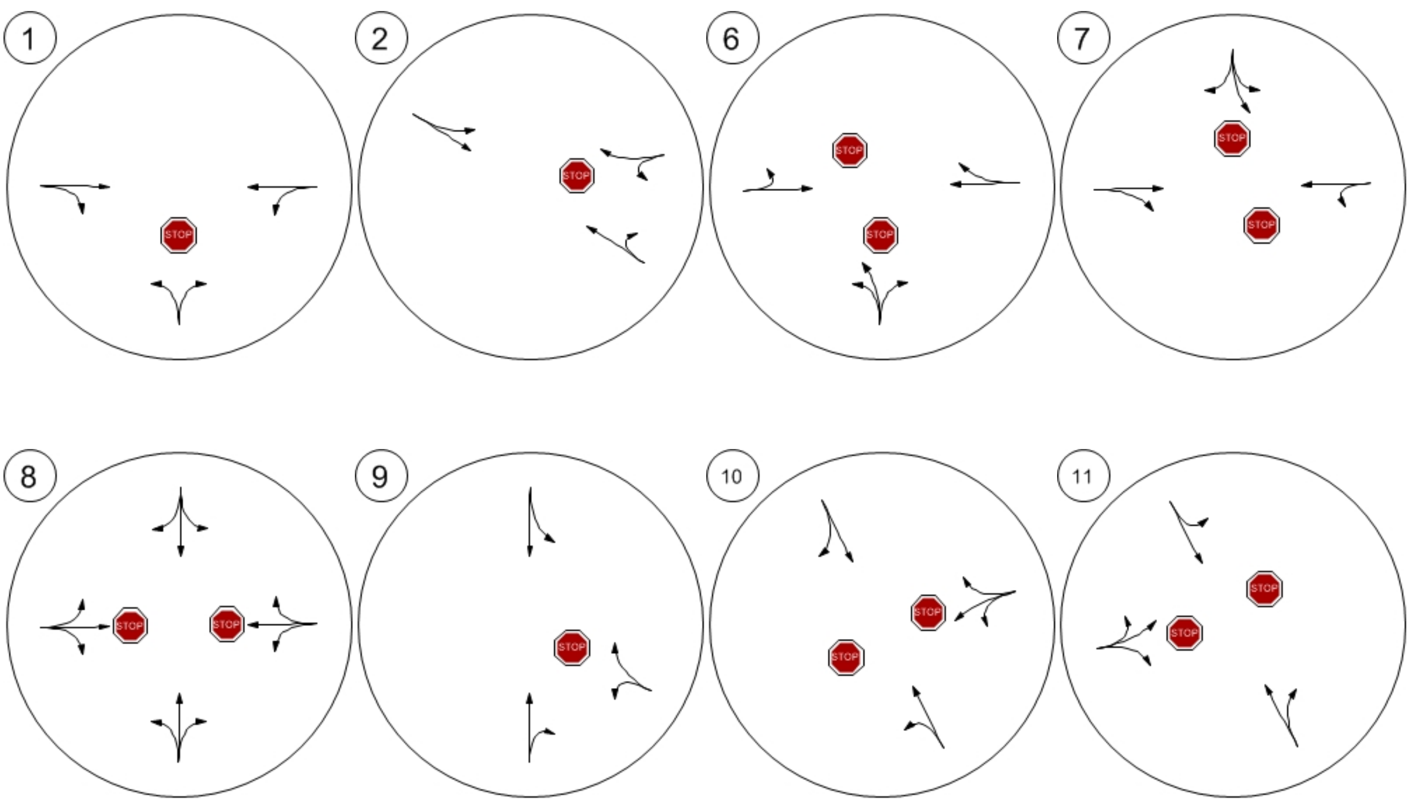
ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	4th Street / US 97	Final Base	24	135	0	3	201	13	0	2	3	28	0	31	440
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**24**	**135**	**0**	**3**	**201**	**13**	**0**	**2**	**3**	**28**	**0**	**31**	**440**

Study Intersections

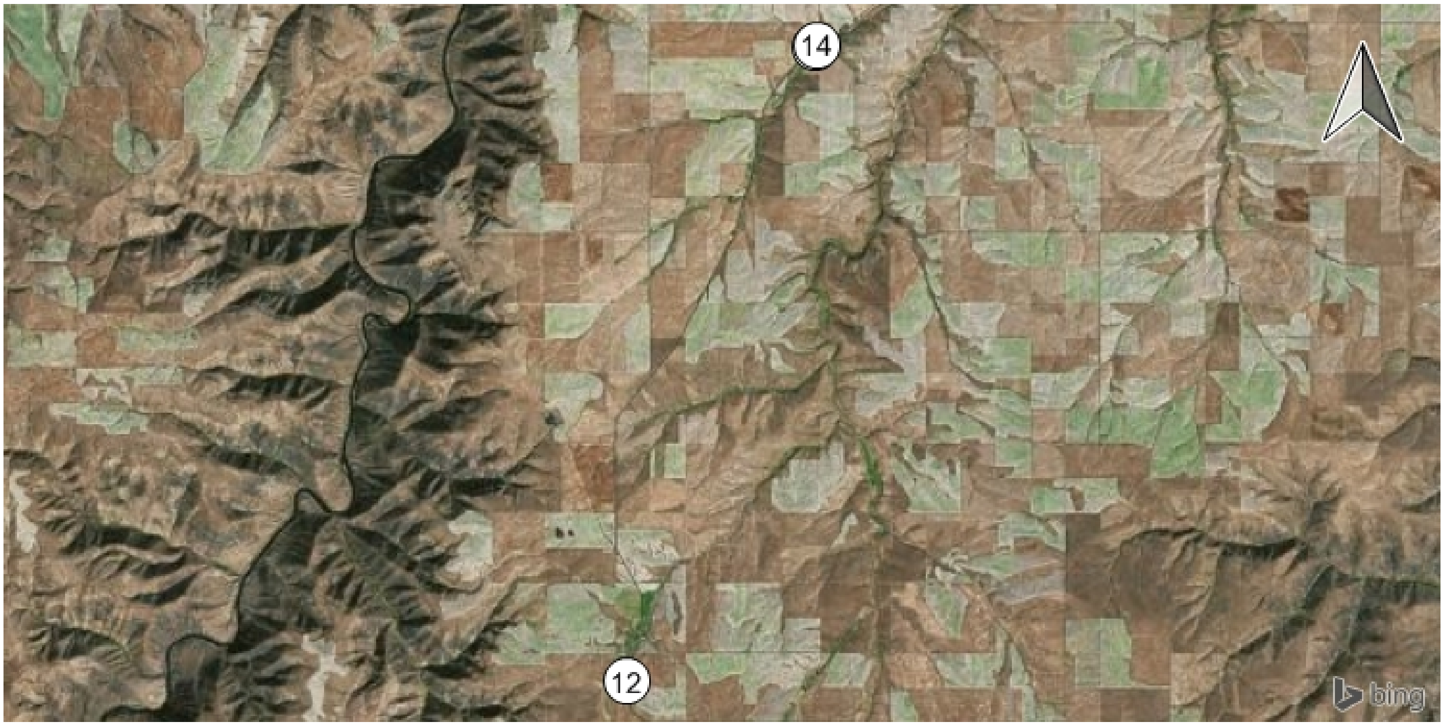


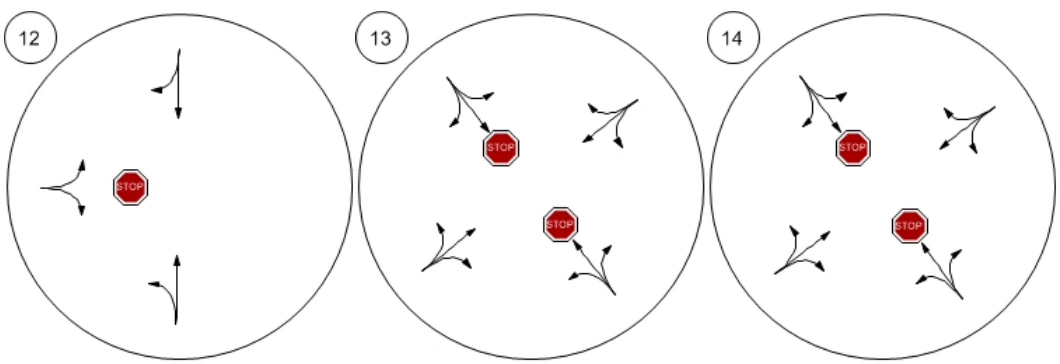
Lane Configuration and Traffic Control



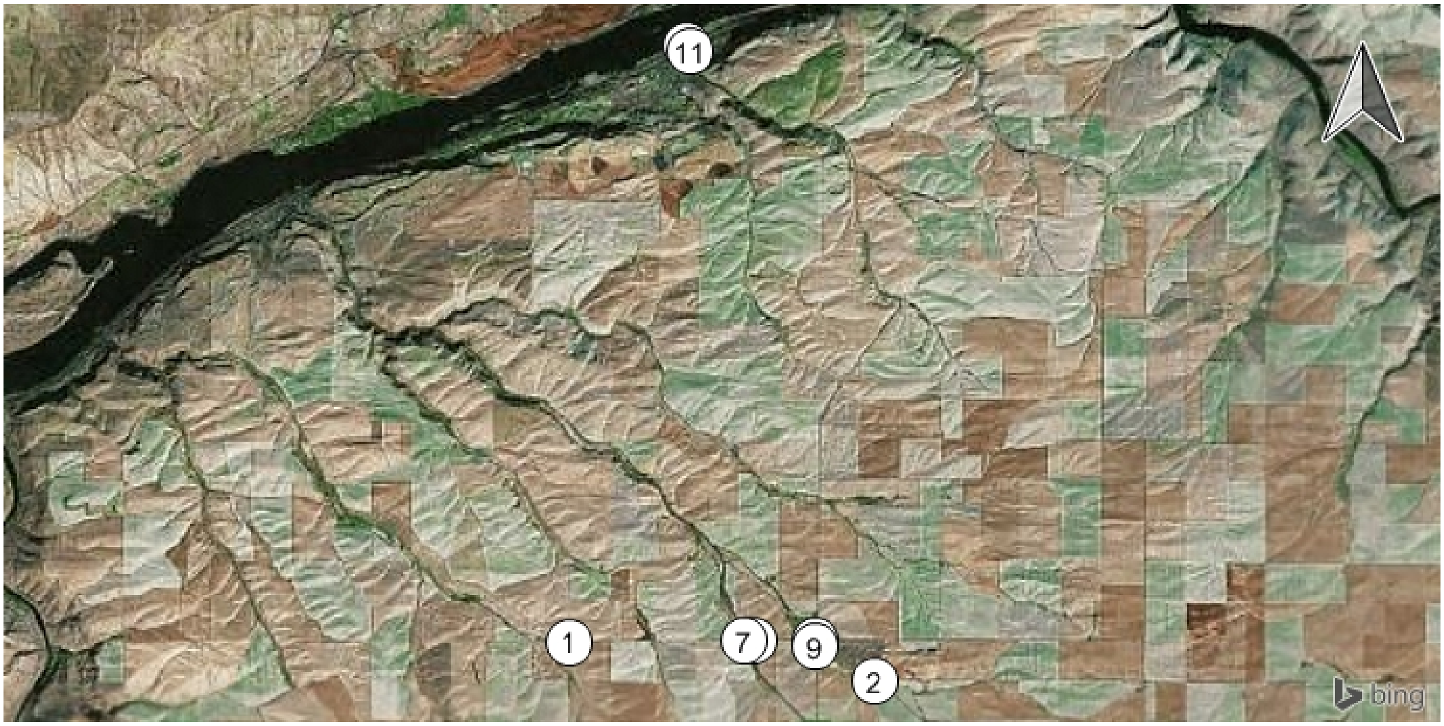


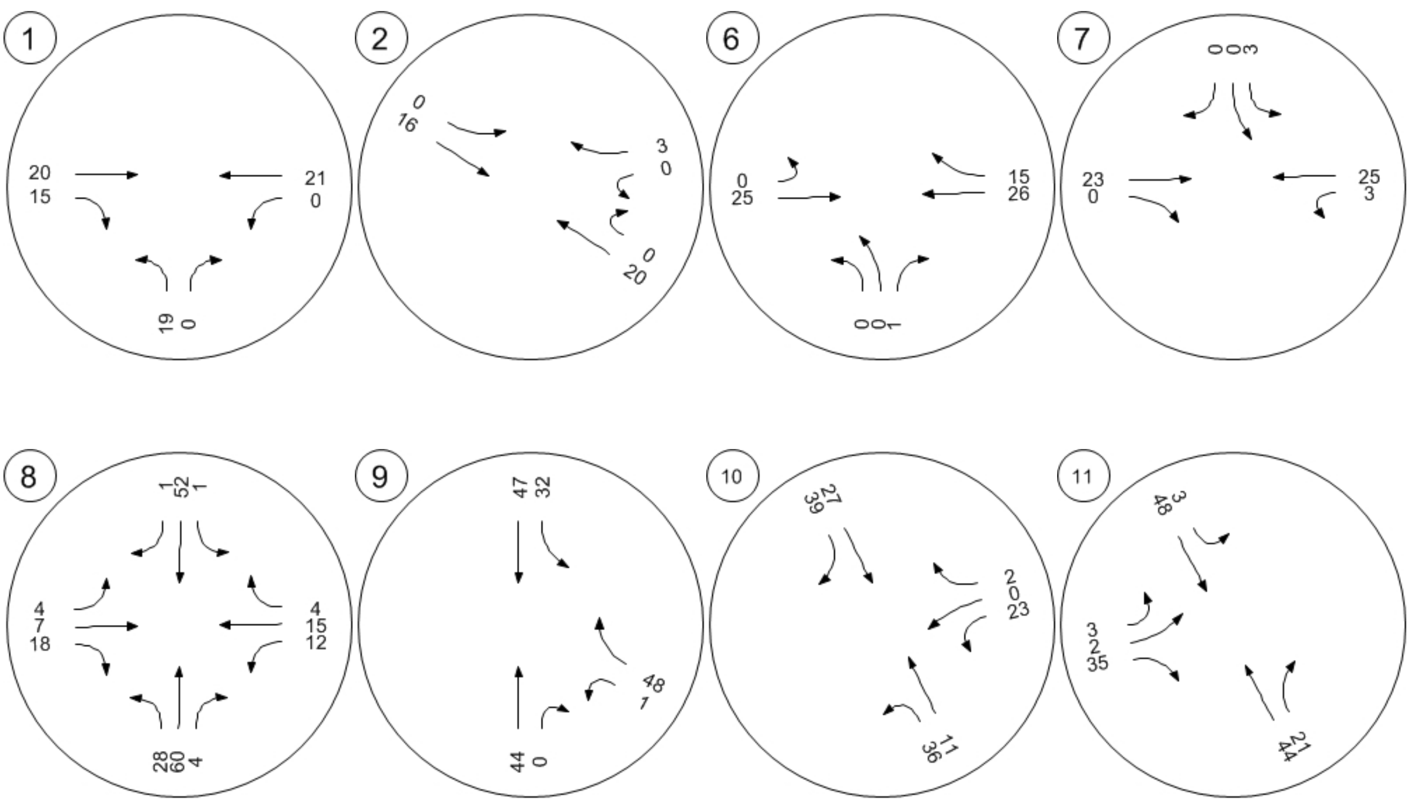
Lane Configuration and Traffic Control



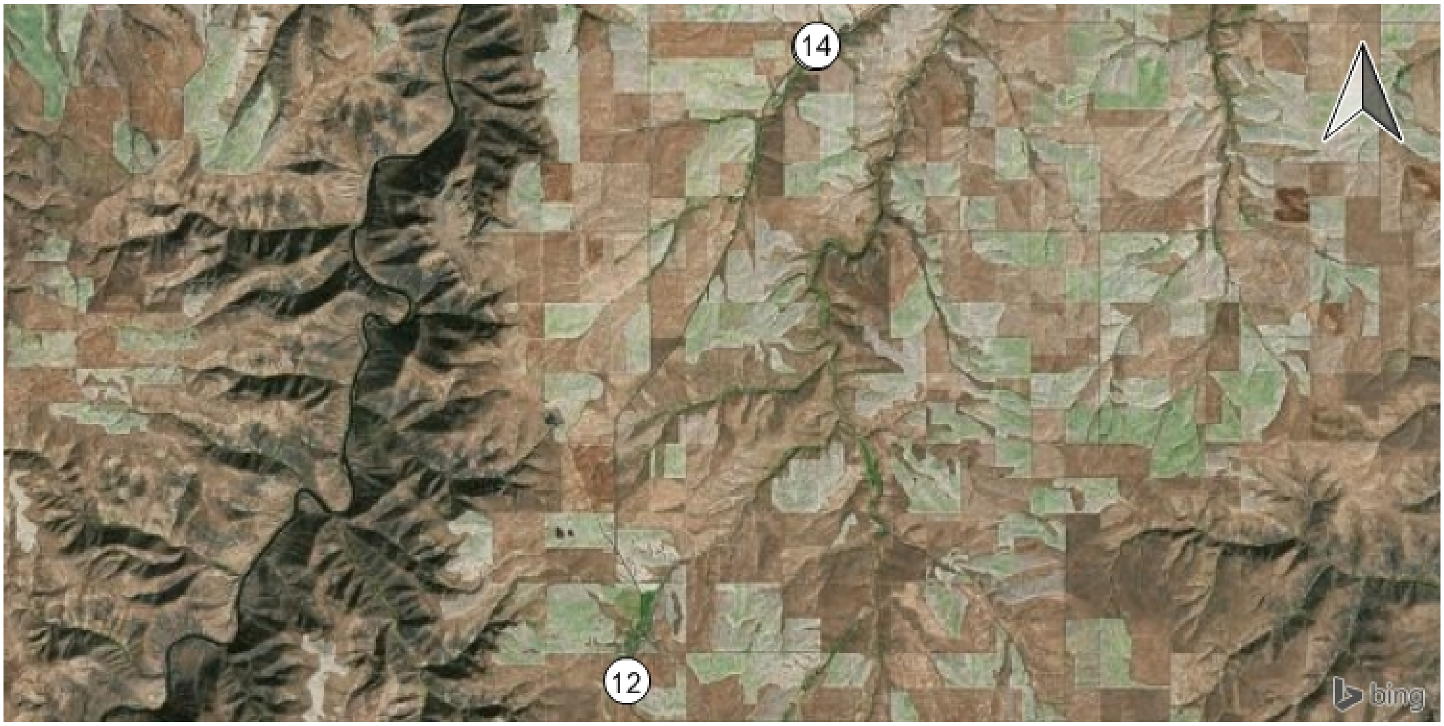


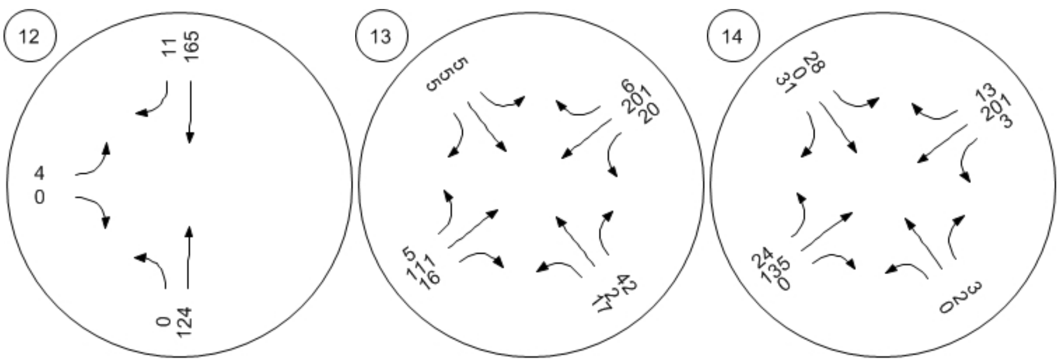
Traffic Volume - Base Volume



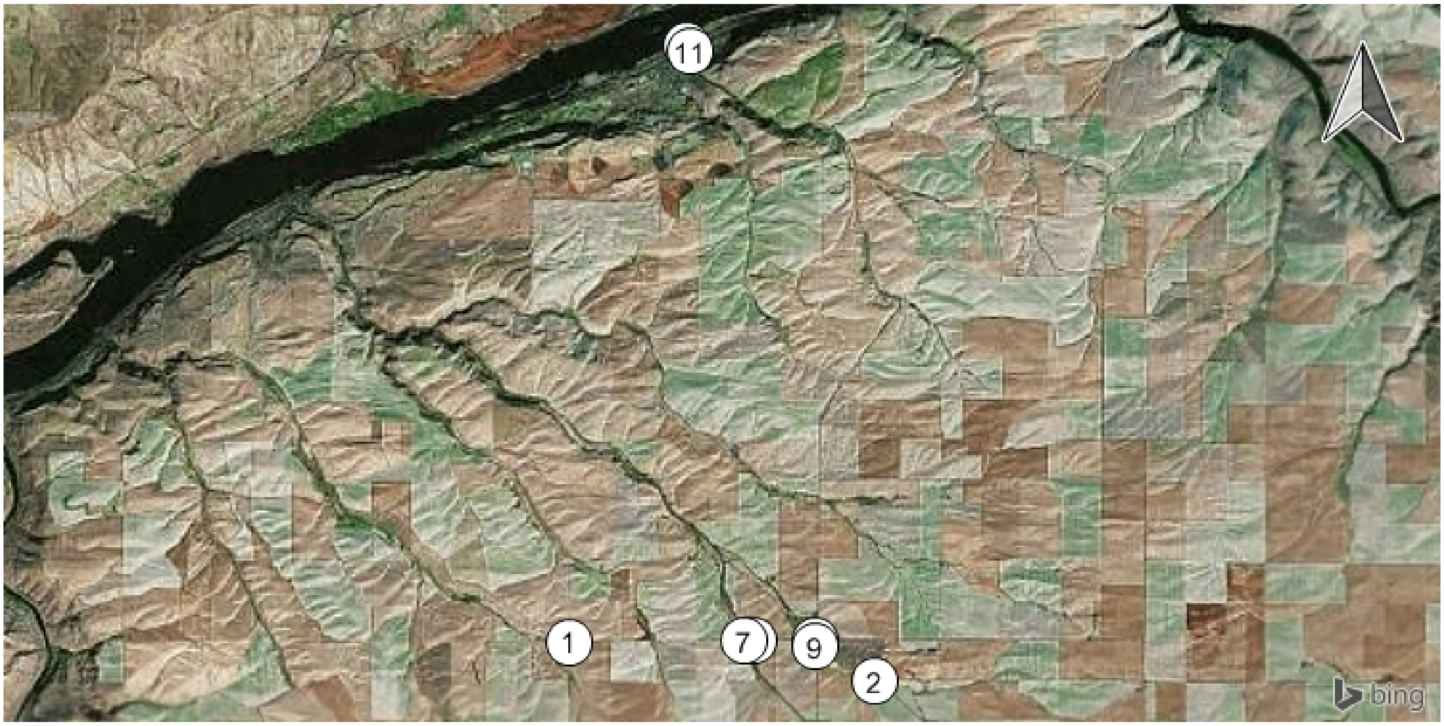


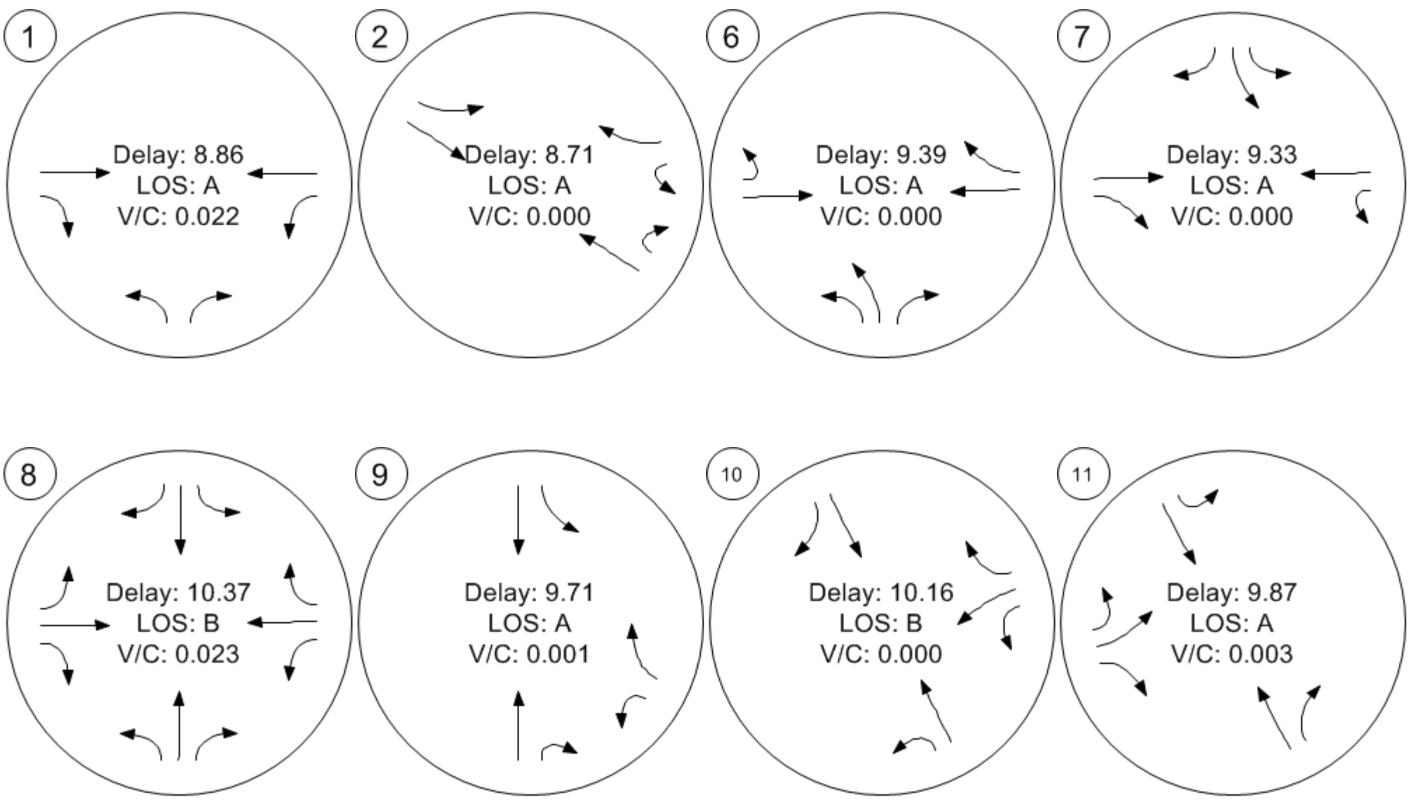
Traffic Volume - Base Volume



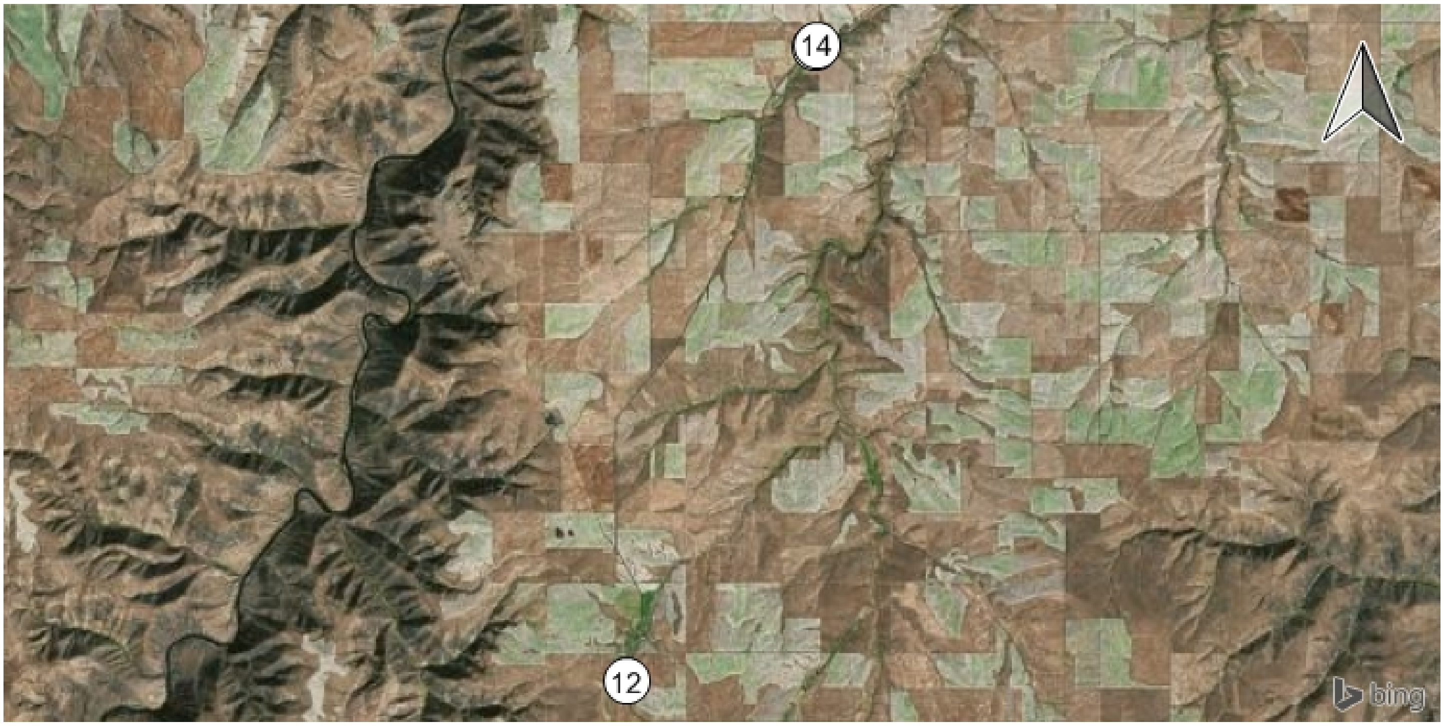


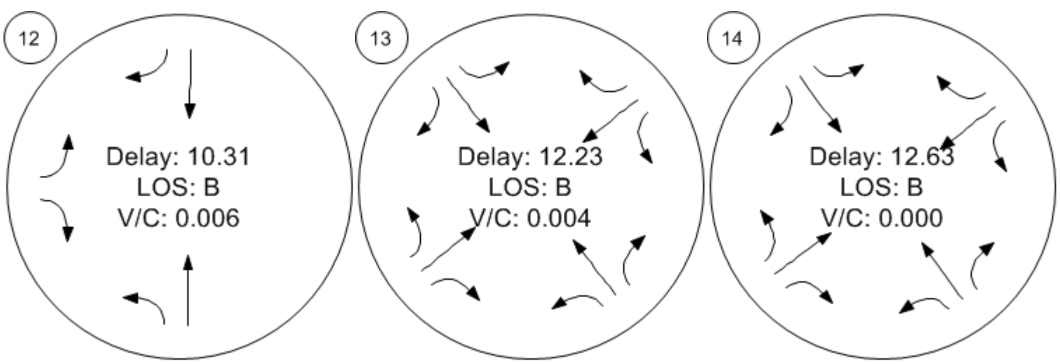
Traffic Conditions





Traffic Conditions





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	25	42	9	16	74	16	89	20	78	137	184
Future Volume (vph)	121	25	42	9	16	74	16	89	20	78	137	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.91		1.00	0.88		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1687		1770	1632		1770	3539	1583	1770	3235	
Flt Permitted	0.59	1.00		0.71	1.00		0.54	1.00	1.00	0.64	1.00	
Satd. Flow (perm)	1093	1687		1322	1632		1011	3539	1583	1189	3235	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	27	46	10	17	80	17	97	22	85	149	200
RTOR Reduction (vph)	0	32	0	0	60	0	0	0	13	0	109	0
Lane Group Flow (vph)	132	41	0	10	37	0	17	97	9	85	240	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	30.1	25.2		22.3	21.3		36.3	35.0	35.0	42.1	37.9	
Effective Green, g (s)	30.1	25.2		22.3	21.3		36.3	35.0	35.0	42.1	37.9	
Actuated g/C Ratio	0.36	0.30		0.27	0.26		0.44	0.42	0.42	0.50	0.45	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	434	509		358	416		451	1485	664	629	1470	
v/s Ratio Prot	c0.02	0.02		0.00	0.02		0.00	0.03		c0.01	c0.07	
v/s Ratio Perm	c0.09			0.01			0.02		0.01	0.06		
v/c Ratio	0.30	0.08		0.03	0.09		0.04	0.07	0.01	0.14	0.16	
Uniform Delay, d1	18.5	20.8		22.5	23.7		13.4	14.4	14.1	10.8	13.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.3		0.0	0.4		0.0	0.1	0.0	0.1	0.1	
Delay (s)	18.9	21.1		22.5	24.1		13.5	14.5	14.2	10.9	13.5	
Level of Service	B	C		C	C		B	B	B	B	B	
Approach Delay (s)		19.7			23.9			14.3			13.0	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	3	115	2	28	120	243	0	0	172	174
Future Volume (vph)	0	0	3	115	2	28	120	243	0	0	172	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			1.00	
Frt		0.86		1.00	0.94		1.00	1.00			0.93	
Flt Protected		1.00		0.95	0.97		0.95	1.00			1.00	
Satd. Flow (prot)		1611		1681	1619		1770	1863			1736	
Flt Permitted		1.00		0.73	0.58		0.43	1.00			1.00	
Satd. Flow (perm)		1611		1287	960		803	1863			1736	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	3	125	2	30	130	264	0	0	187	189
RTOR Reduction (vph)	0	3	0	0	25	0	0	0	0	0	34	0
Lane Group Flow (vph)	0	0	0	80	52	0	130	264	0	0	342	0
Turn Type		NA		pm+pt	NA		pm+pt	NA			NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2					
Actuated Green, G (s)		1.0		11.3	11.3		45.9	45.9			35.8	
Effective Green, g (s)		1.0		11.3	11.3		45.9	45.9			35.8	
Actuated g/C Ratio		0.02		0.17	0.17		0.69	0.69			0.54	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		24		254	221		638	1291			938	
v/s Ratio Prot		0.00		c0.03	0.02		0.02	c0.14			c0.20	
v/s Ratio Perm				c0.03	0.02		0.12					
v/c Ratio		0.00		0.31	0.24		0.20	0.20			0.37	
Uniform Delay, d1		32.1		23.9	23.7		3.9	3.6			8.7	
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.0		0.7	0.6		0.2	0.4			1.1	
Delay (s)		32.1		24.6	24.3		4.1	4.0			9.8	
Level of Service		C		C	C		A	A			A	
Approach Delay (s)		32.1			24.5			4.0			9.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	66.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	2	133	0	0	0	0	248	99	13	271	0
Future Volume (vph)	123	2	133	0	0	0	0	248	99	13	271	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5					4.5			4.5	
Lane Util. Factor		0.95	0.95					0.95			0.95	
Frt		0.99	0.85					0.96			1.00	
Flt Protected		0.96	1.00					1.00			1.00	
Satd. Flow (prot)		1669	1504					3388			3531	
Flt Permitted		0.96	1.00					1.00			0.94	
Satd. Flow (perm)		1669	1504					3388			3317	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	2	145	0	0	0	0	270	108	14	295	0
RTOR Reduction (vph)	0	7	108	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	0	144	22	0	0	0	0	351	0	0	309	0
Turn Type	Split	NA	Perm					NA		pm+pt	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4							6		
Actuated Green, G (s)		10.8	10.8					43.4			43.4	
Effective Green, g (s)		10.8	10.8					43.4			43.4	
Actuated g/C Ratio		0.17	0.17					0.69			0.69	
Clearance Time (s)		4.5	4.5					4.5			4.5	
Vehicle Extension (s)		3.0	3.0					3.0			3.0	
Lane Grp Cap (vph)		285	257					2326			2277	
v/s Ratio Prot		c0.09						c0.10				
v/s Ratio Perm			0.01								0.09	
v/c Ratio		0.51	0.09					0.15			0.14	
Uniform Delay, d1		23.8	22.0					3.5			3.4	
Progression Factor		1.00	1.00					1.00			1.00	
Incremental Delay, d2		1.4	0.1					0.1			0.0	
Delay (s)		25.2	22.2					3.6			3.4	
Level of Service		C	C					A			A	
Approach Delay (s)		23.8			0.0			3.6			3.4	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	1		
East/West Street:	OR 206		
North/South Street:	Van Gilder Road		

Input

Approach	Lane Group, Code	Volume, veh/hr	% Heavy Vehicles	Conflicting Volume,veh/hr	Signal (0 or 1)	Left Turn Lane (0 or 1)	Results: Queue Length Feet
NB	MNLR	19	2.0%	66	0	0	**21**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	14		
East/West Street:	4th Street		
North/South Street:	US 97		

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	60	2.0%	376	0	0	**37**
WB	MNLTR	5	2.0%	376	0	0	**17**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	13		
East/West Street:	Lonerock Road		
North/South Street:	US 97		

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	15	2.0%	360	0	0	**19**
WB	MNLTR	61	2.0%	360	0	0	**38**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	1:30 - 2:30 PM		
Intersection:	12		
East/West Street:	OR 216		
North/South Street:	US 97		

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	MNLR	4	2.0%	300	0	0	**19**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:45 - 5:45 PM		
Intersection:	11		
East/West Street:	I-84 WB		
North/South Street:	John Day Dam 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
EB	MNLTR	39	2.0%	116	0	0	**25**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:45 - 5:45 PM		
Intersection:	10		
East/West Street:	I-84 WB		
North/South Street:	John Day Dam 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
WB	MNLTR	25	2.0%	113	0	0	**20**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	9		
East/West Street:	OR 206		
North/South Street:	Clark St		

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
WB	MNLR	49	2.0%	44	0	0	**34**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	8		
East/West Street:	OR 206		
North/South Street:	Clark St		

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	2.0%	147	0	0	**21**
WB	MNLTR	32	2.0%	147	0	0	**22**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	7		
East/West Street:	OR 206		
North/South Street:	US 97 SB Ramps		

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
SB	MNLTR	3	2.0%	51	0	0	**13**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	6		
East/West Street:	OR 206		
North/South Street:	US 97 NB Ramps		

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	1	2.0%	25	0	0	**13**

Queue Length Estimation at Two-Way STOP Controlled Intersection

Project Information

Analyst:	AJG	Agency/Co.:	Gilliam
Jurisdiction:	Sherman County	Project ID:	18054
Date Performed:	2/1/2015	Analysis Year:	2014
Analysis Time Period:	4:30 - 5:30 PM		
Intersection:	2		
East/West Street:	OR 206		
North/South Street:	Klondike		

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
WB	MNLR	3	2.0%	36	0	0	**15**

Appendix I Project Advisory Committee Meeting Minutes

Meeting Minutes

Sherman County Transportation System Plan (TSP)

Project Advisory Committee Meeting

March 18, 2015: 10:30 a.m. – 12:30 p.m.

Moro, Oregon

Attendance: See attached sign-in sheet

Meeting Notes

1. Casey Bergh provided an introduction to the project, its purpose and value to the County and cities.
2. Introductions – Everyone was asked to identify their top two transportation issues in the County. Transportation issues and concerns identified by the PAC during introductions include:
    a. Safety
        i. Traffic needs to be slowed on Main Street in Moro (this concern was reiterated by many people in the room). One idea was a flashing light at the corner of Main Street/1st.
        ii. Access/egress is a concern for the Oregon Raceway. People arrive for events in waves, and they need to be able to accommodate everyone. There is also concern about emergency access during events with only one road serving the raceway and one connection to US 97.
        iii. Concern about the congestion at Biggs.
        iv. There is concern about kids crossing US 97 (e.g., going to school)
        v. There is concern about how to design roads to accommodate elderly drivers and elderly pedestrians in the County.
        vi. There is concern with wheat trucks trying to turn off highway at several public and private streets (Kent was mentioned as one location). Providing deceleration and storage for right-turn vehicles at locations where trucks turn into facilities may be helpful.
        vii. There is concern about a bill that would raise the speed limit on Highway 97 and 197. The County wants to keep the speed limit at 55 mph in Sherman County because they have narrow roads, lots of trucks, and few resources when crashes occur. They noted that the ODOT staff work well with the County and do a good job. (Note: follow up on this bill revealed that the increased speed limit would not apply to US 97 in Sherman County.)
        viii. There is concern with people falling asleep while driving on the highway, which the rescue units frequently deal with.
        ix. There is concern about the south entrance to Wasco from US 97. PAC members said you have to make a decision and then make the turn fast. Concerns were noted at the north entrance as well.
        x. There is opportunity for deceleration lanes in a lot of places.

xi. There is concern about the lack of common sense and distracted drivers on US 97.
xii. There is interest and concern with Highway 30, which runs parallel to I-84. It is vital to keep it open, but there is an issue just outside/east of Biggs. The hillside is crumbling so a more permanent fix in this area may be needed. People that work in Biggs and live in Rufus rely on it, and it is an important alternate route when the freeway is closed.
xiii. A successful plan would be one that helps to reduce traffic fatality rates.

b. Truck Traffic
   i. Concern about the lack of passing lanes on US 97. The emergency services group sees a lot of people making bad decisions while passing trucks because they get impatient. Locations mentioned for potential passing lanes were: coming up from Biggs, or on hills.
   ii. Concern about the high volumes of truck traffic and high truck speeds, especially in Moro. The concern of truck traffic was reiterated by multiple people at the meeting.

c. Economic Development
   i. Desire to create thriving communities, but hindered when the community is bisected by a highway.
   ii. There is concern with providing transportation service (including maintained roadways and public transportation) to current and future businesses to support economic development, and continuing to serve agricultural businesses, which is a huge industry for the County.
   iii. Bicycle tourism has great potential for the area, and the County would like to know how to encourage it in a safe way.
   iv. There is interest in finding ways to get people to pull off the highway and linger more in communities, supporting economic vitality.

d. Multimodal Transportation
   i. City of Moro needs to add sidewalk to all streets (some existing sidewalks are in disrepair).
   ii. There are a lot of walkers/joggers, especially on Lonerock Road in Moro and other roads in each city. There is a need for more pedestrian routes.
   iii. There is concern with bicyclists on the highway. The roads are narrow and it can be challenging to safely pass cyclists (they ride in the middle of the lane and there are a lot of blind corners).
   iv. Multimodal transportation is another area of concern, particularly building bike paths into infrastructure to support bike tourism and adding sidewalks to help kids walk to school/enable adults to safely walk for recreation.
   v. Getting patients to and from the Sherman County medical clinic (in Moro) and to other clinics as needed.
   vi. A successful project would be a product or adopted TSP that embodies balance: balances safety with mobility issues (vehicles, freight, walking, etc.) and achieving a balance and equity for everyone involved in the process.

e. Funding

    i. City of Rufus needs some road upgrades and bridge repairs/upgrades because a lot more trucks are traveling through the City.
    ii. Wasco is the only community that is bypassed by US 97 and the downtown area of Wasco is in disrepair.
    iii. The bridge in downtown Wasco is starting to crumble, with concrete that falls off. The bridge is in limbo in terms of who is responsible for taking care of it.
    iv. The County would like to figure out how to partner with ODOT more, although they still have a good working relationship.
    v. There is the need for a voice at the planning commission meeting and hopes that this TSP process is a great opportunity to take that voice to a level to guide infrastructure improvements.

3. Project Overview: Casey gave an overview of the project.
    a. Purpose of the project:
        i. Documenting priorities for transportation projects
        ii. Guide the County to allocate financial resources appropriately to meet transportation needs over next 20 years;
        iii. If projects are documented in plan, they are more likely to get funding through grants.
    b. KAI to add Kent to study area maps. It is included in the study area, so an inset will be included to make sure people consider it when providing comments and reviewing material.
    c. KAI will provide an alphabetical list of acronyms and their definition to be used as a reference document throughout the project.
    d. Casey noted that we will try to put an executive summary up front of memos to give them key information.
    e. Casey highlighted the project website and noted that the public involvement tab will be an important link as we move forward. We will use it to gather feedback from those unable to attend meetings in person.
4. Goals & Objectives
    a. Mobility –
        i. The group discussed the high school and how people access it south of Moro. The majority of people drive to high school, and just a few walk to school. People are using the state highway to get to school. There may be a need for a off-street path to high school. The County has a plan to redo the high school entrance; they want to consolidate two accesses to one. Even more traffic will use this location when the future elementary school is constructed near the high school. The fire chief said that 2 entrances are needed to get to the high school in the event of an emergency.
        ii. The sidewalk along US 97 (Main Street) to the school is also a common walking path for recreation.
    b. Environment – Some concern about funding was expressed, noting that the PAC doesn't want to allocate limited dollars to active transportation projects (sidewalks, bike lanes, etc.) at the expense of other roadways that need maintenance. There is concern about how to fund bike/ped projects when they don't even have the money to fund highway

projects. They want to be realistic and expressed the desire to get funding from people using the bike paths. A discussion followed about how bicyclists also pay income and property taxes and that maintenance funds are in different pots of money from Enhance/Fit It funds, lottery funds, license fees at the state level, etc. Michael reminded the group that it is a balance and that there is often money set aside specifically for bike/ped projects and we want to help them be in a position to apply for that money.

5. Casey gave a brief overview of the plans and policy memorandum.
6. Ashleigh summarized the results of the existing and future conditions analysis.
    a. Population forecast:
        i. The group believed the 2015 population forecast numbers are slightly inaccurate, noting that their existing populations were higher than the numbers shown.
    b. Priority land for development:
        i. The group agreed with the majority of the priority lands for development shown and noted that:
            1. The west end of Wasco is another residential development;
            2. The west side of Wasco is zoned agriculture (the KAI map needs to be updated).
    c. We reviewed safety statistics and crash trends.
        i. KAI to double-check the volume at Van Gilder Rd/OR 206, those in the room thought this should have fairly high volume as it is a major intersection. (KAI had referenced the low volume as the reason for a high crash rate at this intersection with only one crash.)
        ii. The group also discussed concern about truck speed southbound on US 97 at Biggs-Rufus. A concern that the future traffic signal would just lead to more rear-end crashes was voiced.
7. Workshop: After reviewing the materials, the group split up and marked up the boards in the room with locations of additional concerns or issues in the County. Comments received from these boards will be incorporated into the next Technical Memorandum.

8. Upcoming Meetings and Deliverables

    a. Wednesday, May 6th, at 3:00 PM is confirmed for the next PAC meeting.

        i. Technical Memorandum #4 (Alternatives Analysis) will be distributed to PAC for review prior to next meeting.

    b. Wednesday, May 6th, from 6:00 PM will be the public open house (held in Moro). There will also be an online virtual open house where people can provide comments.

SHERMAN COUNTY

Transportation System Plan

PAC Meeting #1
Sign-In Sheet

NAME	AGENCY/COMPANY	PHONE	EMAIL
Georgia Macnab	Sherman Co.	541-565-3601	georgiamac@embarqmail.com
Cassie Strege	City of Wasco	541-442-5515	wascocity@embarqmail.com
Mark Coles	Sherman Co. Rd.	541-565-3271	markc@co.sherman.or.us
Jessica Metta	MCEDD	541-296-2266	jessica@mcedd.org
Michele Spatz	MCEDD	541-296-2266	michele@mcedd.org
Michael Duncan	ODOT	541-388-6046	MichaelWDuncan@ODOT
[illegible]	Rufus City Council	541 739 8250	[illegible]@yahoo
Scott Edelman	DLCD		scott.edelman@state.or.us
Jocelyn McCurdy	City Of Rufus Administrator	541-739-2321	rufuscityhall@gmail.com
[illegible]	[illegible]	541 296-9177	[illegible].com
Rene' Moore	City of Moro	541 565 3535	moro@embarqmail.com
Caitlin Blagg	Sherman County Medical Clinic	541 565 0536	medclinic1@embarqmail.com
Tom Miller	Oregon Raceway Park	503-201-4586	tandbmiller@msn.com
Shawn Payne	Sherman Co EMS	541-565-3119	emergencyserv@embarqmail.com
Bonne Whitley	GV city council	541-333-2292	cbngv@hotmail.com
Carol von Borstel	Grass Valley City Admin.	541-333-2434	cityofgv@embarqmail.com
Brad Lohrey	Sherman Co Sheriff	541 565-3622	sheriff@sherman county.net
Jim Payne	Sherman Co Fire Dept	541 993 7167	same as Shawn's Payne

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TRANSPORTATION ENGINEERING / PLANNING
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TECHNICAL MEMORANDUM #4

Sherman County Transportation System Plan Update

Alternatives Analysis

Date:	May 29, 2015	Project #: 18054
To:	Michael Duncan, ODOT Georgia Macnab, Sherman 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 Sherman 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 #3 (Existing and Future Needs) as identified by the public, the Project Advisory Committee, Sherman 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

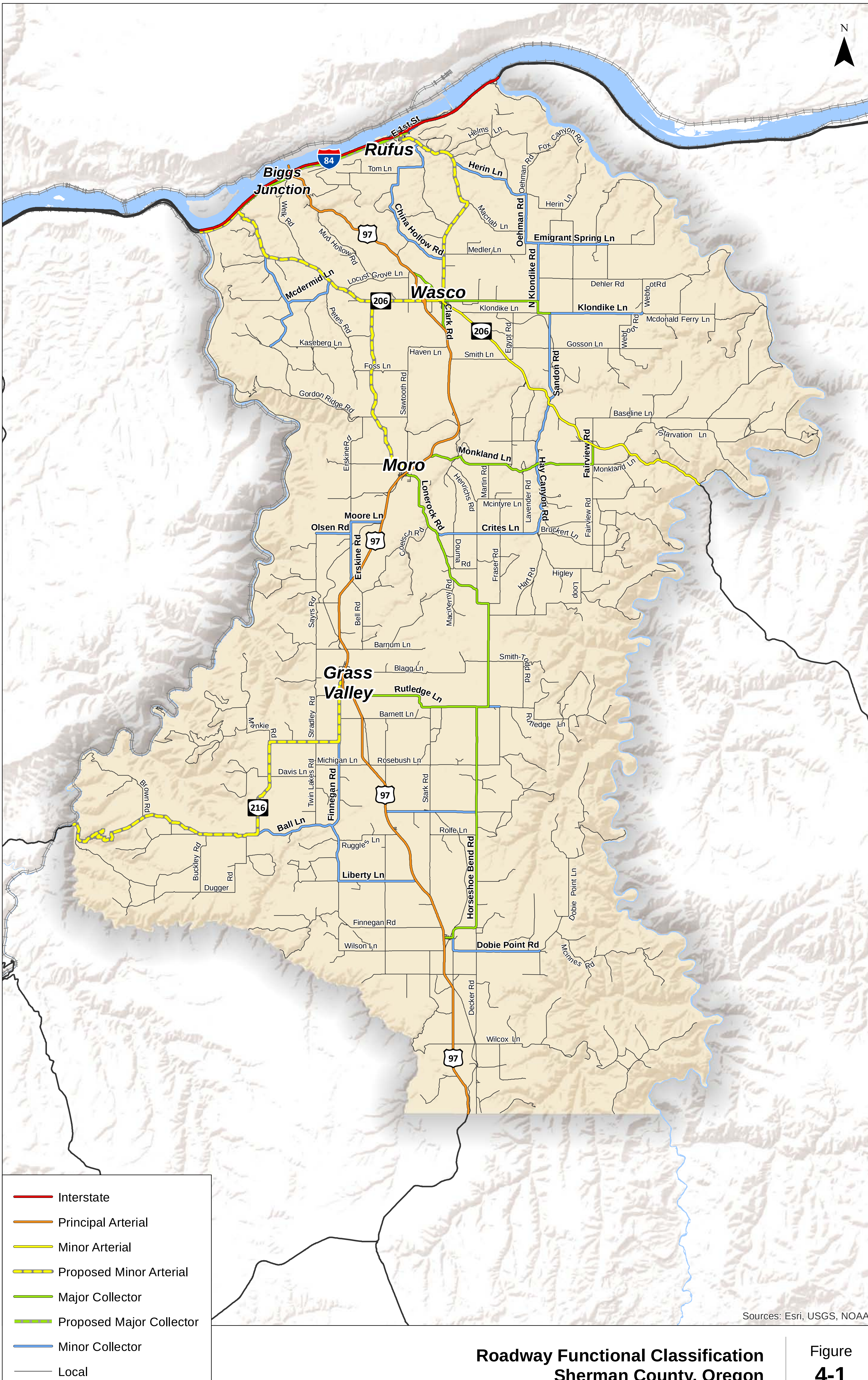
Functional classification of a roadway characterizes the intended purpose, amount and type of vehicular traffic it is expected to carry, provisions for non-auto travel, and the roadway's design standards. The classification considers the adjacent land uses and transportation modes that should be accommodated.

Proposed classifications identified for Sherman County include: Interstate, Principal Arterial, Major Collector, Minor Collector, and Local Road. Table 4-1 provides a detailed description of each classification. Figure 4-1 presents the proposed functional classifications for all existing County roadways, based on the existing Federal Functional Classifications. The functional classifications apply in both urban and rural environments.

Table 4-1. Sherman 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.
Minor Arterial	Primary function is to link cities and larger destinations and form an integrated network providing interstate and inter-county service. Minor Arterials provide service to corridors with trip lengths and travel density greater than collectors and local roads. Travel speeds are relatively high, and the interference to the through-movement is typically minimal on Minor Arterials. Minor Arterials provide more land access than Principal Arterials.
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



Roadway Functional Classification
Sherman County, Oregon

Figure
4-1

K:\H_Portland\projfile\18054 - Sherman County TSP\gis\memo 4\4-1 Functional Classifications County.mxd - agriffin - 4:17 PM 5/29/2015

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Wasco County

PROPOSED COUNTY ROADWAY DESIGN GUIDELINES

The proposed roadway design guidelines are based on existing right-of-way widths, 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. The guidelines are intended to serve as a minimum dimensions. Rural standards apply to roadways outside of City limits, and urban standards apply to facilities within City limits. The unincorporated communities of Biggs and Kent have a rural character and have historically followed rural County guidelines.

Rural Roadway Design Guidelines

Exhibit 4-1 through Exhibit 4-3 summarize the proposed cross-sections for rural roadways. 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.

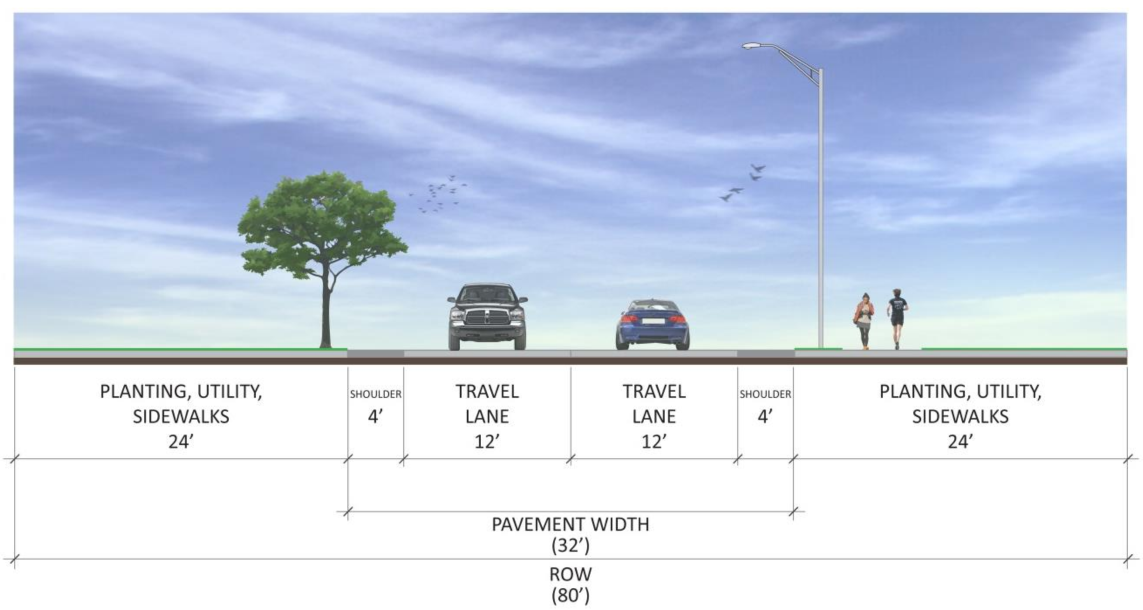


Exhibit 4-1. Proposed Rural Arterial Cross-Section

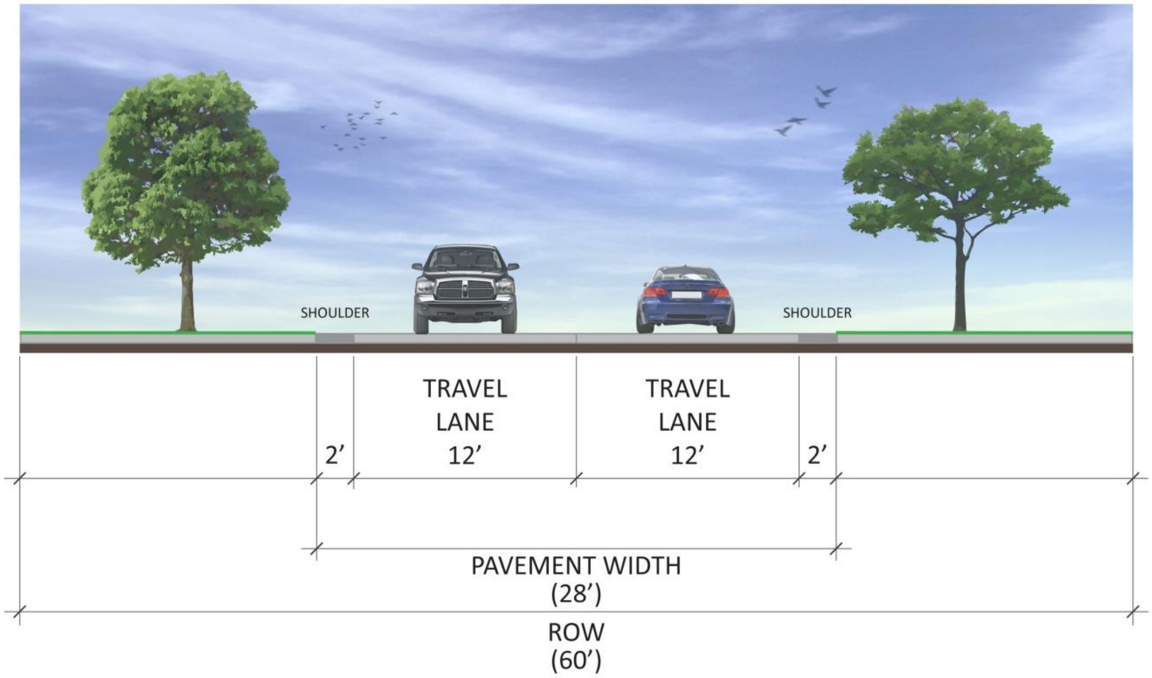


Exhibit 4-2. Proposed Rural Collector Cross-Section

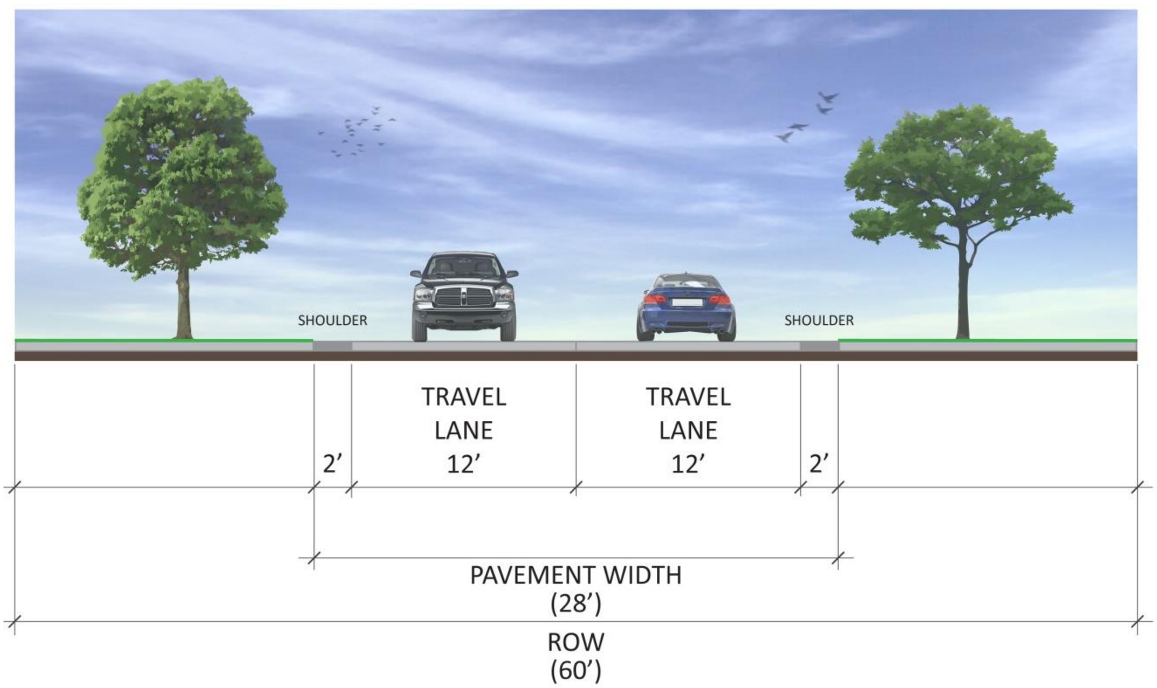


Exhibit 4-3. Recommended Rural Local Street Cross-Section

Urban Roadway Design Guidance

Each of the four cities had individual street design guidelines in their current TSP. However, these guidelines recommended narrow street widths, which were smaller than 20 feet in some cases. The Cities have expressed that the narrow street widths below 20 feet are not appropriate for local streets in Sherman County. Therefore, the proposed guidelines set a new minimum cross section for urban streets in all cities.

Exhibit 4-4 through Exhibit 4-6 illustrate the proposed roadway design guidelines for urban areas. 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.

Each City is reviewing the proposed design guidelines and will be developing their individual urban design guidelines that reflect the unique situations of each City. The City-specific design guidelines will be presented in Tech Memo 5 and may differ slightly from the exhibits below.

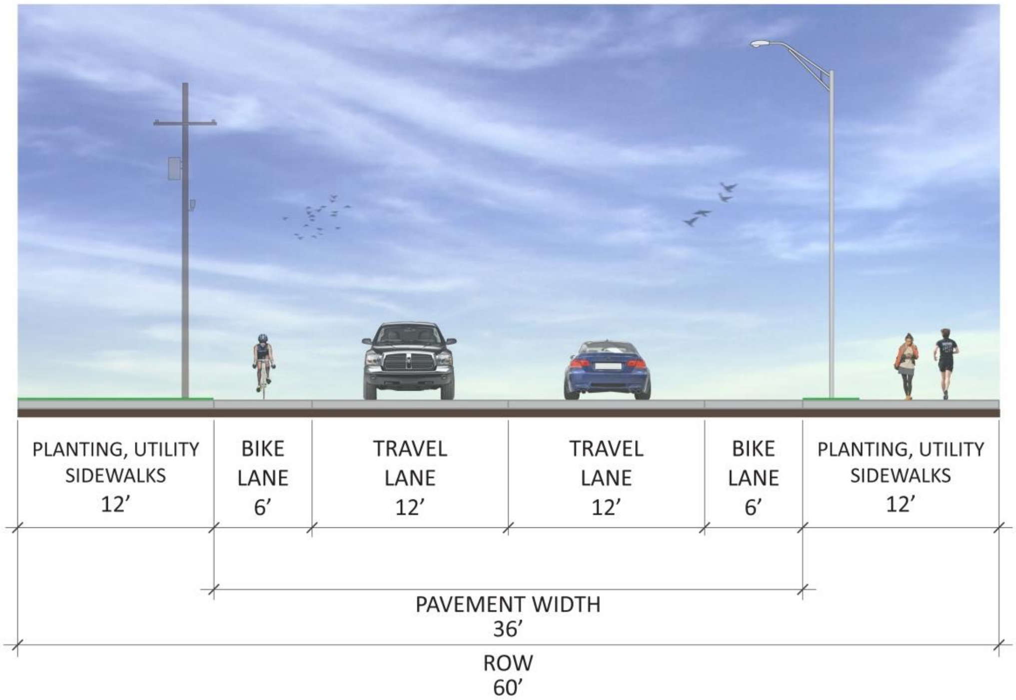


Exhibit 4-4. Urban Arterial Cross-Section

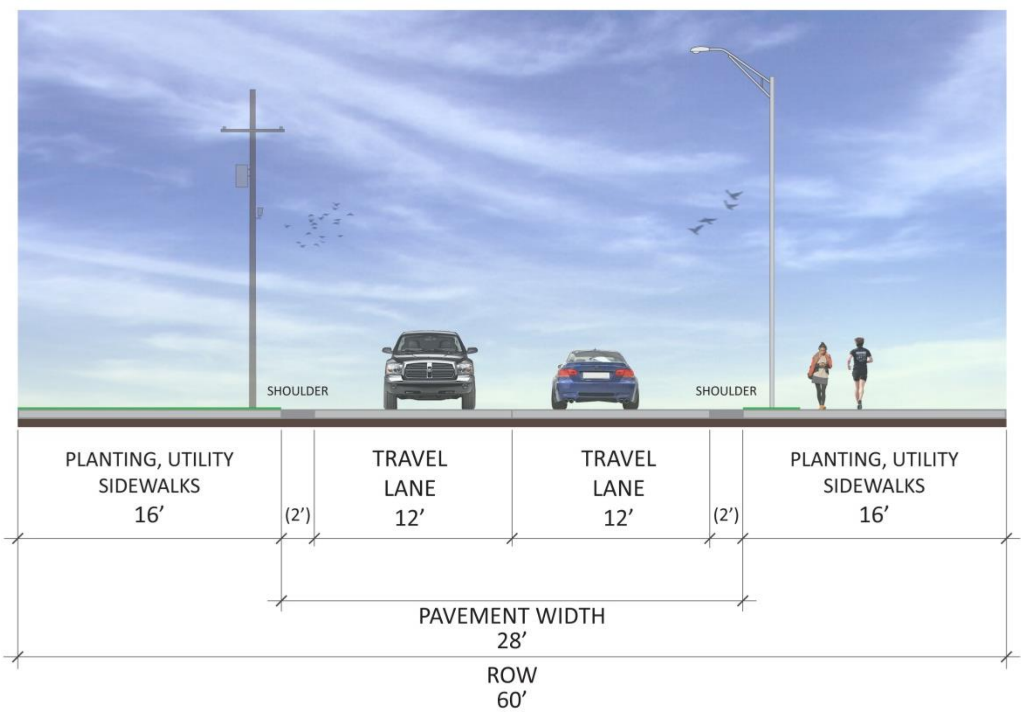


Exhibit 4-5. Urban Collector Cross-Section

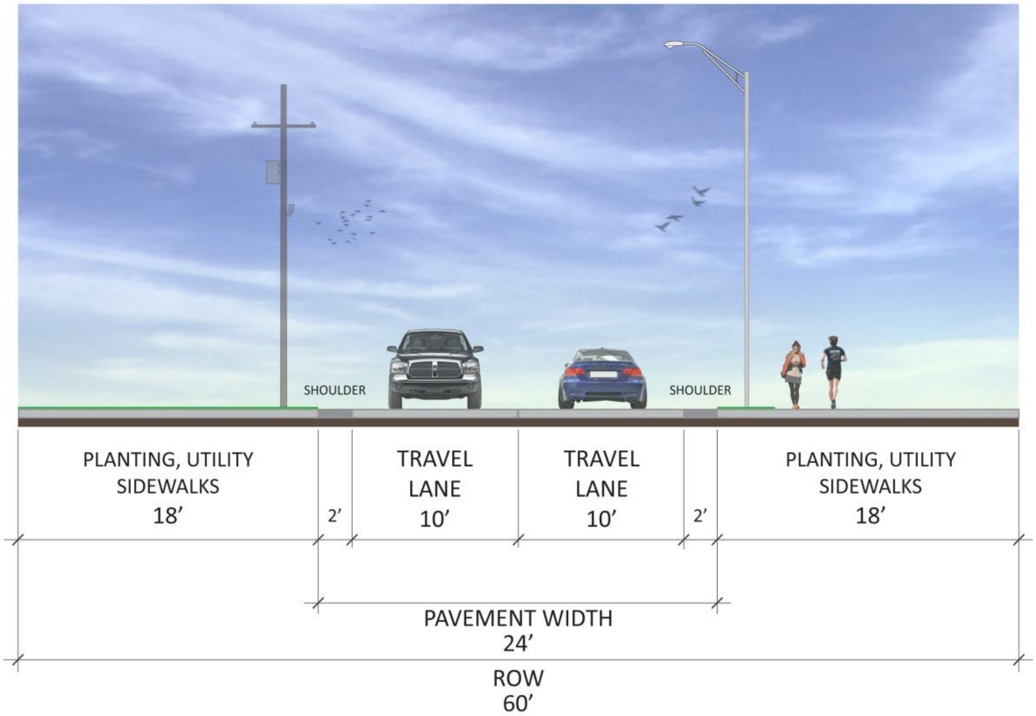


Exhibit 4-6. Urban Local Street Cross-Section

TRANSPORTATION ALTERNATIVES

Transportation alternatives for Sherman 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, Sherman County, ODOT, members of the Project Advisory Committee; a field review conducted by Kittelson and Associates, Inc. (KAI) in 2015; 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 4-2 shows the financially unconstrained transportation alternatives identified to address the future transportation needs.

Transportation alternatives shown in the table are categorized as *projects, policies*, and *studies*. *Projects* are physical improvements to the transportation system while *policies* reflect changes to County or City code that would impact the transportation system. *Studies* indicate the need for some level of long-term improvements where a detailed evaluation of potential improvements is beyond the scope of the TSP.

The projects identified in Table 4-2 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.

Several projects are categorized as Systemic Safety Projects. These projects are intended to be low-cost improvements such as additional signage, rumble strips, or guardrail installation that can be completed at multiple locations as part of a systemic project. These will be refined in the Preferred Alternative and presented as a Systemic Safety Plan.

Table 4-2 includes an identification number for reference to the project locations shown Figure 4-2 and Figure 4-3.

The next Technical Memorandum will summarize the details of individual projects, including the location, cost estimate, and conceptual sketches of proposed cross-sections or intersection realignments.

Table 4-2. Transportation Alternatives

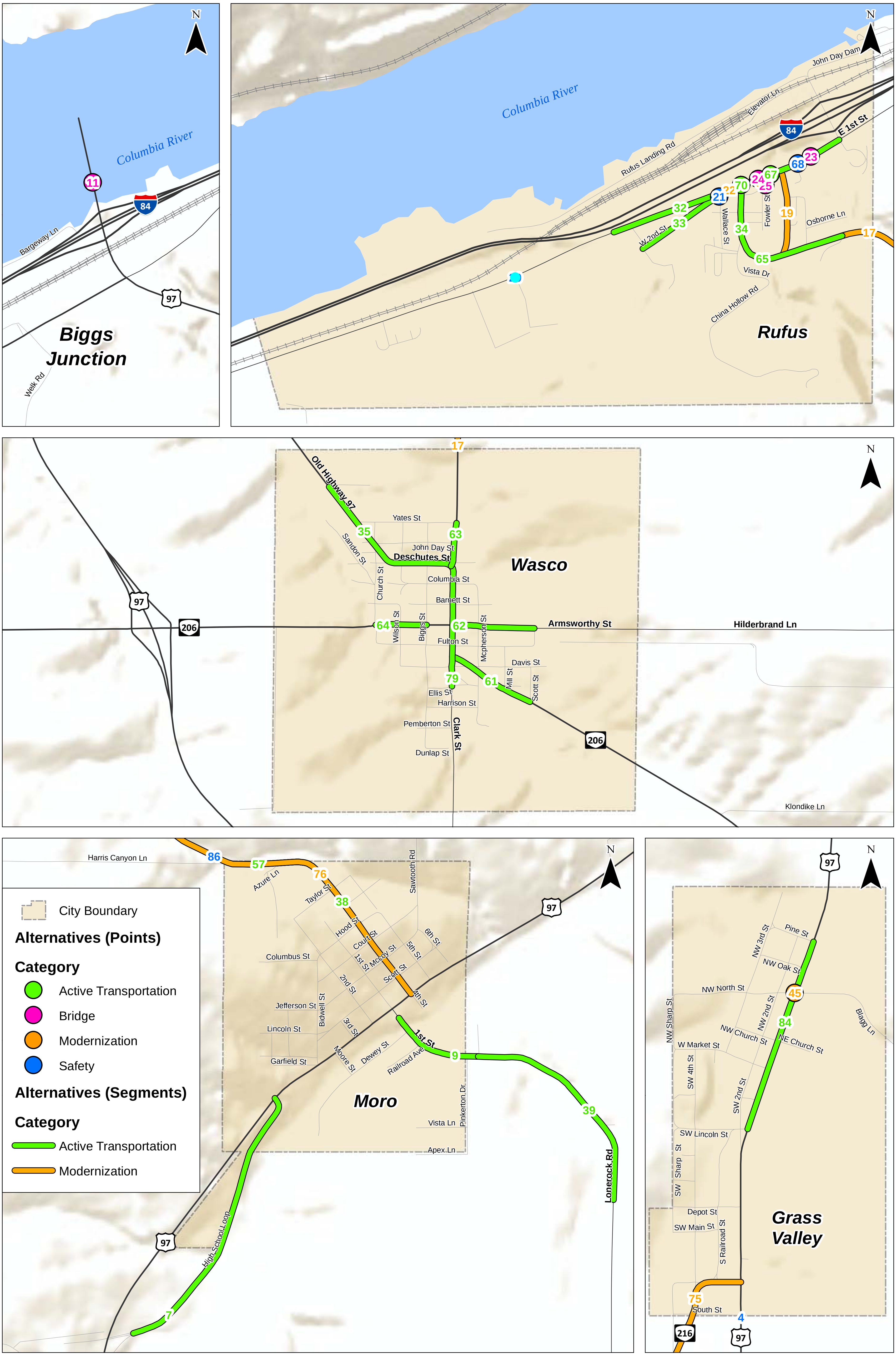
ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority
Biggs							
11	Project	Bridge	US 97 Bridge over Columbia River at Biggs Junction	The Biggs Rapids Bridge over the Columbia River is classified as functionally obsolete, indicating that it is still structurally sound but does not meet current design standards for its purpose. It likely needs widening.	Improve or replace bridge to meet current design standards.	Biggs Junction	Medium Priority
18	Study	Intermodal	Intermodal freight connections at Biggs Junction	Intermodal freight connections are limited at Biggs Junction. Some truck to river cargo connections exist. No rail service in Biggs Junction.	Evaluate opportunities for improved freight connections between trucks, rail, and river cargo.	Biggs Junction	Medium Priority
County							
15	Policy	Modernization	Roadway Design Guidelines	Roadway design guidelines for cities are not reflective of the rural character of the communities.	Update roadway design guidelines for each community.	County	High Priority
72	Project	Safety	Traffic Speeds on US 97	Residents are concerned about traffic speeds on US 97 in the County.	Enforcement, Education, ITS	County	High Priority
73	Project	Safety	Truck Volumes on US 97 in Cities	Residents are concerned about high truck volumes on the highway within the downtown areas of the cities.	Install speed reduction treatments on US 97 to reinforce posted speeds in cities.	County	High Priority
74	Project	Safety	Passing Opportunities on US 97	Residents are concerned about the lack of passing opportunities on US 97 and the impatience drivers experience while being stuck behind trucks.	TSP to identify specific locations of concern and recommend ODOT conduct county-wide study.	County	High Priority
10	Project	Active Transportation	Bicyclist Routes	Bicyclists are uncomfortable riding on US 97 due to high speeds and truck traffic.	Promote the bike routes that are currently popular routes and identify opportunities to route cyclists off of US 97 when possible. Provide signage to encourage cyclists to use alternate routes from the highway and provide warnings signs on these routes to inform drivers of the bicycle routes.	County	Medium Priority
57	Project	Active Transportation	Van Gilder Road	Van Gilder Road is a heavily used bike route in the County.	Provide directional signage for cyclists; warning signs for motorists to share the road.	County	Medium Priority
14	Project	Bridge	Finnegan Road Bridge over Finnegan Creek	The bridge on Finnegan Road over Finnegan Creek has a low sufficiency rating and is classified as structurally deficient.	Improve or replace bridge to meet current design standards.	County	Medium Priority
26	Policy & Study	Modernization	Biggs-Rufus Highway Upgrade (Maddie's Hump)	There is concern about a potential closure of Biggs-Rufus Highway at this location. The road serves the local residents who live/work in Biggs/Rufus and also provides an important alternative route to the interstate when it closes.	Upgrade from minor collector to major collector between Biggs and Rufus. Study feasibility of widening shoulders and installing guardrail and/or rock guard for vehicles.	County	Medium Priority
31	Project	Safety	Northern Alternate Access to Raceway	The Oregon Raceway currently only has one access available: Blagg Lane from US 97.	Construct a secondary access from the Oregon Raceway to Barnum Lane.	County	Medium Priority
76	Policy	Modernization	Van Gilder Road Upgrade	Van Gilder Road is currently classified as a major collector from US 97 in Moro to the intersection with OR 206. The route is a popular alternative to US 97 for local residents.	Upgrade Van Gilder Road from a major collector to a minor arterial from US 97 in Moro to the intersection with OR 206. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the road to arterial standards.	County	Medium Priority
16	Policy	Modernization	OR 206/Fulton Canyon Road & Biggs-Rufus Highway Upgrade	OR 206/Fulton Canyon Road (from the intersection of US 97 to the intersection with Biggs-Rufus Highway) and Biggs-Rufus Highway (from OR 206 to the western county limit) are currently classified as major	Upgrade OR 206/Fulton Canyon Road from a major collector to a minor arterial from the intersection of US 97 to the intersection with Biggs-Rufus Highway. Route	County	Medium Priority

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority
				collectors. These routes serve as popular alternatives to provide connections to I-84 (west) for local residents. Fulton Canyon Road access is restricted for trucks; trucks cannot use this route due to limited width.	serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the roads to arterial standards.		
17	Policy	Modernization	Scott Canyon Road Upgrade	Scott Canyon Road is currently classified as a major collector from OR 206 in Wasco to Biggs-Rufus Highway in Rufus. Route serves as a popular alternative connection to I-84 (east) for local residents. This road is difficult for trucks to traverse due to limited width. Trucks are discouraged from using this route.	Upgrade Scott Canyon Road from a major collector to a minor arterial from OR 206 in Wasco to Biggs-Rufus Highway in Rufus. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the road to arterial standards.	County	Medium Priority
75	Policy & Study	Modernization	OR 216 Upgrade	OR 216 is currently classified as a major collector from US 97 in Grass Valley to Deschutes River. This route is a popular route for river access along the Deschutes and for residents traveling to the west.	Upgrade OR 216 from a major collector to a minor arterial from US 97 in Grass Valley to Deschutes River. This route is a popular route for river access along the Deschutes and for residents traveling to the east. Study the feasibility of improving the road to arterial standards.	County	Medium Priority
46	Project	Modernization	US 97 / Erskine Road	Narrow throat at intersection; road is crumbling.	Widen the throat of Erskine Road.	County	Medium Priority
30	Project	Roadway	Eastern Alternate Access to Raceway	The Oregon Raceway currently only has one access available: Blagg Lane from US 97.	Pave Blagg Lane from Oregon Raceway to Lonerock Road. Consider upgrading the functional classification.	County	Medium Priority
12	Project	Bridge	Mud Hollow Road Bridge over Spanish Hollow Creek	The Mud Hollow Road bridge, immediately west of US 97, over Spanish Hollow Creek has a low sufficiency rating and is classified as structurally deficient by ODOT.	Improve or replace bridge to meet current design standards.	County	Low Priority
39	Project	Active Transportation	Ped/Bike Connections along Lonerock Road, east of City Limits of Moro	There are no ped/bike connections along Lonerock Road from the East City Limits of Moro to Fairgrounds.	Install a shared-use path along Lonerock Road from East City Limits to Fairgrounds.	County	Low Priority
55	Study	Safety	Wildlife Crossings	Residents are concerned about wildlife crashes.	Conduct a study to determine where wildlife crossings are needed on the major state highways. Estimate the cost of installing the crossings.	County	Low Priority
Grass Valley							
45	Project	Modernization	North Street/US 97	Turn radius for westbound right turn is too small to accommodate large vehicles, and no left-turn lane is provided from US 97 to North Street.	Reconstruct North Street approach to US 97 to provide larger turn radius, and add a left-turn lane from US 97 to North Street.	Grass Valley	Medium Priority
84	Project	Active Transportation	US 97 Pedestrian Scale Lighting	Existing lighting along US 97 in Grass Valley is typical overhead lighting. The community desires more attractive, pedestrian scale lighting.	Install pedestrian scale lighting along the sidewalks on US 97 in Grass Valley.	Grass Valley	Low Priority
Moro							
66	Project	Safety	High School Access	The high school currently has three access locations via two general areas. One has limited sight distance. The high school serves younger/vulnerable drivers. There is desire to restrict access to one location, but concerns about maintaining two points for emergency access. The elementary school will be moving to the same site, increasing traffic by about 25 vehicles per day (according to numbers provided to Brad Dehart by the school district).	Restripe southern access points to restrict minor street left-turns to northern part of fork and make southern entrance one-way incoming northbound only. Add southbound left-turn lane at northern intersection on US 97. Relocated speed limit signs to reduce speed limit further in advance of intersection. Consider adding directional signs to school to raise awareness. Consider speed feedback signs to reduce speeds in advance of intersections. Document available sight distance and determine if minimum standards can be met.	Moro	High Priority

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority
29	Not a Project	Modernization	Moro Truck Traffic	Moro is bisected by US 97 which has a high truck volume. In addition, residents have observed vehicles traveling fast through the downtown area.	This issue will be addressed as part of project number #72, which is focused on reducing traffic speeds on US 97 in all cities in the County.	Moro	High Priority
38	Project	Active Transportation	Ped/Bike Connections along 4th Street to Azure Lane in Moro	There are no ped/bike connections along 4th Street/Van Gilder Road from Hood Street to Azure Lane, which serves a major employer, in Moro.	Install a shared-used path along 4th Street/Van Gilder Road from Hood Street to Azure Lane.	Moro	Medium Priority
9	Project	Active Transportation	Lonerock Road Sidewalks	No sidewalks exist along Lonerock Road between US 97 and the Steve Burnett Extension & Research Building.	Construct sidewalks on the north side of the road.	Moro	Medium Priority
7	Project	Active Transportation	Sidewalks to High School	A wide shoulder serves as the pedestrian and bicycle connections between the High School and residential areas of Moro.	Install sidewalks or a shared-use path between the High School and the existing sidewalks on Main Street.	Moro	Low Priority
Rufus							
32	Project	Active Transportation	1st Street Sidewalks (Rufus)	1st Street lacks sidewalks and serves as an east-west route through Rufus.	Install sidewalks along both sides of 1st Street from Sullivan Ln to Wallace Street	Rufus	High Priority
65	Project	Active Transportation	Main Street Sidewalks	Main Street lacks sidewalks. It is a collector in city limits.	Install sidewalks on Main Street from Vista Drive to 1st Street.	Rufus	High Priority
19	Project	Modernization	Murray Street	This residential road is used as a cut-through in Rufus.	Install traffic calming measures on Murray Street to reinforce posted speed and deter cut-through traffic.	Rufus	High Priority
21	Project	Safety	2nd Street/Wallace Street	The existing intersection is too close to the highway.	Connect 2nd Street to 1st Street 300' west of Wallace Street. Vacate 2nd Street from new connection to Wallace Street. Consider extending 3rd Street to 2nd Street/1st Street.	Rufus	High Priority
68	Project	Safety	Intersection of 2nd Street/Biggs Rufus Highway	The intersection of 2nd Street/1st street/Biggs Rufus Highway is skewed.	Vacate 2nd Street from Murray Street to 1st Street.	Rufus	High Priority
70	Project	Active Transportation	Pedestrian Crossings of Biggs-Rufus Highway	There are no defined crossings or marked crosswalks along Biggs-Rufus Highway/1st Street in Rufus.	Stripe crossing of 1st Street at Main Street.	Rufus	High Priority
23	Project	Bridge	1st Street/Biggs-Rufus Highway Bridge (west of Sullivan Ln)	Visual inspection indicates bridge needs repair	Evaluate structure integrity of the existing bridge and establish cost estimates for required improvements.	Rufus	High Priority
24	Project	Bridge	1st Street/Biggs-Rufus Highway Bridge (east of Fowler St)	Visual inspection indicates bridge needs repair	Evaluate structure integrity of the existing bridge and establish cost estimates for required improvements.	Rufus	High Priority
67	Project	Active Transportation	Rufus Ped/Bike Access Under Freeway and Railroad	There is no pedestrian/bike access under the freeway and river.	Conduct environmental impact study to determine whether Gerking Gulch is a feasible undercrossing of I-84 and railroad for pedestrian/bike users between 1st Street and the Columbia River.	Rufus	Medium Priority
34	Project	Active Transportation	Bikes on Main Street (Rufus)	Bicyclists share the roadway with vehicles along this road. Truck traffic is heavy during harvest time.	Widen to accommodate a bicycle lane.	Rufus	Medium Priority
22	Project	Modernization	Biggs Rufus Highway (1st Street) lacks defined on-street parking.	Access to business is not defined, and no on-street parking exists through downtown area.	Define access management along the highway and define on-street parking spaces.	Rufus	Medium Priority
71	Study	Modernization	Rufus Parking Analysis	The downtown area of Rufus lacks a detailed parking analysis to help identify parking needs and options.	Conduct a parking options study and analysis for the business and residential block.	Rufus	Low Priority
33	Project	Active Transportation	2nd Street Sidewalks (Rufus)	2nd Street lacks sidewalks. This street serves access to the Community Center.	Install sidewalks along the south side of 2nd Street from Main Street to Community Center	Rufus	Low Priority
25	Project	Bridge	2nd Street Bridge (east of Fowler St)	Visual inspection indicates bridge needs repair.	Close bridge to traffic when 2nd Street is closed to traffic as part of Project #68.	Rufus	Low Priority
69	Project	Modernization	Fowler Street Parking	There is a lack of defined parking spaces in downtown Rufus.	Vacate Fowler Street from 1st Street to 2nd Street and	Rufus	Low Priority

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority
					convert to a parking lot with access to 2nd Street only.		
Wasco							
56	Project	Modernization	Wasco Wayfinding Signage	The Wasco wayfinding signage is limited, and many drivers make incorrect turns.	Provide better signage to direct vehicles to highways, Rufus, and Cottonwood Canyon State Park.	Wasco	High Priority
35	Project	Active Transportation	Old Highway 97 Sidewalks	Old Highway 97 is a Major Collector in Wasco and lacks sidewalks from Clark Street to the north and west. It provides connections to residences between Clark Street to Asher Street in Wasco.	Install sidewalks on both sides of Old Highway 97 from Clark Street to 6th Street and along the east side of the road from 6th Street to Asher Street.	Wasco	Medium Priority
61	Project	Active Transportation	OR 206 Sidewalks (Clark Street to Scott Street)	OR 206 lacks sidewalks from Clark Street east to Scott Street (an arterial in city limits).	Install sidewalks on OR 206 from Clark Street east to Scott Street.	Wasco	Medium Priority
63	Project	Active Transportation	Clark Street Sidewalks	Clark Street from Old Highway 97 to Yates Street lacks sidewalks. It is a collector in the city limits.	Install sidewalks on Clark Street from Old Highway 97 to Yates Street.	Wasco	Medium Priority
64	Project	Active Transportation	OR 206 Sidewalks (Biggs Street to Church Street)	OR 206 from Biggs Street to Church Street lacks sidewalks. It is an arterial in city limits.	Install sidewalks on OR 206 from Biggs Street to Church Street.	Wasco	Medium Priority
62	Project	Active Transportation	Armsworthy Street Sidewalks	Armsworthy Street lacks sidewalks. It is a collector in the city limits.	Install sidewalks on Armsworthy Street from Church Street to Scott Street.	Wasco	Medium Priority
79	Project	Active Transportation	Existing Clark Street Sidewalks	Existing sidewalks on Clark Street between Columbia Street and Ellis Street are in poor condition and are missing on the east side of the road between Barnett Street and Columbia Street as well as Ellis Street and OR 206 (East).	Upgrade existing sidewalks along Clark Street from Columbia to Ellis, and add sidewalks on the east side.	Wasco	Low Priority
Systemic Safety Projects							
3	Project	Systemic Safety	Fixed-object and non-collision crashes	The County-wide crash history showed a high proportion of fixed-object and non-collision crashes.	County wide systemic safety projects for rural roads (rumble strips, shoulder widening).	County	High Priority
5	Project or Study	Systemic Safety	Weather-related crashes	The County-wide crash history showed a high percentage of weather-related crashes. I-84 had the highest number of crashes in the County.	County wide systemic safety projects for weather related crashes, which may include: ITS treatments, different pavement materials, warning signs, etc.	County	High Priority
2	Project	Systemic Safety	Herin Lane	Crash rate is above the statewide 90th percentile for similar facilities. Key crash trends: fixed object and non-collision crashes as well as icy road conditions. This segment was studied because it was counted, and it likely represents similar characteristics of other County roads.	County-wide systemic safety projects for rural roads (rumble strips, shoulder widening)	County	High Priority
59	Project	Systemic Safety	Blagg Lane Curve Warning Signs	There is one warning sign for the approaching curve (& adjacent drop-off) when traveling westbound on Blagg Lane from the racetrack.	Install additional curve warning signs and/or chevrons on the outside of the horizontal curve on Blagg Lane 1/2 mile east of US 97. One advanced curve warning sign exists for westbound traffic.	County	High Priority
27	Project	Systemic Safety	US 97 / Old Highway 97	There is a high volume of southbound traffic on US 97 turning left onto Old Highway 97.	Install a southbound left-turn lane.	County	High Priority
48	Project	Systemic Safety	Lonerock Road	Lonerock Road lacks guardrail on curves.	Install guardrail.	County	High Priority
50	Project	Systemic Safety	US 97 / Monkland Lane	There is limited sight distance at the intersection of US 97 / Monkland Lane.	Improve sight distance at the intersection of US 97 / Monkland Lane and consider adding a left-turn lane.	County	High Priority
43	Project	Systemic Safety	US 97 / Dobie Point Rd (Kent)	There are no turn lanes from US 97 at Dobie Point Road. This road is heavily used by harvest trucks.	Install left- and right-turn lanes on US 97 at Dobie Point Road in Kent.	Kent	High Priority
20	Project	Systemic Safety	W 1st Street / Industrial access	Access to industrial areas off of 1st Street/Biggs-Rufus Highway lacks turn lanes.	Construct westbound left-turn lane on 1st Street at Industrial Park	Rufus	High Priority
86	Project	Systemic Safety	Van Gilder Road Curve Warning Signs	Van Gilder Road is a heavily used route for vehicles in the County and many of the curves lack curve warning signs. KAI observed skid marks on	Install curve warning signs and chevrons as appropriate.	County	High Priority

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority
				one curve.			
4	Project	Systemic Safety	US 97 from Grass Valley to Kent	Observations from the residents indicate there is a high frequency of crashes in this location.	Passing lanes, speed treatments/enforcements, curve warning signs, etc. on US 97 from south County line to Grass Valley.	County	Medium Priority
42	Project	Systemic Safety	US 97 / Stark Lane	There is limited sight distance at the intersection of US 97 / Stark Lane.	Improve sight distance at the intersection of US 97/Stark Lane.	County	Medium Priority
44	Project	Systemic Safety	US 97 / Rutledge Lane	There is limited sight distance at the intersection of US 97 / Rutledge Lane.	Improve sight distance at the intersection of US 97 / Rutledge Lane.	County	Medium Priority
77	Project	Systemic Safety	US 97 / Barnum Lane	There is no left-turn lane from US 97 to Barnum Lane.	Install a left-turn lane from US 97 to Barnum Lane to serve alternate access to race track if alternate connection is provided to race track.	County	Medium Priority
80	Project	Systemic Safety	US 97 / Mud Hollow Road	There is no northbound left-turn lane from US 97 to Mud Hollow Road.	Install a northbound left-turn lane from US 97 to Mud Hollow Road.	County	Medium Priority
49	Project	Systemic Safety	Van Gilder Road	Van Gilder Road lacks guardrail on curves.	Install guardrail.	County	Medium Priority
81	Project	Systemic Safety	US 97 / Wilcox Lane	There is no southbound left-turn lane at US 97 / Wilcox Lane.	Install a left-turn lane at US 97 / Wilcox Lane.	County	Medium Priority
40	Project	Systemic Safety	US 97 / Liberty Lane	There is no southbound right-turn deceleration lane on US 97 at Liberty Lane.	Install southbound right-turn deceleration lane on US 97 at Liberty Lane.	County	Medium Priority
41	Project	Systemic Safety	US 97 / Bourbon Lane	There are no turn lanes from US 97 at Bourbon Lane.	Install turn lanes on US 97 at Bourbon Lane.	County	Medium Priority
51	Project	Systemic Safety	Hay Canyon Road / Monkland Lane	There is a rock bluff at Hay Canyon Road / Monkland Lane that blocks sight distance.	KAI to evaluate intersection and identify project on 5/6.	County	Medium Priority
52	Project	Systemic Safety	OR 206 / Fairview Road	There is a blind corner at OR 206 / Fairview Road.	KAI to evaluate intersection and identify project on 5/6.	County	Medium Priority
47	Project	Systemic Safety	US 97 / Moore Lane	Short deceleration lane length.	Extend deceleration lane length.	County	Low Priority
28	Project	Systemic Safety	US 97 / Clark Street	Northbound right-turn traffic from US 97 has little time to slow before making the right-turn.	Extend length of the existing northbound right-turn deceleration lane on US 97 at Clark Street.	County	Low Priority



Urban Transportation Alternatives
Sherman County, Oregon

Figure
4-2

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Coordinate System: NAD 1983 Oregon Statewide Lambert Feet Intl
Data Source: Wasco County

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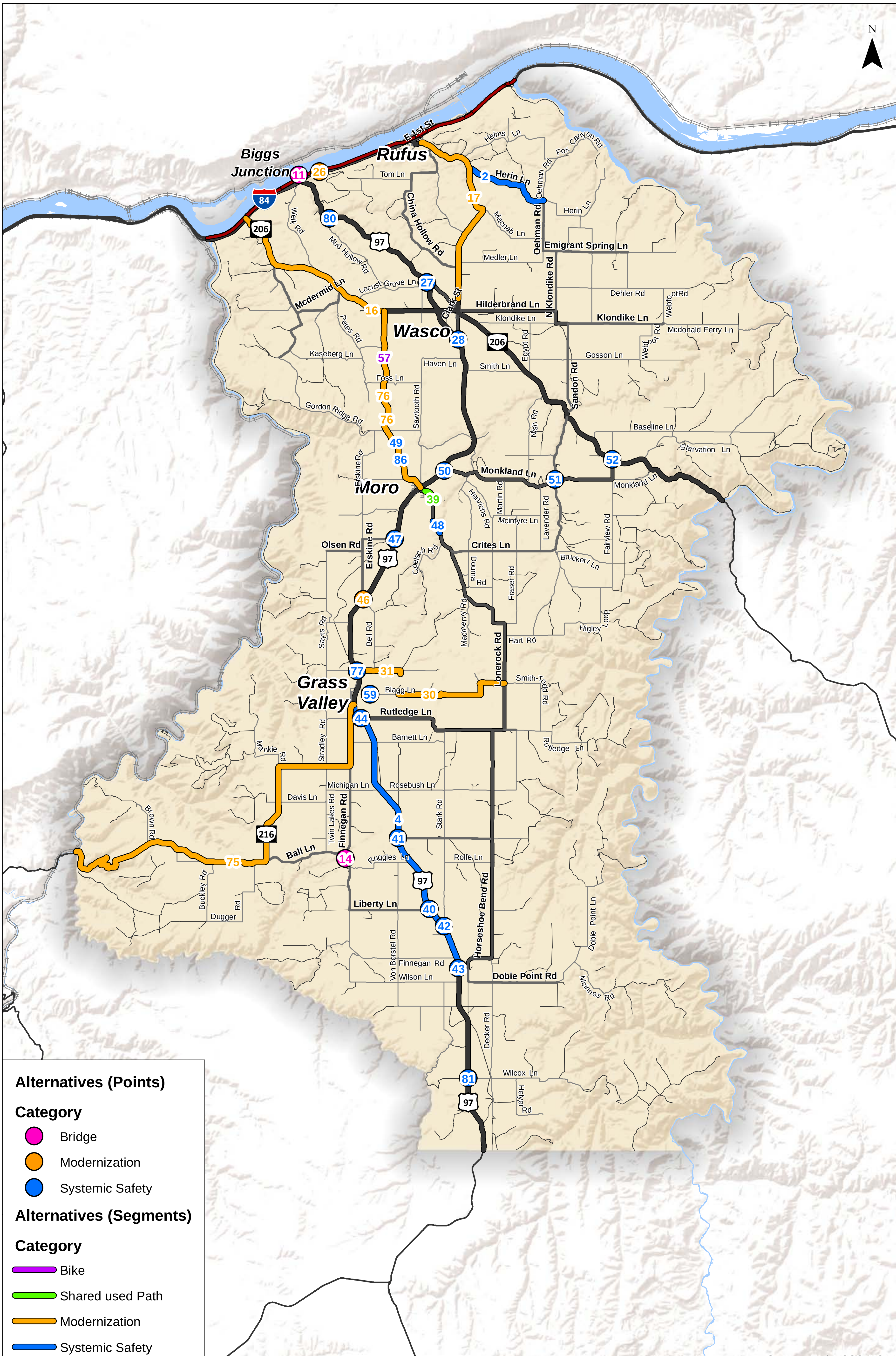

Rural Transportation Alternatives
Sherman County, Oregon

Figure
4-3

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PROJECT TIMING

The projects shown in Table 4-2 were categorized into short-term and medium/long-term projects. Short-term projects include those that could be addressed within the next five years and align with the High Priority projects. 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.

CONCLUSION

This memorandum summarizes future transportation projects proposed for Sherman 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 has reviewed these projects, and their input is reflected in the project prioritization in this memorandum. The next step will be to develop a financially-constrained list of projects based on future potential revenue sources for the projects. Technical Memorandum 5 will summarize the financially-constrained project list.

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TECHNICAL MEMORANDUM #5

Sherman County Transportation System Plan Update

Preferred Alternative

Date:	July 8, 2015	Project #: 18054
To:	Michael Duncan, ODOT Georgia Macnab, Sherman 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 Sherman 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 Sherman County, as expressed by the Public Advisory Committee (PAC) and in-person and on-line public workshops.

The preferred plan applies to the entire county, including areas within the incorporated cities of Rufus, Wasco, Moro, and Grass Valley and the unincorporated communities of Biggs and Kent.

PROJECT ADVISORY COMMITTEE (PAC) FEEDBACK

Draft projects were reviewed at the Project Advisory Committee (PAC) meeting in May 2015. Feedback was incorporated into the preferred project list and prioritization. *Attachment A summarizes the feedback received and changes made to the alternatives.*

ROADWAY SYSTEM PLAN

The Sherman 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.

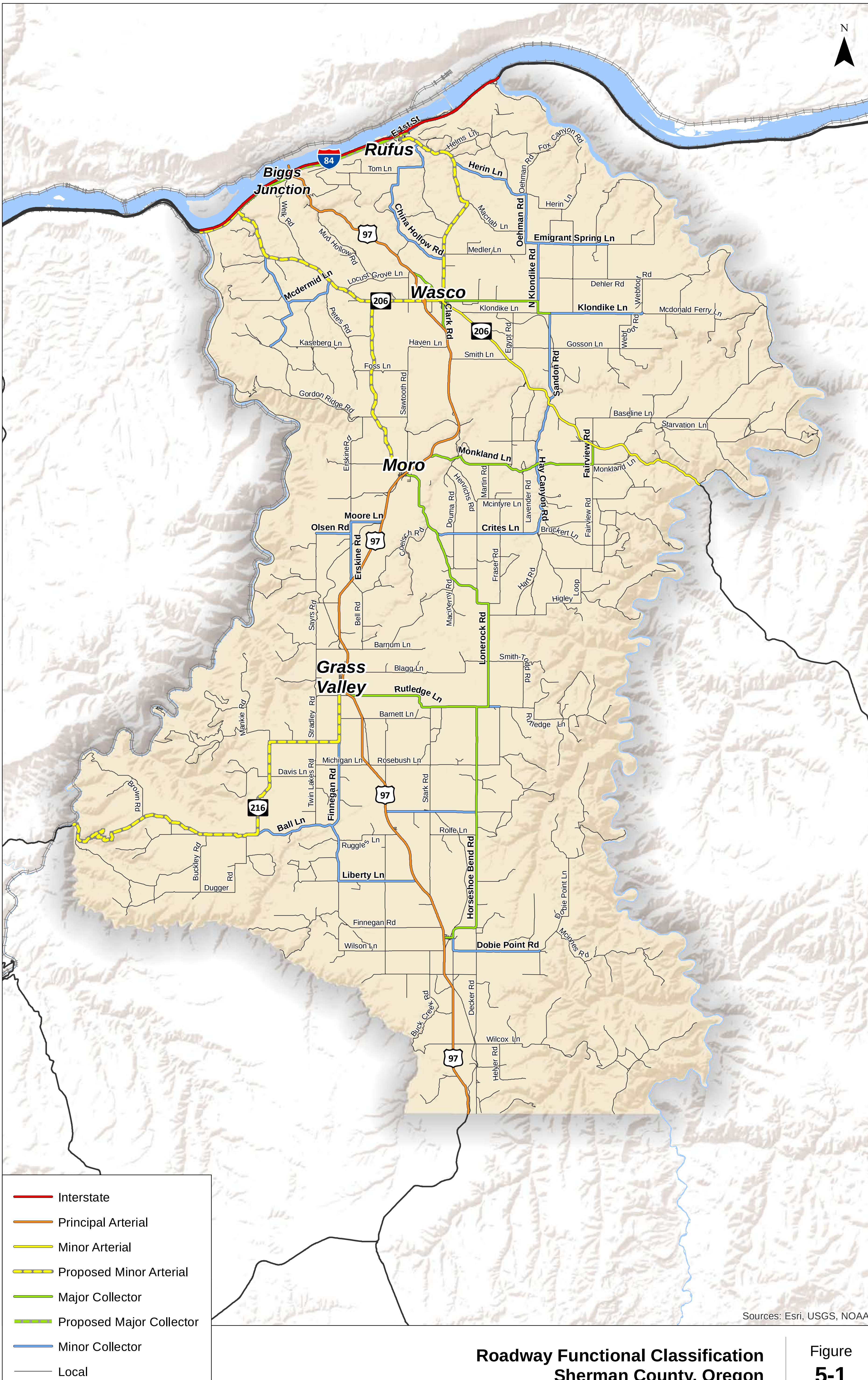
Functional Classifications

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 Sherman County includes: Minor Arterial, Major Collector, Minor Collector, and Local Road. Table 5-1 provides a detailed description of each classification. Figure 5-1 presents the preferred functional classifications for all existing and planned County roadways.

Table 5-1. Sherman 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.



Roadway Functional Classification
Sherman County, Oregon

Figure
5-1

K:\H_Portland\projfile\18054 - Sherman County TSP\gis\memo 5\5-1 Functional Classifications County.mxd - agriffin - 3:48 PM 6/19/2015

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TRANSPORTATION ENGINEERING/PLANNING

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Wasco County

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 5-1, Exhibit 5-2, and Exhibit 5-3. Deviations from these design standards will be considered on a case-by-case basis and approved by the designated roadway manager (e.g., Roadmaster).

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.

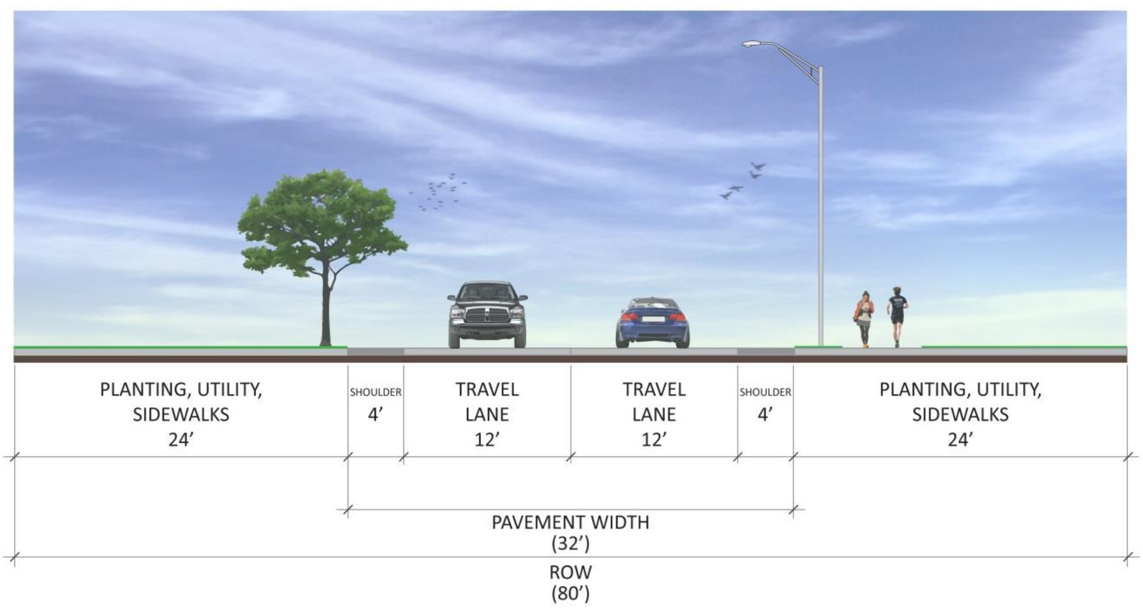


Exhibit 5-1. Rural Arterial Street Cross-Section

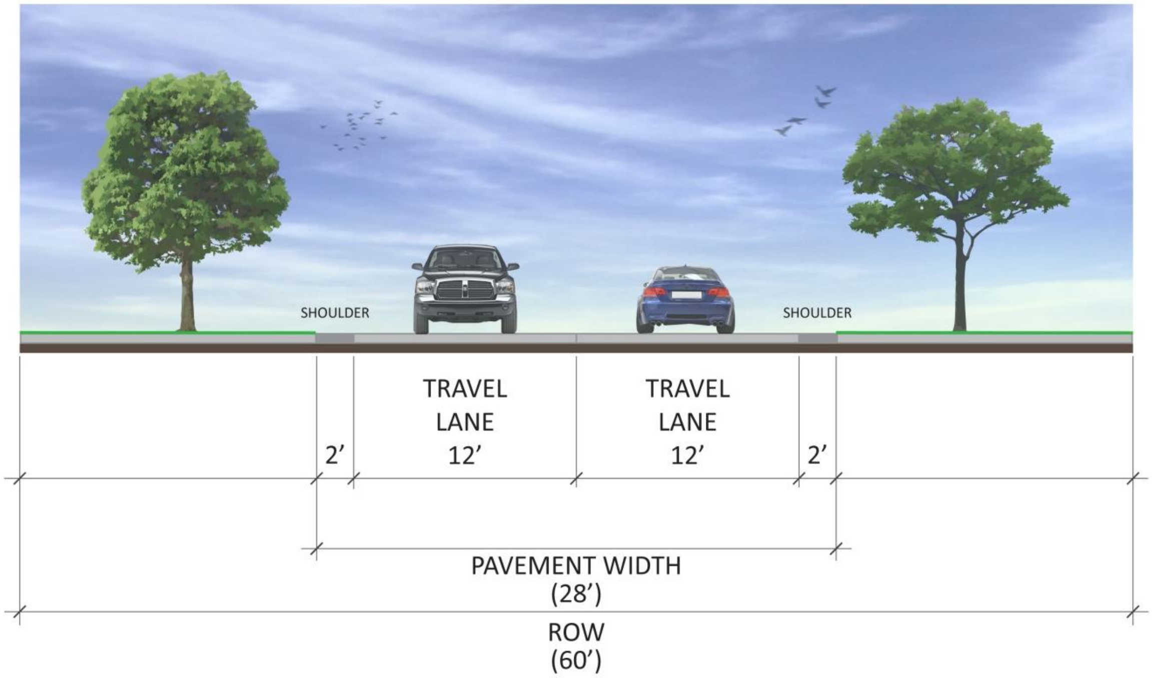


Exhibit 5-2. Rural Major and Minor Collector Street Cross-Section

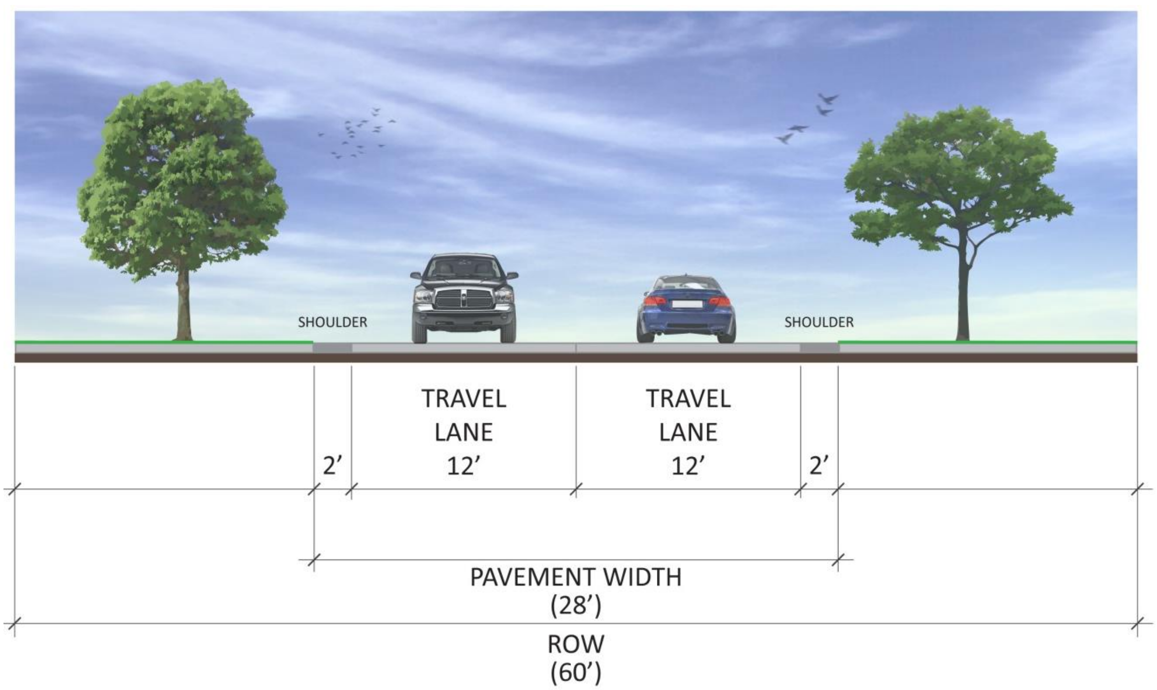


Exhibit 5-3. Rural Local Street Cross-Section

Urban Design Standards

Design standards for City roadways within urban areas (incorporated cities) are provided below.

Rufus Design Standards

City of Rufus' street standards are summarized in Table 5-2. Exhibit 5-4, Exhibit 5-5, Exhibit 5-6, and Exhibit 5-7 illustrate the cross-sections based on the road design standards for the City of Rufus for arterials, collectors, local roads, and half-streets, respectively.

Table 5-2. City of Rufus Road Design Standards

Type of Street	Right-of-Way Width	Paving Width Between Curbs[6]	Curb Return Radius	Maximum Percent of Grade	Minimum Radius of Curvature
Arterial [4]	60'	42'	35'	10%	400'
Collector [4]	60'	28'	35'	10%	300'
Residential [4]	60'	24'	25'	10%	150'
Half Street [4]	50'	20'	25'	10%	150'
Cul-de-sac [4]	50-60' [1]	36' [1]	25'	10%	150'
Alley	20'	20'	15'	10%	150'

1. The paving radius at the turn-around of a cul-de-sac shall be 38' on a right-of-way radius of 50'.
2. Minimum grade of 0.3%. If unavoidable conditions exist, a grade of 2% steeper than that shown will be allowed.
3. One street name sign shall be provided at each intersection for each street.
4. Curbs and gutters shall be provided on both sides of the street on Arterial and Collector Streets with the council discretion of curb designs.
5. Curbs, Gutters, pedestrian walkways and bike lanes may be required on Residential, Half Street, and Cul-de-sac streets.
6. With approval from the City, pavement widths may be reduced to a minimum of 36' for Arterials, 24' for Collectors, 20' for Residential streets, 18' for half-streets, 15' for alleys, and 26' for a cul-de-sac.

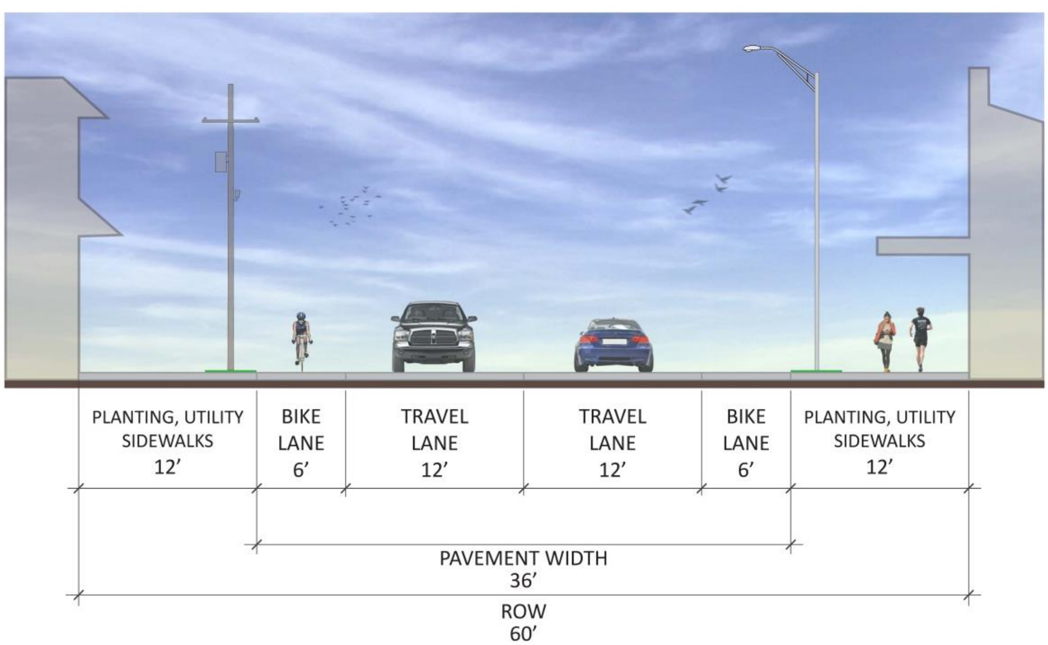


Exhibit 5-4. City of Rufus Arterial Design Standard

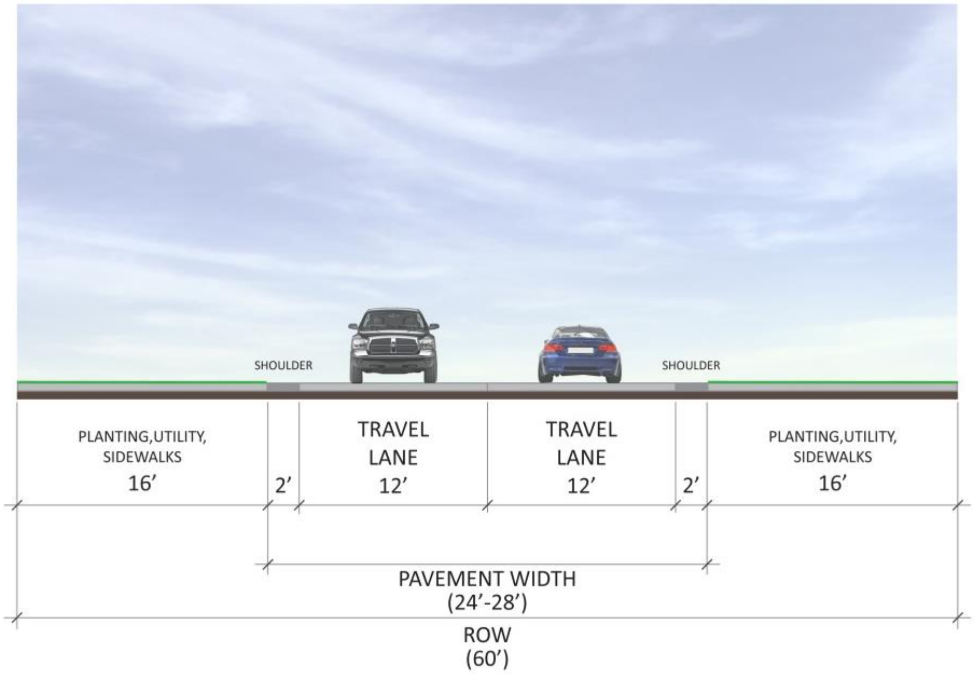


Exhibit 5-5. City of Rufus Collector Design Standard

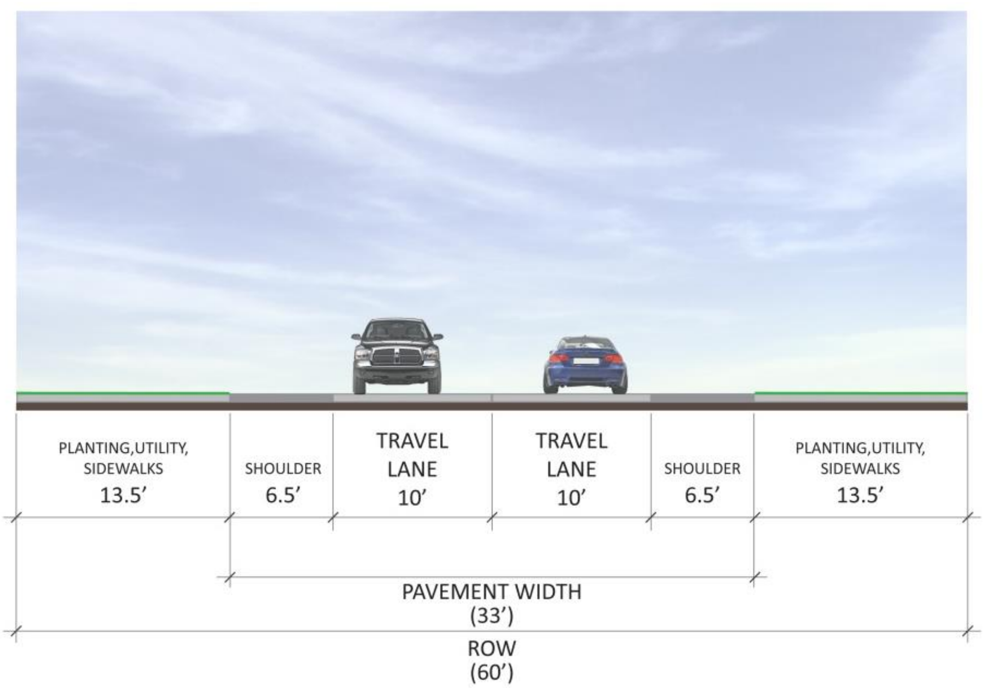


Exhibit 5-6. City of Rufus Local Road Design Standard

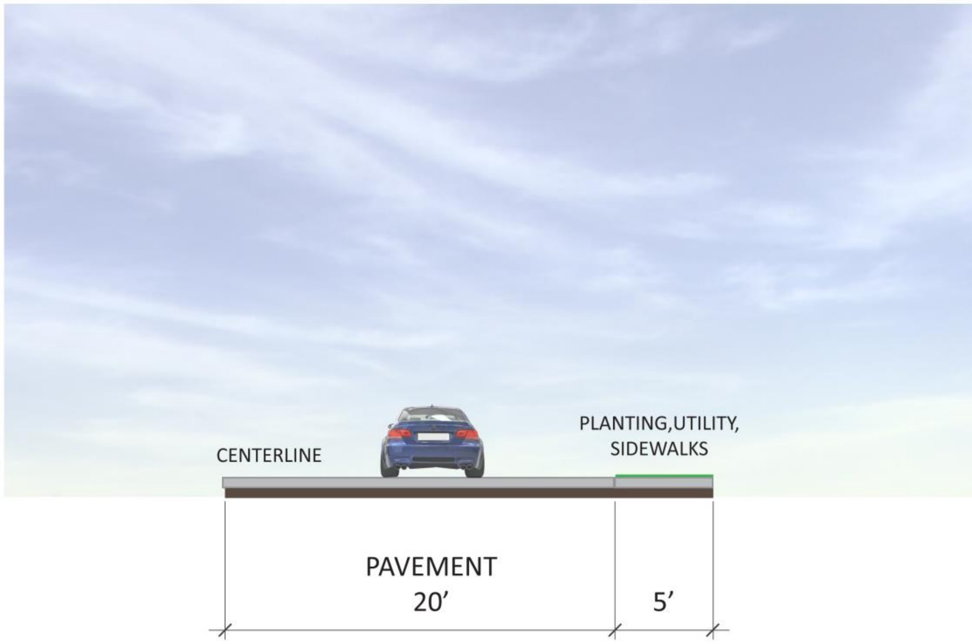


Exhibit 5-7. City of Rufus Half-Street Design Standard

Moro Design Standards

City of Moro’s street standards are summarized in Table 5-3. Exhibit 5-8, Exhibit 5-9, Exhibit 5-10, and Exhibit 5-11 illustrate the cross-sections based on the road design standards for the City of Moro for arterials, collectors, local roads, and half-streets, respectively.

Table 5-3. City of Moro Road Design Standards

Type of Street	Right-of-Way Width	Paving Width Between Curbs[5]	Curb Return Radius	Maximum Percent of Grade	Minimum Radius of Curvature
Arterial [4]	60'	42'	35'	10%	400'
Collector [4]	50'	28’	35'	10%	300'
Residential [4]	50'	24’	25'	10%	150'
Half Street [4]	50'	20’	25'	10%	150'
Cul-de-sac [4]	50-60' [1]	36' [1]	25'	10%	150'
Alley	20'	20’	15'	10%	150'

1. The paving radius at the turn-around of a cul-de-sac shall be 38' on a right-of-way radius of 50'.
2. Minimum grade of 0.3%. If unavoidable conditions exist, a grade of 2% steeper than that shown will be allowed.
3. One street name sign shall be provided at each intersection for each street.
4. Curbs and gutters shall be provided on both sides of the street on Arterial and Collector Streets. Curbs, Gutters, pedestrian walkways and bike lanes may be required on Residential, Half Street, and Cul-de-sacs.
5. With approval from the City, pavement widths may be reduced to a minimum of 36’ for Arterials, 24’ for Collectors, 20’ for Residential streets, 18’ for half-streets, 26’ for a cul-de-sac, and 15’ for alleys.

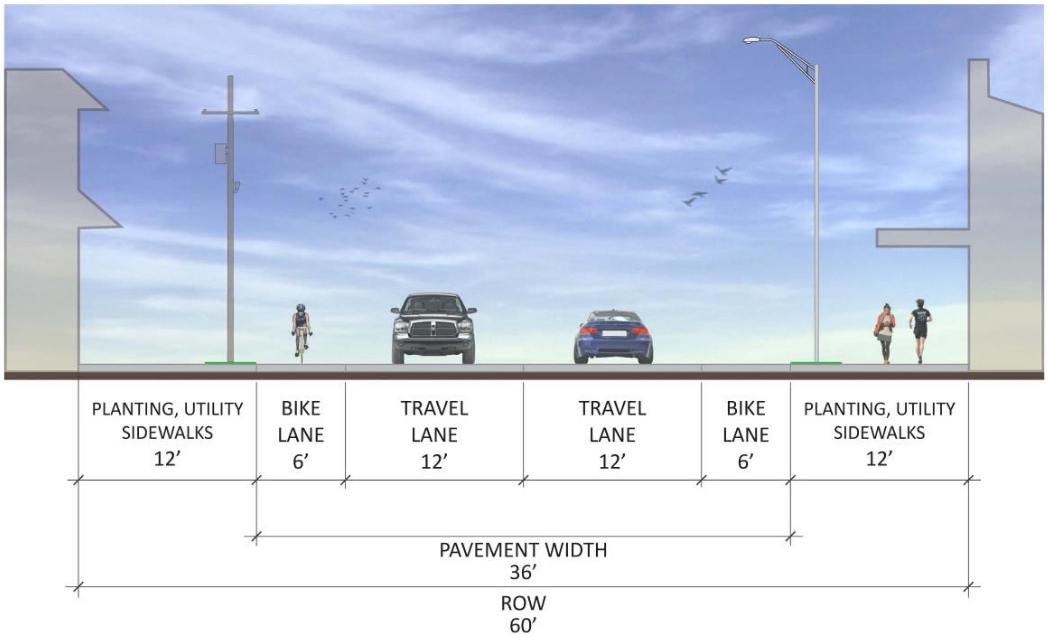


Exhibit 5-8. City of Moro Arterial Design Standard

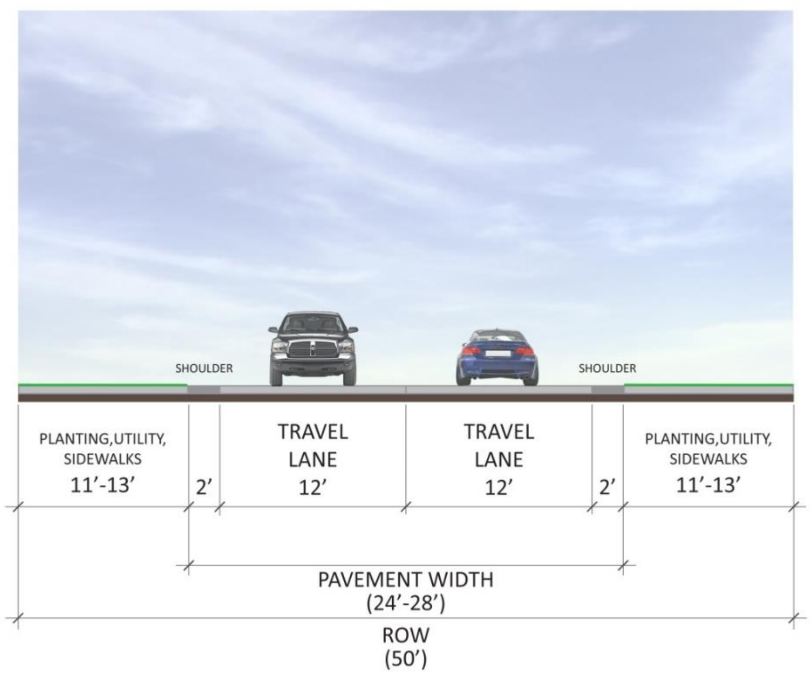


Exhibit 5-9. City of Moro Collector Design Standard

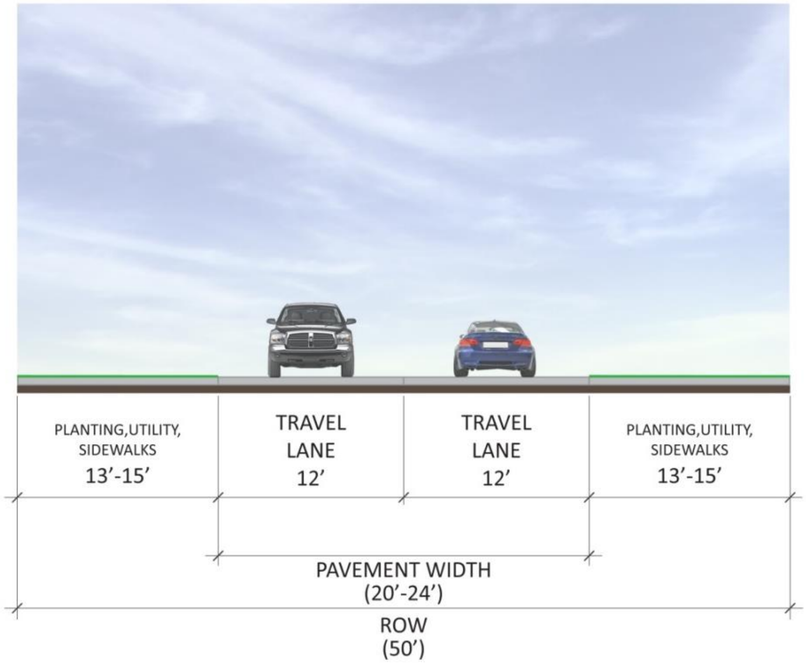


Exhibit 5-10. City of Moro Local Road Design Standard

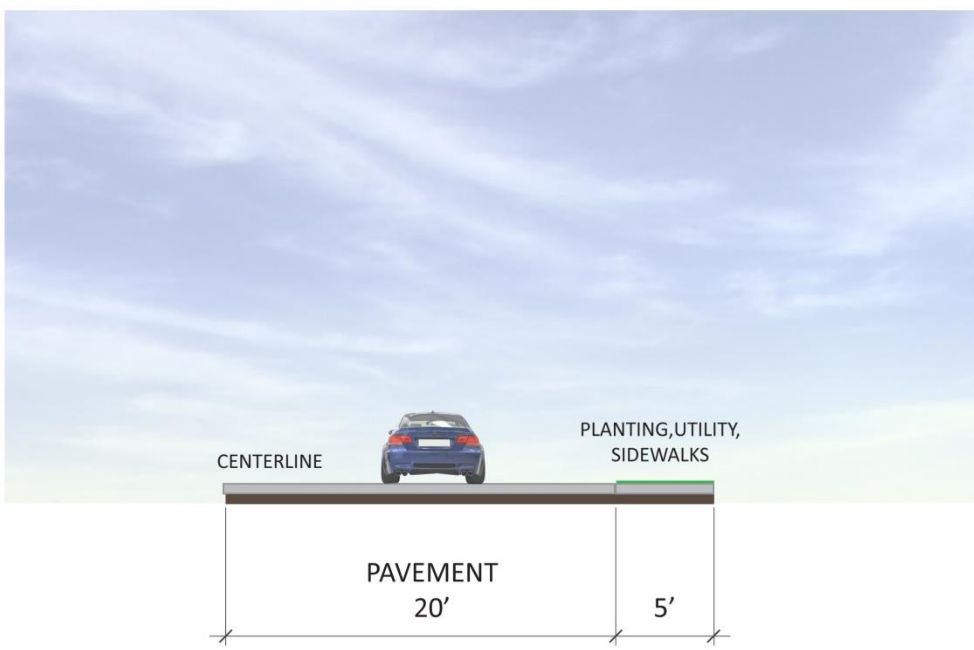


Exhibit 5-11. City of Moro Half-Street Design Standard

Wasco Design Standards

City of Wasco's street standards are summarized in Table 5-4. Exhibit 5-12, Exhibit 5-13, Exhibit 5-14, and Exhibit 5-15 illustrate the cross-sections based on the road design standards for the City of Wasco for arterials, collectors, local roads, and half-streets, respectively.

Table 5-4. City of Wasco Road Design Standards

Type of Street	Right-of-Way Width	Paving Width Between Curbs[5]	Curb Return Radius	Maximum Percent of Grade	Minimum Radius of Curvature
Arterial [4]	60'	42'	35'	10%	400'
Collector [4]	60'	28'	35'	10%	300'
Residential [4]	60'	33'	25'	10%	150'
Half Street [4]	50'	20'	25'	10%	150'
Cul-de-sac [4]	50-60' [1]	36' [1]	25'	10%	150'
Alley	20'	20'	15'	10%	150'

1. The paving radius at the turn-around of a cul-de-sac shall be 38' on a right-of-way radius of 50'.
2. Minimum grade of 0.3%. If unavoidable conditions exist, a grade of 2% steeper than that shown will be allowed.
3. One street name sign shall be provided at each intersection for each street.
4. Curbs and gutters shall be provided on both sides of the street on Arterial and Collector Streets. Curbs, Gutters, pedestrian walkways and bike lanes may be required on Residential, Half Street, and Cul-de-sacs.
5. With approval from the City, pavement widths may be reduced to a minimum of 36' for Arterials, 24' for Collectors, 20' for Residential streets, 18' for half-streets, 15' for alleys, and 26' for a cul-de-sac.

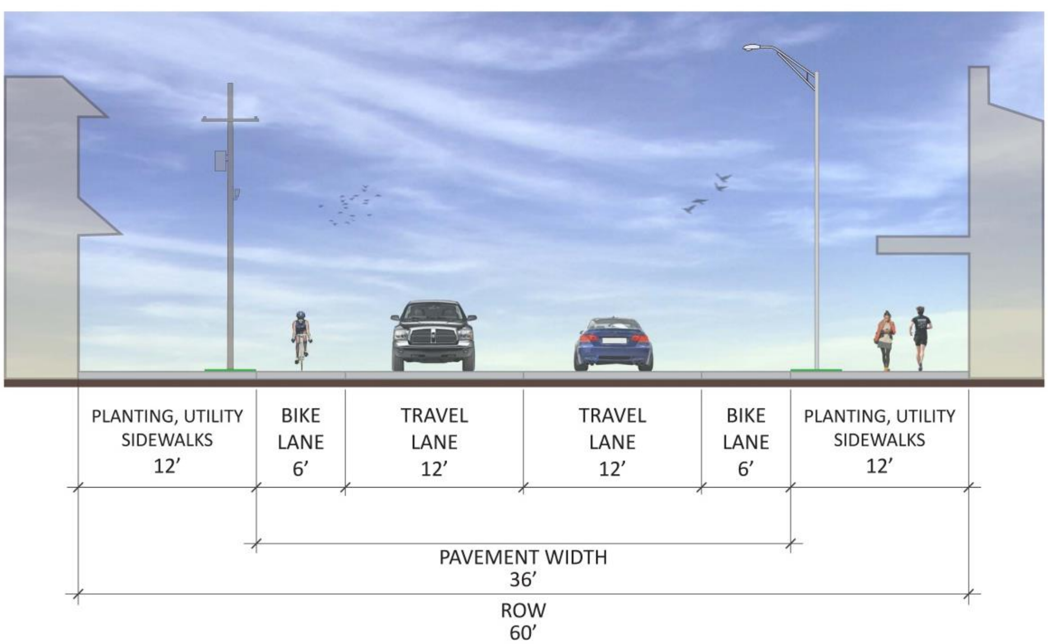


Exhibit 5-12. City of Wasco Arterial Design Standard

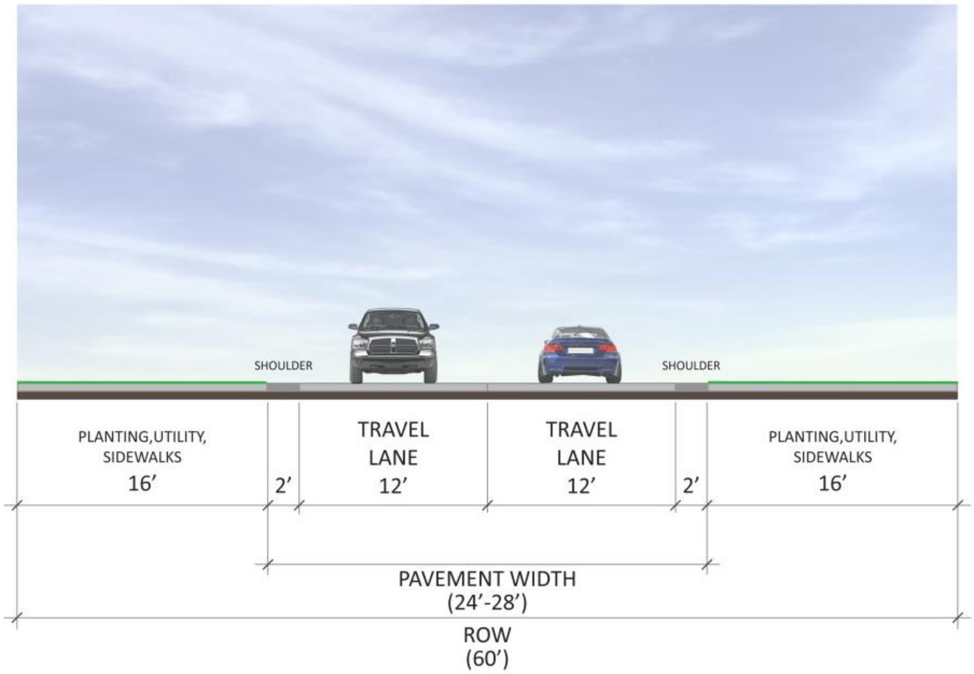


Exhibit 5-13. City of Wasco Collector Design Standard

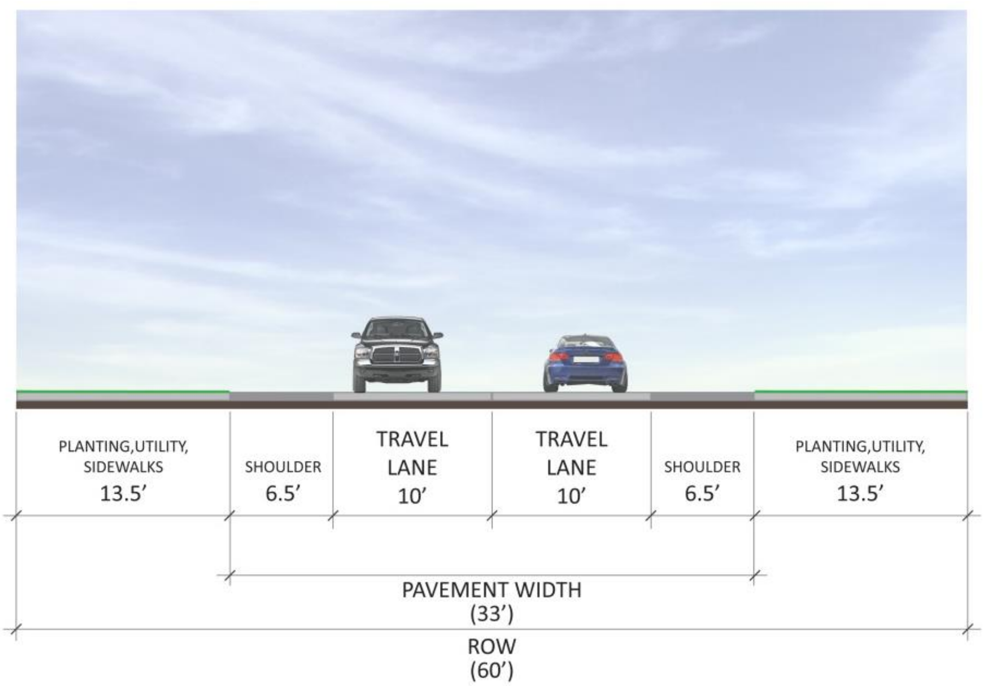


Exhibit 5-14. City of Wasco Local Street Design Standard

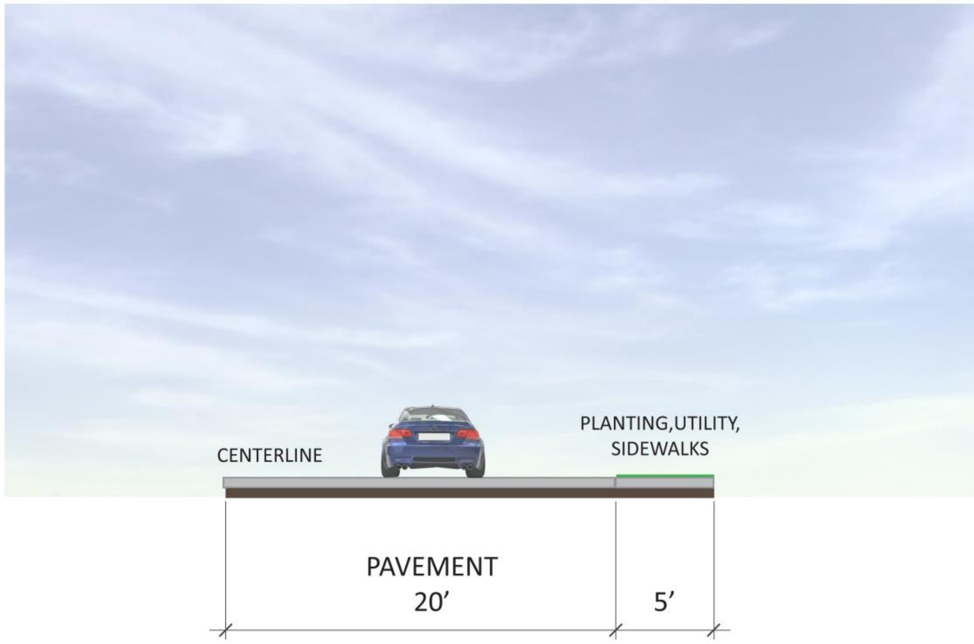


Exhibit 5-15. City of Wasco Half-Street Design Standard

Grass Valley Design Standards

City of Grass Valley’s street standards are summarized in Table 5-5. Exhibit 5-16, Exhibit 5-17, Exhibit 5-18, and Exhibit 5-19 illustrate the cross-sections based on the road design standards for the City of Grass Valley for arterials, collectors, local roads, and half-streets, respectively.

Table 5-5. City of Grass Valley Road Design Standards

Type of Street	Right-of-Way Width	Paving Width Between Curbs[5]	Curb Return Radius	Maximum Percent of Grade	Minimum Radius of Curvature
Arterial [4]	60'	42'	35'	10%	400'
Collector [4]	60'	28’	35'	10%	300'
Residential [4]	60'	24’	25'	10%	150'
Half Street [4]	50'	20’	25'	10%	150'
Cul-de-sac [4]	50-60' [1]	36' [1]	25'	10%	150'
Alley	20'	20’	15'	10%	150'

1. The paving radius at the turn-around of a cul-de-sac shall be 38' on a right-of-way radius of 50'.
2. Minimum grade of 0.3%. If unavoidable conditions exist, a grade of 2% steeper than that shown will be allowed.
3. One street name sign shall be provided at each intersection for each street.
4. Curbs and gutters shall be provided on both sides of the street on Arterial and Collector Streets. Curbs, Gutters, pedestrian walkways and bike lanes may be required on Residential, Half Street, and Cul-de-sacs.

5. With approval from the City, pavement widths may be reduced to a minimum of 36' for Arterials, 24' for Collectors, 20' for Residential streets, 18' for half-streets, 15' for alleys, and 26' for a cul-de-sac.

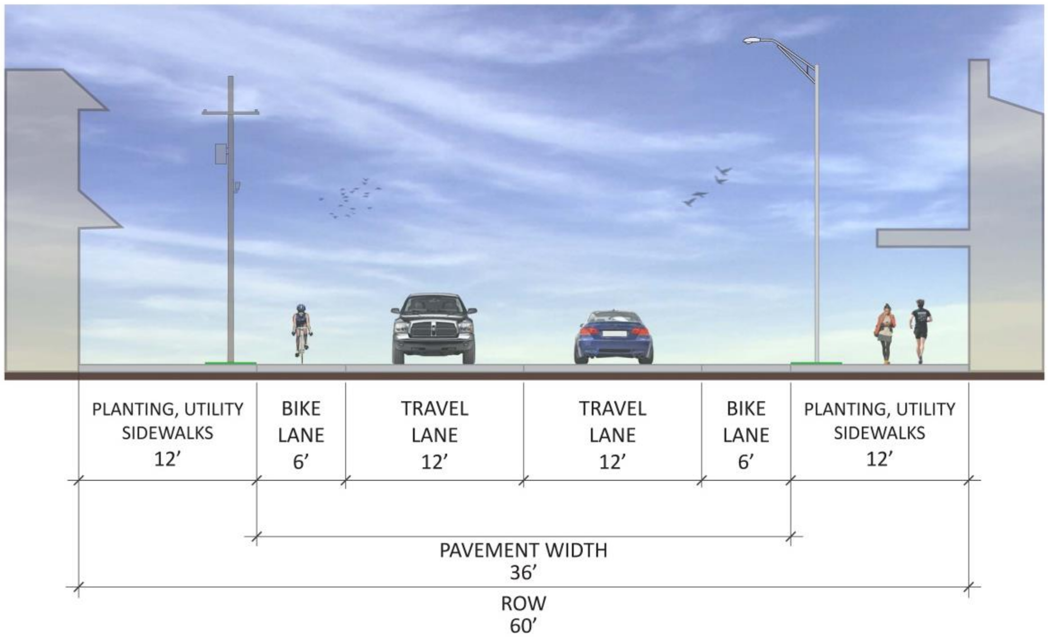


Exhibit 5-16. City of Grass Valley Arterial Design Standard

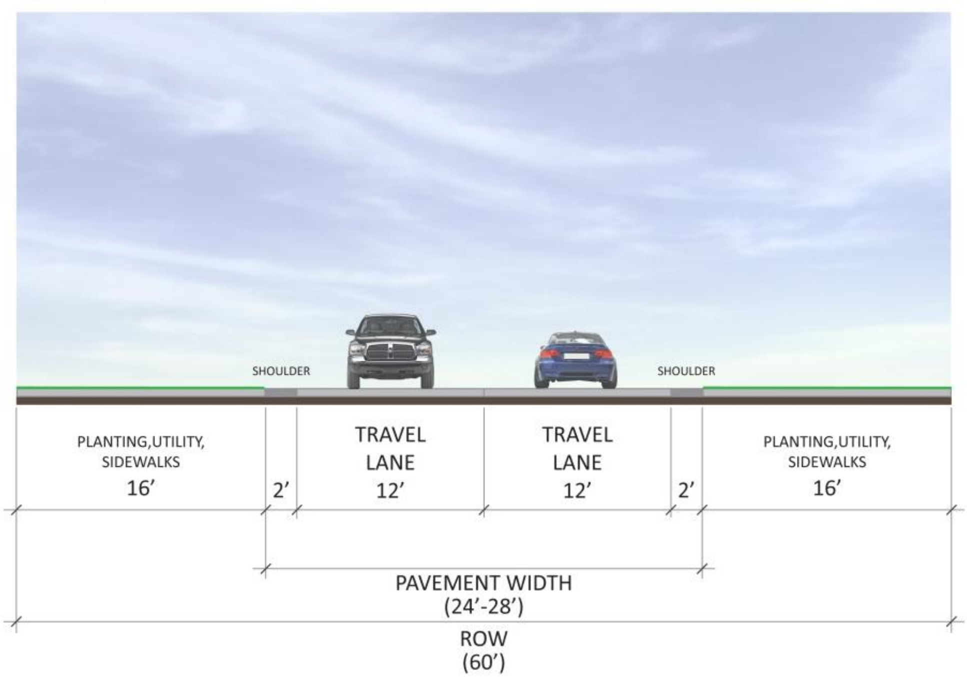


Exhibit 5-17. City of Grass Valley Collector Design Standard

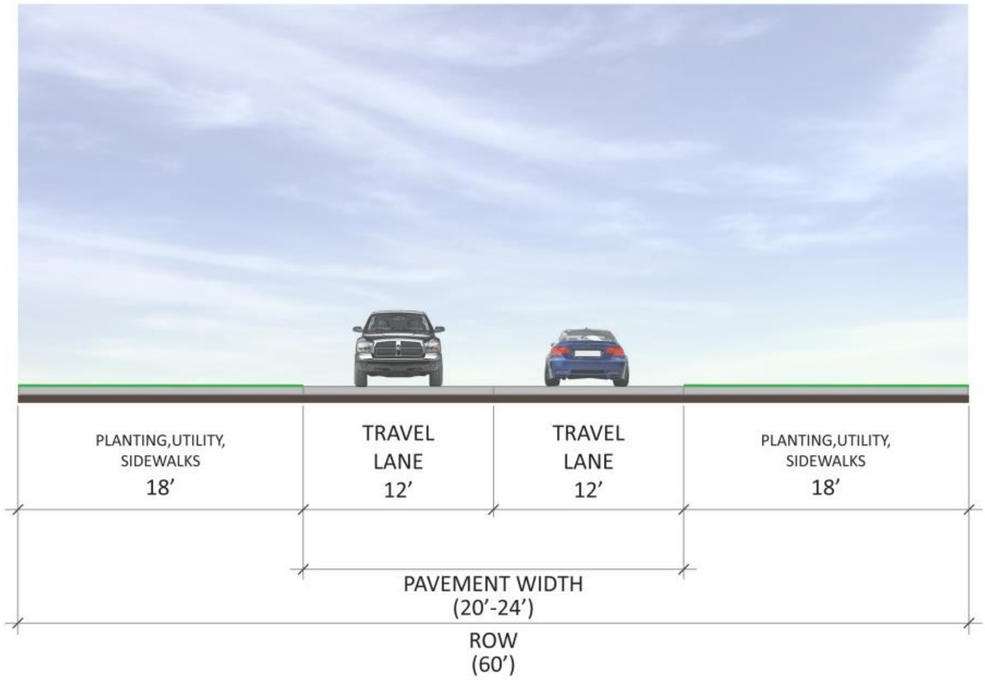


Exhibit 5-18. City of Grass Valley Local Road Design Standard

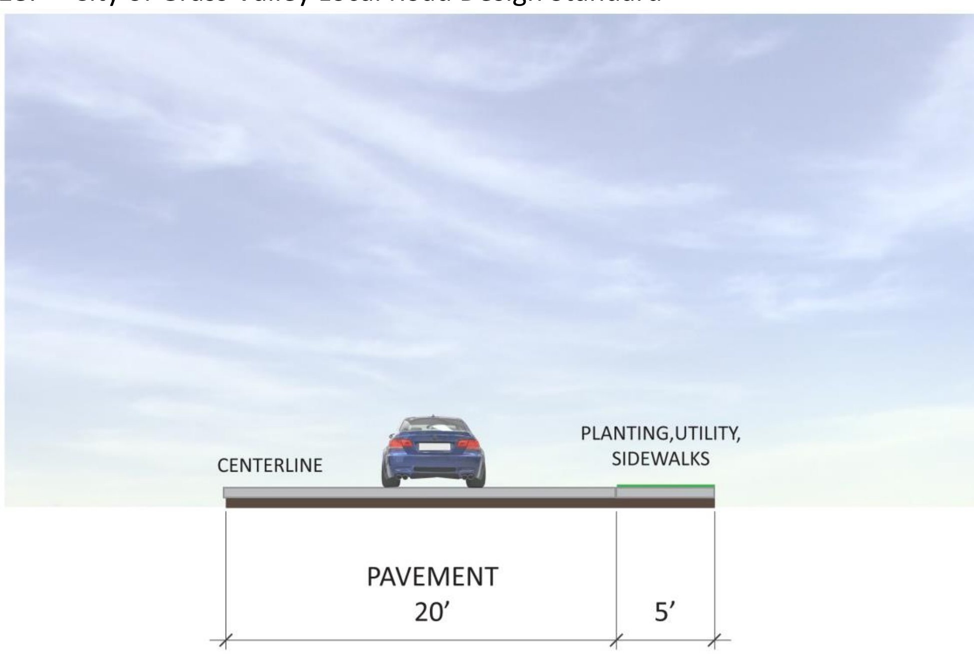


Exhibit 5-19. City of Grass Valley Half-Street Design Standard

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 5-6.

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 Sherman County's roadways.

Table 5-6. Access Management Spacing Standards for Rural Sherman County Roadways

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

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

Sherman 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 #4 to address safety concerns and reduce potential for crashes in Sherman County. The projects have been categorized as hot spot or systemic projects, consistent with the ODOT All Roads Transportation Safety (ARTS) program project classifications.

Background

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

ARTS project funding will be allocated through the Statewide Transportation Improvement Program (STIP). The project locations are selected based on reported history of fatal and severe injury crashes. The draft 300-percent list for ODOT Region 4 2017-2021 Hotspot Safety projects does not include any projects in Sherman County. Similarly, the draft 150-percent list of 2017-2021 Systemic Safety projects in Region 4 does not include any projects in Sherman County.

County Systemic Safety Prioritization Methodology

Although no safety projects in Sherman 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:

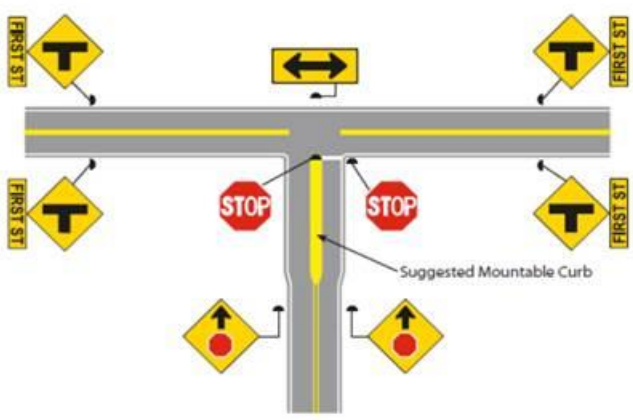
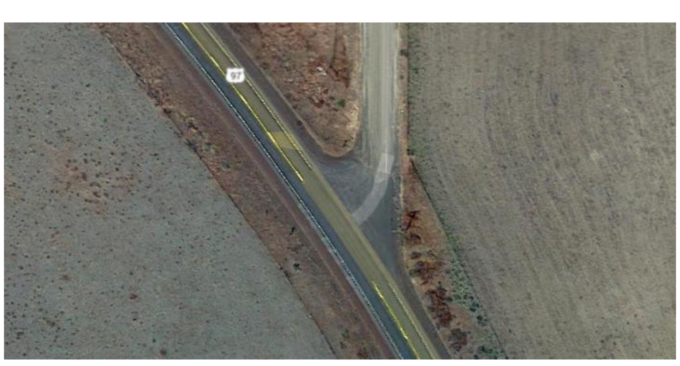
- Projects developed by the consultant team to address safety concerns identified by the Project Advisory Committee;
- Projects identified in ODOT's Roadway Departure, Intersection, and Pedestrian/Bicycle Safety Implementation Plans;
- Projects identified for locations with geometric and traffic control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

Systemic countermeasures that may be applied for the Roadway Departure projects include centerline rumble strips, edgeline rumble strips, shoulder widening, guardrail, and curve warning signs, as summarized in Table 5-7. Intersection treatments may include additional signage, pavement markings, right-turn deceleration lanes, left-turn lanes, and mountable raised medians, as shown by the concepts in Table 5-8. Traffic volumes were not available for any of the locations where turn lanes or deceleration lanes were identified. Therefore, ODOT warrants should be reviewed prior to implementation of the left-turn or right-turn deceleration lanes. Cost estimates for these projects were based on unit costs from ODOT's list of approved Crash Reduction Factors (CRFs), 2014 ODOT bid items, and previous projects. A 40-percent contingency is applied to all estimates.

Table 5-7. 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)
Shoulder Widening  Photo: Low Cost Treatments for Horizontal Curve Safety (http://safety.fhwa.dot.gov/roadway_dept /horicurves/fhwasa07002/ch6.cfm)	Widen the paved roadway shoulder to provide additional space for vehicles to recover if they exit the travel lane.	3 to 6 percent reduction in crashes per one foot of shoulder widening. (Source: *CMF Clearinghouse* and *ODOT's List of Approved CRFs*)
Safety Edge  Photo: Selecting Speed Treatments, FHWA (http://safety.fhwa.dot.gov/hsip/hrrr/manual/sec45.cfm)	Install Safety Edge treatment on the pavement edge drop-off to provide a more gradual drop-off and increase the likelihood of vehicle recovery if the vehicle exits the roadway. This may be done in conjunction with shoulder widening or pavement maintenance activities.	5 to 15 percent reduction in rural roadway crashes. (Source: *CMF Clearinghouse* and *ODOT's List of Approved CRFs*)
Guardrail  Photo: FHWA Horizontal Curve Safety (Source: http://safety.fhwa.dot.gov/roadway_dept/horicurves/cmhoricurves/)	Install guardrail to prevent vehicles from entering areas that are not recoverable. When guardrail is located close to the roadway, vehicles are more likely to hit it. However, these crashes are typically less severe than roadway departure crashes in locations without guardrail. Guardrail is often used in situations where there is limited recovery area for vehicles and steep drop offs or fixed objects are present.	38 percent reduction to 23 percent increase in run off the road crashes. Source: *CMF Clearinghouse* (CMF ID: 39). *Note: This item is not included in ODOT's list of approved systemic countermeasures.*

Table 5-8. 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)
Right-Turn Deceleration Lane  	Install right-turn deceleration lanes to provide an area for vehicles to slow down prior to completing a turning movement on high-speed roads. Deceleration lanes reduce the likelihood that vehicles will be rear-ended when slowing for a turn.	14 to 26 percent reduction in crashes at unsignalized intersections. (Source: *Highway Safety Manual* and *ODOT's List of Approved CRFs*) *Note: This item is included in ODOT's list of approved CRFs as a hot spot treatment rather than systemic.*
Left-turn Lane  	Install a left-turn lane to provide an area for vehicles to decelerate prior to making a left-turn and an area for vehicles to wait until a sufficient gap in traffic is available to complete the left-turn. Left-turn lanes help reduce rear-end crashes and discourage left-turn vehicles from taking smaller gaps in traffic because they have a refuge area.	33 to 55 percent reduction in crashes at rural unsignalized intersections. (Source: *Highway Safety Manual* and *ODOT's List of Approved CRFs*) *Note: This item is included in ODOT's list of approved CRFs as a hot spot treatment rather than systemic.*
Reduce Intersection Skew by Realignment  *(Example of skewed approach prior to realignment.)*	Realign the intersection to create a 90-degree intersection, removing any skewed approaches.	The effectiveness of this treatment varies depending on the skew angle of the intersection prior to realignment.
Improve Intersection Sight Distance  *(Example of restricted sight distance that could be mitigated by tree removal.)*	Improve intersection sight distance to meet minimum AASHTO guidance based on the posted speed limit of the major roadway.	44 to 89 percent reduction in crashes at rural unsignalized intersections. (Source: *ODOT's List of Approved CRFs*)

Lists of prioritized Roadway Departure projects and Intersection projects, based on a set of objective criteria outlined in Table 5-9, are provided in Table 5-10 and Table 5-11. Figure 5-2 illustrates the locations of these projects throughout the County. The projects are ordered from highest to lowest priority based on the criteria each location satisfies. All locations where a fatal or severe injury crash occurred in the County were reviewed. However, crashes are not always associated with geometric factors. Crashes are random occurrences and often influenced by driver errors such as impaired driving and inattention. If no geometric factors were found during the review of the severe crash location, the location was excluded from the list of systemic safety projects. Similarly, locations where geometric concerns were identified by the County or Cities may be included even if no crashes have been reported during the past five years. No systemic pedestrian and bicycle safety projects were identified.

Table 5-9. 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	▪ ≥1 Fatal or Injury A Crash ▪ ≥2 Injury B or C Crashes ▪ ≥3 PDO Crashes ▪ Restricted intersection sight distance ▪ Skewed intersection approach ▪ Uncontrolled approach speed >45 mph ▪ Functional classification ▪ Land use

Table 5-10. Systemic Safety Roadway Departure Projects

						Potential Countermeasures							
ID	**Roadway**	**Start MP or Cross Street**	**End MP or Cross Street**	**Priority**	**Cost Estimate**	**Inlaid Raised Pavement Markers**	**Widen Shoulder & Install Safety Edge**	**Install Centerline and Shoulder Rumble Strips***	**Curve Warning Signs**	**Chevrons at Curves**	**Guard-rail**	**Passing Lanes^**	**Speed Enforcement**
95	US 97	0.86	6.20	High	$18,500	X		X	X	X			
4	US 97	42.43	43	High	$4,800	X		X	X	X		X	X
87	OR 206	3	6.1	Medium	$12,900	X		X	X	X			
88	US 97	22.5	23.9	Medium	$8,600	X		X				X**	
89	Scott Canyon Road	Rufus City Limits	Herin Lane	Medium	$9,500	X	X	X	X	X			
90	US 97	12	13.28	Medium	$6,600	X		X					
91	US 97	33.33	33.58	Medium	$4,000	X		X	X	X			
49 & 86	Van Gilder Road	4	5.6	Medium	$14,700	X	X	X	X	X	X		
92	Scott Canyon Road	Medler Ln	Gerking Canyon Rd	Low	$6,600	X	X	X	X	X			
2	Herin Lane	Scott Canyon Road	Oehman Road	Low	$9,200	X	X	X					
48	Lonerock Road	N/A	N/A	High	$5,300	X	X	X			X		
59	Blagg Lane	N/A	N/A	Low	$3,500	X	X	X	X	X			

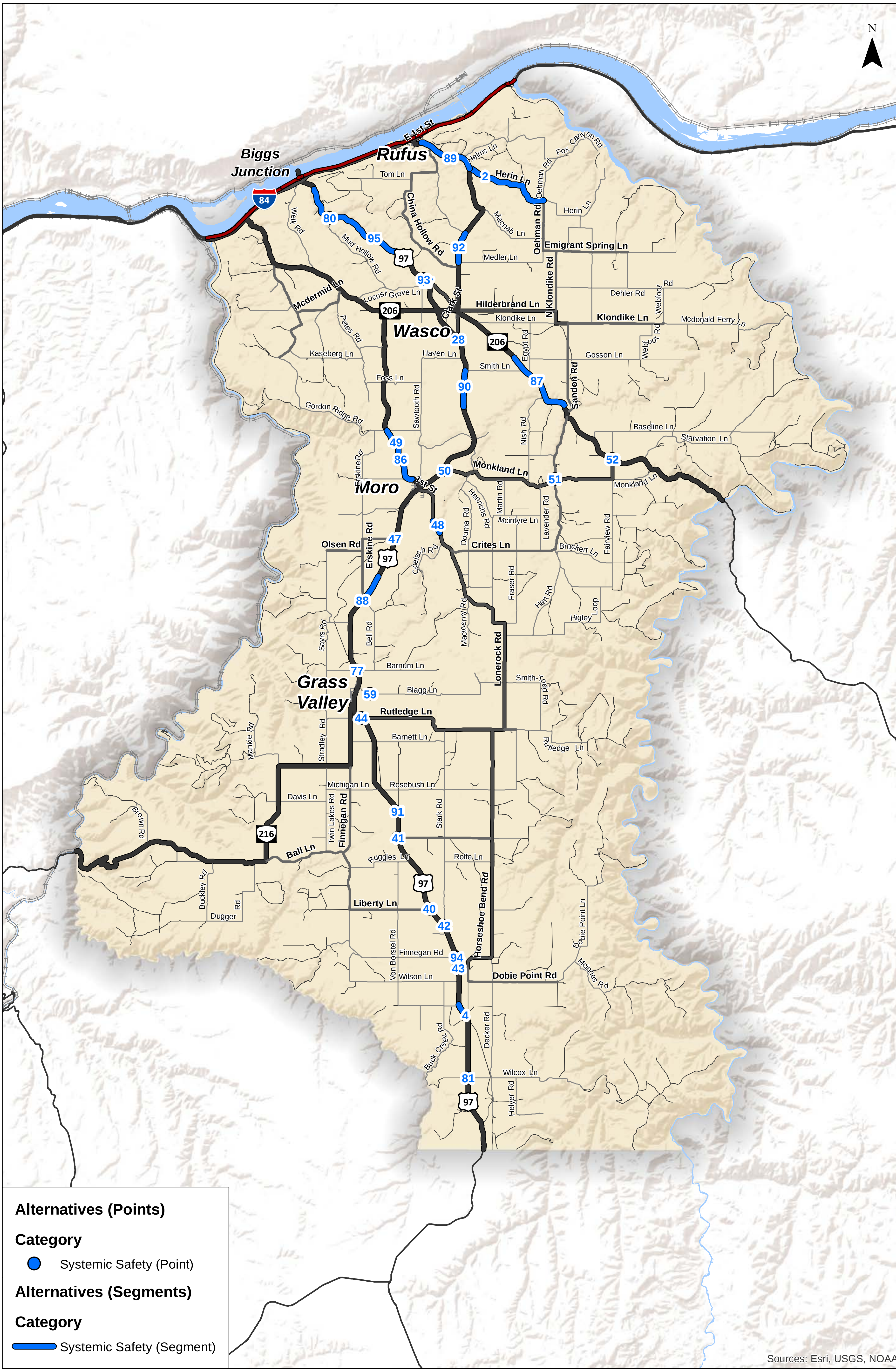
*Rumble strips should only be installed in locations where the shoulder width permits it.

^Passing lanes and speed enforcement should involve further study prior to implementation. Cost estimates do not include passing lanes.

**Passing lanes exist from approximately MP 23 to 23.55. The study should evaluate whether this passing lane can be lengthened.

Table 5-11. Systemic Safety Intersection Projects

ID	Major Road	Minor Road	Priority	Cost Estimate	Potential Countermeasures						
					Rural Intersection Signing and Marking Improvements	Right-turn deceleration Lane	Lengthen existing right-turn deceleration lane	Install left-turn lane	Lengthen existing left-turn lane	Improve sight distance	Reduce intersection skew
50	US 97	Monkland Lane	High	$309,900				X		X	
77	US 97	Barnum Lane	High	$309,900				X			
93	US 97	Sawtooth Road	High	$6,500	X						
94	US 97	Finnegan Road	Medium	$18,500							X
42	US 97	Stark Lane	Medium	$5,000						X	
47	US 97	Moore Lane	Low	$25,600			X				
52	OR 206	Fairview Road	Medium	$27,300	X						X
44	US 97	Rutledge Lane	Medium	$25,600							X
80	US 97	Mud Hollow Road	Medium	$309,900				X			
40	US 97	Liberty Lane	Medium	$210,000		X					
41	US 97	Bourbon Lane	Medium	$309,900				X			
27	US 97	Old Highway 97	Medium	$309,900				X			
20	W 1st Street / Biggs-Rufus Highway	Industrial Access	High	$309,900				X			
43	US 97	Dobie Point Road	High	$514,900		X		X			
28	US 97	Clark Street	Low	$25,600			X				
81	US 97	Wilcox Lane	Medium	$309,900				X			
51	Monkland Lane	Hay Canyon Road	Medium	$3,200	X						



Systemic Safety Projects
Sherman County, Oregon

Figure
5-2

IMPLEMENTATION PLAN

This section outlines specific transportation system improvement projects as well as a categorization of the identified improvements into two groups: near- 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 Sherman 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 Sherman County are listed in Table 5-12, and the preferred transportation improvements for the incorporated cities of Rufus, Wasco, Moro, and Grass Valley are shown in Table 5-13. The table includes a project number for reference to the project location illustrated in Figure 5-3 for rural areas and Figure 5-4 for urban areas. Additionally, the tables include preliminary cost estimates with 40-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. *Cost estimate calculations and assumptions are provided in Attachment B.*

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 5-12. Planned Transportation Improvements in Sherman County (including unincorporated areas of Biggs and Kent)

ID	Name	Description	Category	Type	Cost Estimate[1]	Potential Funding Source			
						ODOT/ State	County	Cities	Private
Short-Term Projects									
15	Roadway Design Guidelines	Update roadway design guidelines for each community.	Modernization	Policy	$0		X	X	
72	Traffic Speeds on US 97	Improve education and enforcement related to traffic speeds in the County through programs and additional signage or campaigns. Evaluate the feasibility of using ITS treatments to reduce speed in Cities throughout the County.	Safety	Program/ Study	$20,000	X	X	X	
73	Truck Volumes and Speeds on US 97 in Cities	Install speed reduction treatments on US 97 to reinforce posted speeds in cities. Speed reduction treatments may consider automated speed enforcement, speed feedback signs, roadway modifications to visually indicate to drivers that they are entering urban area.	Safety	Project	$56,800	X	X	X	
74	Passing Opportunities on US 97	Conduct study to determine locations where passing lanes are needed. Supplement with previous work ODOT has completed.	Safety	Study	$10,000	X	X		
5	Weather-related crashes	Conduct study to determine feasibility and cost of implementing treatments for weather related crashes, including: ITS treatments, different pavement materials, warning signs, etc.	Safety	Study	$10,000	X			
16	OR 206/Fulton Canyon Road & Biggs-Rufus Highway Upgrade	Upgrade OR 206/Fulton Canyon Road from a major collector to a minor arterial from the intersection of US 97 to the intersection with Biggs-Rufus Highway. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the roads to arterial standards.	Modernization	Policy & Study	$10,000	X	X		
17	Scott Canyon Road Upgrade	Upgrade Scott Canyon Road from a major collector to a minor arterial from OR 206 in Wasco to Biggs-Rufus Highway in Rufus. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the road to arterial standards.	Modernization	Policy & Study	$0		X		
75	OR 216 Upgrade	Upgrade OR 216 from a major collector to a minor arterial from US 97 in Grass Valley to Deschutes River. This route is a popular route for river access along the Deschutes and for residents traveling to the east. Study the feasibility of improving the road to arterial standards.	Modernization	Policy & Study	$10,000	X			
76	Van Gilder Road Upgrade	Upgrade Van Gilder Road from a major collector to a minor arterial from US 97 in Moro to the intersection with OR 206. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the road to arterial standards.	Modernization	Policy & Study	$10,000		X		
Medium and Long-Term Projects									
11	US 97 Bridge over Columbia River at Biggs Junction	Improve or replace bridge to meet current design standards. (Note: Future improvement or maintenance of this bridge falls under the Washington Department of Transportation's responsibility)	Bridge	Project	N/A	X			
18	Intermodal freight connections at Biggs Junction	Evaluate opportunities for improved freight connections between trucks, rail, and river cargo.	Intermodal	Study	$20,000	X	X		X
14	Finnegan Road Bridge over Finnegan Creek	Study feasibility of improving or replacing bridge to meet current design standards.	Bridge	Project	$20,000		X		
26	Maddie's Hump	Upgrade to major collector. Study feasibility of widening shoulders.	Modernization	Project & Study	$10,000	X	X		
46	US 97 / Erskine Road	Widen the throat of Erskine Road.	Modernization	Project	$56,900	X	X		
30	Eastern Alternate Access to	Pave Blagg Lane from Oregon Raceway to Lonerock Road. Consider upgrading the functional classification.	Roadway	Project	$2,559,600		X		X

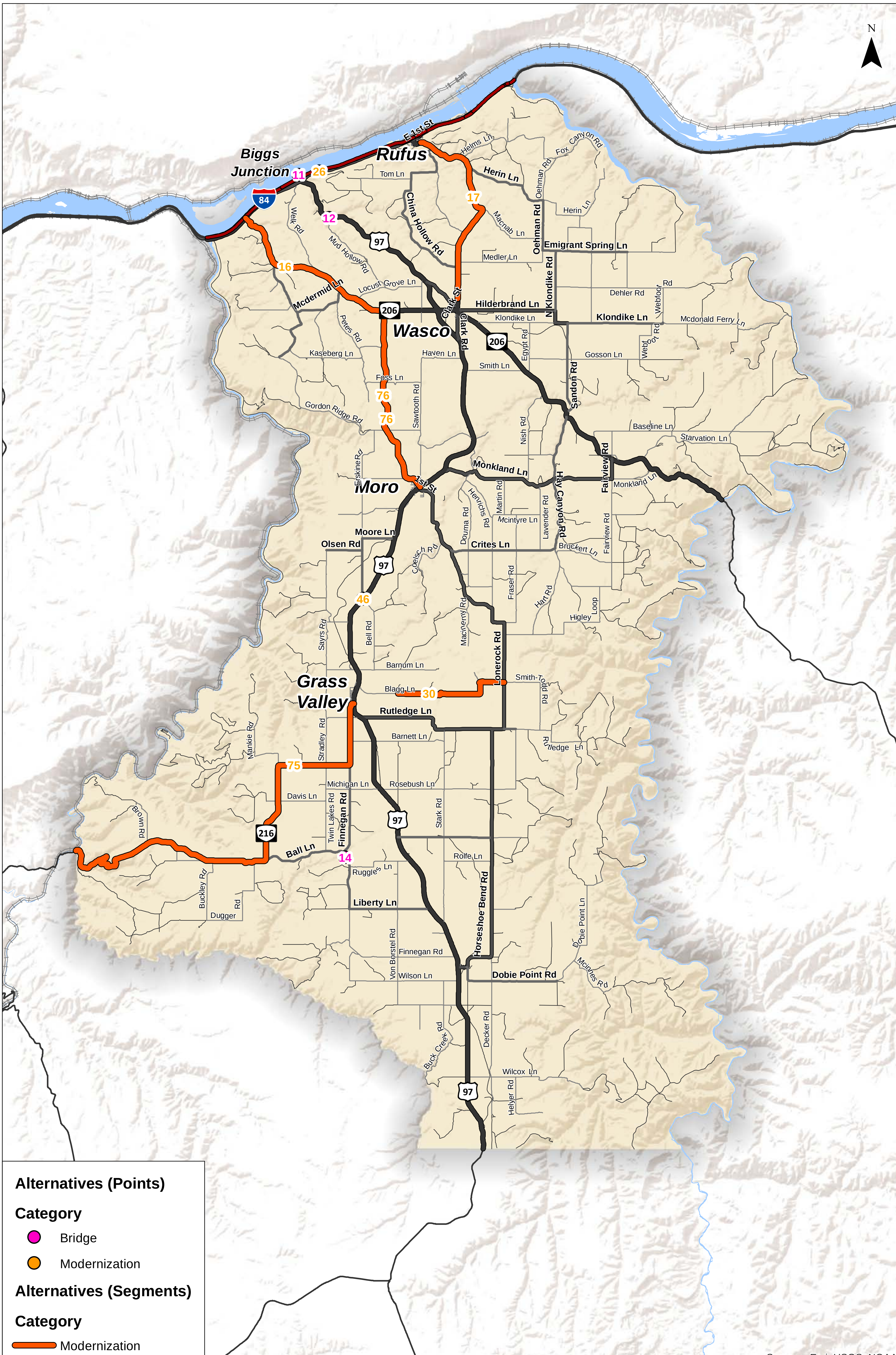
ID	Name	Description	Category	Type	Cost Estimate[1]	Potential Funding Source			
						ODOT/ State	County	Cities	Private
	Raceway								
31	Northern Alternate Access to Raceway	Construct a secondary access from the Oregon Raceway to Barnum Lane.	Safety	Project	$484,100		X		X
12	Mud Hollow Road Bridge over Spanish Hollow Creek	Improve or replace bridge to meet current design standards.	Bridge	Project	$100,000		X		
55	Wildlife Crossings	Conduct a study to determine where wildlife crossings are needed on the major state highways. Estimate the cost of installing the crossings.	Safety	Study	$10,000	X			

Table 5-13. Planned Transportation Improvements in Urban Areas

ID	City	Name	Description	Category	Type	Cost Estimate[1]	Potential Funding Source			
							ODOT/ State	County	Cities	Private
Short-Term Projects										
23	Rufus	1st Street/Biggs-Rufus Highway Bridge (west of Sullivan Ln)	Evaluate structural integrity of the existing bridge and establish cost estimates for required improvements to support structural integrity and serve existing traffic use.	Bridge	Study	$20,000	X	X		
24	Rufus	1st Street/Biggs-Rufus Highway Bridge (east of Fowler St)	Evaluate structure integrity of the existing bridge and establish cost estimates for required improvements.	Bridge	Study	$20,000	X	X		
19	Rufus	Murray Street	Install traffic calming measures on Murray Street to reinforce posted speed and deter cut-through traffic.	Modernization	Project	$10,000			X	
21	Rufus	2nd Street/Wallace Street	Connect 2nd Street to 1st Street 300' west of Wallace Street. Vacate 2nd Street from new connection to Wallace Street. Consider extending 3rd Street to 2nd Street/1st Street.	Safety	Project	$95,800			X	
68	Rufus	Intersection of 2nd Street/Biggs Rufus Highway	Vacate 2nd Street from Murray Street to 1st Street.	Safety	Project	$22,300	X		X	
56	Wasco	Wasco Wayfinding Signage	Provide better signage to direct vehicles to highways, Rufus, and Cottonwood Canyon State Park.	Modernization	Project	$6,800			X	
66	Moro	High School Access	Restripe southern access points to restrict minor street left-turns to northern part of fork and make southern entrance one-way incoming northbound only. Add southbound left-turn lane at northern intersection on US 97. Relocated speed limit signs to reduce speed limit further in advance of intersection. Consider speed feedback signs to reduce speeds in advance of intersections.	Safety	Project	$204,700	X	X	X	
Medium and Long-Term Projects										
22	Rufus	Biggs Rufus Highway (1st Street) lacks defined on-street parking.	Define access management along the highway and define on-street parking spaces.	Modernization	Project	$28,400	X		X	

ID	City	Name	Description	Category	Type	Cost Estimate[1]	Potential Funding Source			
							ODOT/ State	County	Cities	Private
25	Rufus	2nd Street Bridge (east of Fowler St)	Close bridge to traffic when 2nd Street is closed to traffic as part of Project #68.	Bridge	Project	$0			X	
69	Rufus	Fowler Street Parking	Vacate Fowler Street from 1st Street to 2nd Street and convert to a parking lot with access to 2nd Street only.	Modernization	Project	$27,300			X	
71	Rufus	Rufus Parking Analysis	Conduct a parking options study and analysis for the business and residential block.	Modernization	Study	$10,000			X	
45	Grass Valley	North Street/US 97	Reconstruct North Street approach to US 97 to provide larger turn radius, and add a left-turn lane from US 97 to North Street.	Modernization	Project	$91,000	X		X	

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



Rural Transportation Alternatives
Sherman County, Oregon

Figure
5-3

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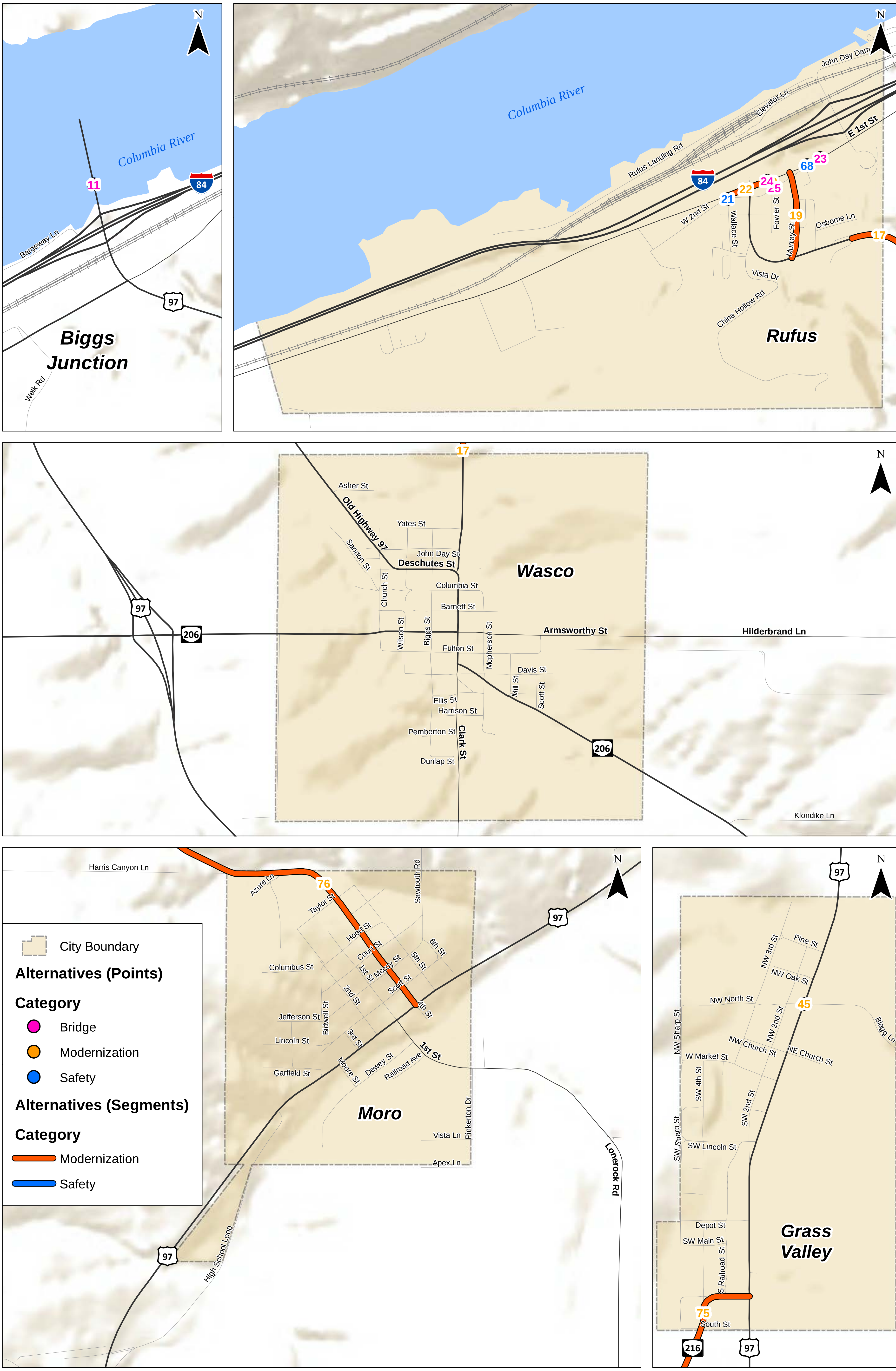
KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Coordinate System: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Wasco County



Urban Transportation Alternatives
Sherman County, Oregon

Figure
5-4

The total cost of projects, policies, programs, and feasibility studies shown in Table 5-12 and Table 5-13 that are expected to be implemented in the near-term is approximately $500,000. The total cost of the medium/long-term alternatives is approximately $3.3 million.

PEDESTRIAN AND BICYCLE SYSTEM PLAN

The future population growth in the incorporated areas of Rufus, Wasco, Moro, and Grass Valley 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.

Table 5-14 and Figure 5-5 summarizes the planned pedestrian and bicycle projects for the next twenty years. In rural Sherman 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. Within the cities, the standards for arterials include shoulders to accommodate bicyclists in a separate space 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.

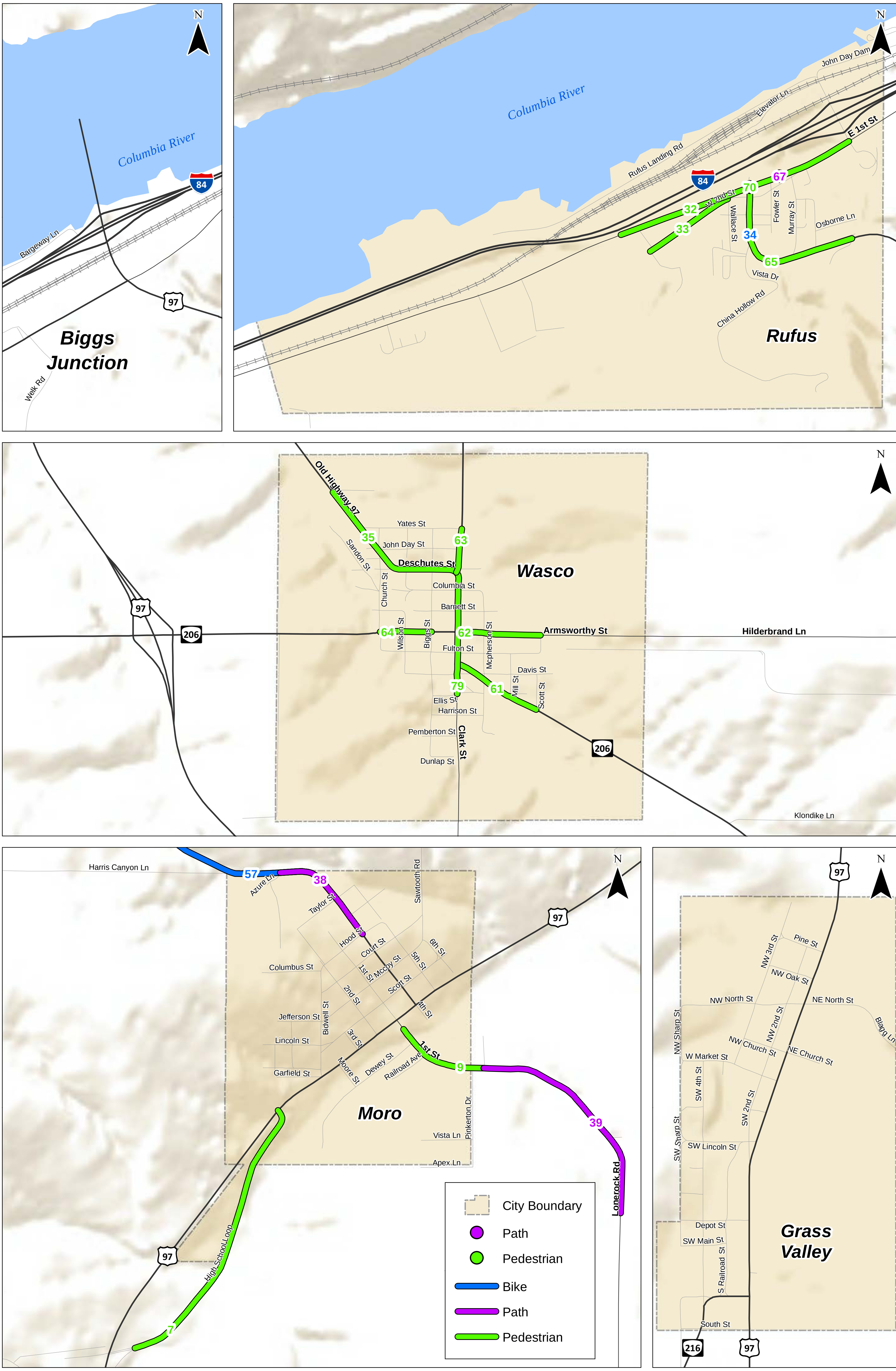
Arterials, collectors, and local streets should include sidewalks as they are developed within the city limits. A complete connected sidewalk network will encourage walking as a mode of transportation within the City. Key gaps in the existing sidewalk infrastructure as well as locations with sidewalks in need of repair are identified in Table 5-14 and Figure 5-5.

The total cost for all near-term pedestrian and bicycle system improvements is approximately $350,000. The total cost for all medium/long-term pedestrian and bicycle system improvements is approximately $4.7 million.

Table 5-14. Planned Pedestrian and Bicycle Improvements in Sherman County

ID	Location	Name	Description	Category	Cost Estimate[1]	Potential Funding Source			
						ODOT/ State	County	Cities	Private
Short-Term Projects									
32	Rufus	1st Street Sidewalks (Rufus)	Install sidewalks and pedestrian scale lighting along both sides of 1st Street from Sullivan Ln to Wallace Street	Pedestrian	$300,600	X		X	
70	Rufus	Pedestrian Crossings of Biggs-Rufus Highway	Stripe crossing of 1st Street at Main Street.	Pedestrian	$2,800	X		X	
Medium- & Long-Term Projects									
10	County	Bicyclist Routes	Promote the bike routes that are currently popular routes and identify opportunities to route cyclists off of US 97 when possible. Provide signage to encourage cyclists to use alternate routes from the highway and provide warnings signs on these routes to inform drivers of the bicycle routes.	Bike	$17,000	X	X		
57	County	Van Gilder Road	Provide directional signage for cyclists; warning signs for motorists to share the road.	Bike	$5,100		X		X
39	County	Ped/Bike Connections along Lonerock Road, east of City Limits of Moro	Install a shared-use path along Lonerock Road from East City Limits to Fairgrounds.	Path	$270,300		X		
34	Rufus	Bikes on Main Street (Rufus)	Widen to accommodate a bicycle lane.	Bike	$164,100	X		X	
65	Rufus	Main Street Sidewalks	Install sidewalks on Main Street from Vista Drive to 1st Street.	Pedestrian	$500,600				
67	Rufus	Rufus Ped/Bike Access Under Freeway and Railroad	Conduct environmental impact study to determine whether Gerking Gulch is a feasible undercrossing of I-84 and railroad for ped/bike users between 1st Street and the Columbia River.	Path	$20,000	X		X	
33	Rufus	2nd Street Sidewalks (Rufus)	Install sidewalks along the south side of 2nd Street from Main Street to Community Center	Pedestrian	$368,100			X	
35	Wasco	Old Highway 97 Sidewalks	Install sidewalks on both sides of Old Highway 97 from Clark Street to 6th Street and along the east side of the road from 6th Street to Asher Street.	Pedestrian	$1,032,000	X	X		
61	Wasco	OR 206 Sidewalks (Clark Street to Scott Street)	Install sidewalks on OR 206 from Clark Street east to Scott Street.	Pedestrian	$723,400	X		X	
62	Wasco	Armsworthy Street Sidewalks	Install sidewalks on Armsworthy Street from Church Street to Scott Street.	Pedestrian	$397,500	X		X	
63	Wasco	Clark Street Sidewalks	Install sidewalks on Clark Street from Old Highway 97 to Yates Street.	Pedestrian	$231,400	X		X	
64	Wasco	OR 206 Sidewalks (Biggs Street to Church Street)	Install sidewalks on OR 206 from Biggs Street to Church Street.	Pedestrian	$152,800	X		X	
79	Wasco	Existing Clark Street Sidewalks	Upgrade existing sidewalks along Clark Street from Columbia to Ellis, and add sidewalks on the east side.	Pedestrian	$208,200	X		X	
9	Moro	Lonerock Road Sidewalks	Construct sidewalks on the north side of the road.	Pedestrian	$172,300		X	X	
38	Moro	Ped/Bike Connections along 4th Street to Azure Lane in Moro	Install a shared-used path along 4th Street/Van Gilder Road from Hood Street to Azure Lane.	Path	$134,600		X	X	X
7	Moro	Sidewalks to High School	Install sidewalks or a shared-use path between the High School and the existing sidewalks on Main Street.	Pedestrian	$184,300	X	X	X	
84	Grass Valley	US 97 Pedestrian Scale Lighting	Install pedestrian scale lighting along the sidewalks on US 97 in Grass Valley.	Pedestrian	$266,100	X		X	

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



Pedestrian and Bicycle Plan
Sherman County, Oregon

Figure
5-5

K:\H_Portland\projfile\18054 - Sherman County TSP\gis\memo 5\5-5 Ped and Bike Plan.mxd - agriffin - 3:43 PM 6/19/2015

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Coordinate System: NAD 1983 Oregon Statewide Lambert Feet Intl
Data Source: Wasco County

PUBLIC TRANSPORTATION PLAN

Sherman County Community Transit operates a dial-a-ride transit service for the County. Between July 2013 and January 2015, almost 7,500 rides were provided by the transit service, covering a distance of over 130,000 miles. The majority of rides provided, over 6,000 rides, were for Seniors. The service is available on Monday and Thursday each week and offered for a fare of $5 to all residents. Residents must request a pick-up 24-hours in advance and can be picked up anywhere in the County or Cities. Typical trips are to The Dalles for shopping, business, and medical appointments. Buses also transport residents to Hood River and Portland for medical trips.

Sherman County Community Transit has the funding and resources necessary to continue providing dial-a-ride transit service. Sherman County Community Transit receives funding from ODOT and is being reimbursed for Veteran medical trips by the Veteran's Administration. No fixed route service is needed to support the communities.

AIR SERVICE

The Wasco State Airport is located on the east side of Wasco in Sherman County. The airport dates back to 1946 and has been continuously operated by the State of Oregon since it acquired it in 1958. The airport accommodates general aviation and agricultural users serving the local community and the surrounding region. Wasco State Airport has a land area of approximately 66 acres and is zoned Airport Development (A-D) by Sherman 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). Both the City of Wasco and Sherman County have adopted the FAA Part 77 Imaginary Surfaces Plan for the Airport. There are no planned projects associated with the Wasco State Airport.

MARINE SYSTEM PLAN

Sherman County is located on the Columbia River, a major water transportation route. The only river cargo operations that currently exist in the County are located at Biggs Junction, where Mid-Columbia Producers export much of their grain in the region.

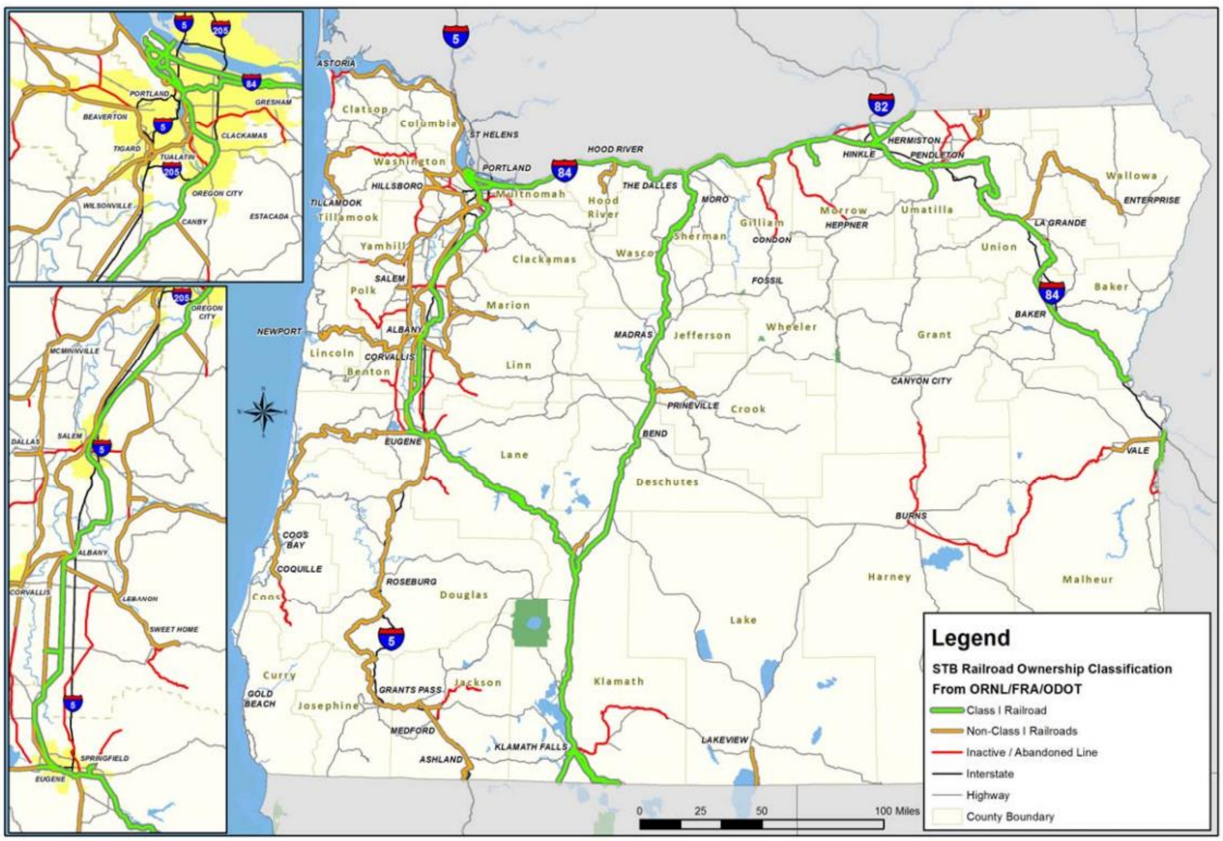
Rufus also has access to the river which could be developed for recreational or industrial purposes in the future if the demand exists. Project number 18 in Table 5-12 identifies a planned study to evaluate opportunities for intermodal connections between the rail system, roadway system, and marine transportation system.

RAIL SERVICE

The Union Pacific Main Line (UP) and the Burlington Northern/Santa Fe Bend Branch (BNSF) serve Sherman County at Biggs Junction. The UP line includes a spur serving the Mid-Columbia Grain

Growers Terminal at Biggs. However no grain has been hauled from this spur for approximately 10 years. Therefore, there are no train stops in Sherman County today. There is currently no passenger rail service in the County.

As shown in Exhibit 5-20, the UP railroad that runs along the Columbia River through Sherman County is designated as a Class I Railroad. Project number 18 in Table 5-12 identifies a planned study to evaluate opportunities for intermodal connections between the rail system, roadway system, and marine transportation system.



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

Exhibit 5-20. State of Oregon Railroads

PIPELINE AND TRANSMISSION SYSTEM PLAN

Two natural gas pipelines run through Sherman County although they do not currently serve the County. If larger commercial or industrial development came to the County, the County may support the development of pipeline access for the County.

Future extension of a high-speed broadband service is planned from Idaho along the Columbia River. Sherman 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 Sherman 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 Sherman County Transportation Funding Revenues

Sherman County has had an annual revenue of approximately $2.2 million per year over the past ten years. This funding covers all transportation related projects, including maintenance and capital improvements projects. As shown in Exhibit 5-21, the County's transportation revenue comes from a variety of sources including property taxes, other local revenue, state revenue, and federal revenue. ODOT has historically been able to fund the County's transportation operations and maintenance activities for state facilities.

Exhibit 5-22 shows that the County has had a small portion of transportation revenue remaining at the end of each fiscal year with the exception of two years when the expenditures exceeded the revenue. Over the past ten years, approximately $1.9 million in excess transportation revenue has been accumulated. The majority of transportation expenditures over the past 10 years have covered operations, maintenance, and system preservation, as shown in Exhibit 5-23. Approximately $200,000 were used for new facilities and system enhancement projects during the past ten years.

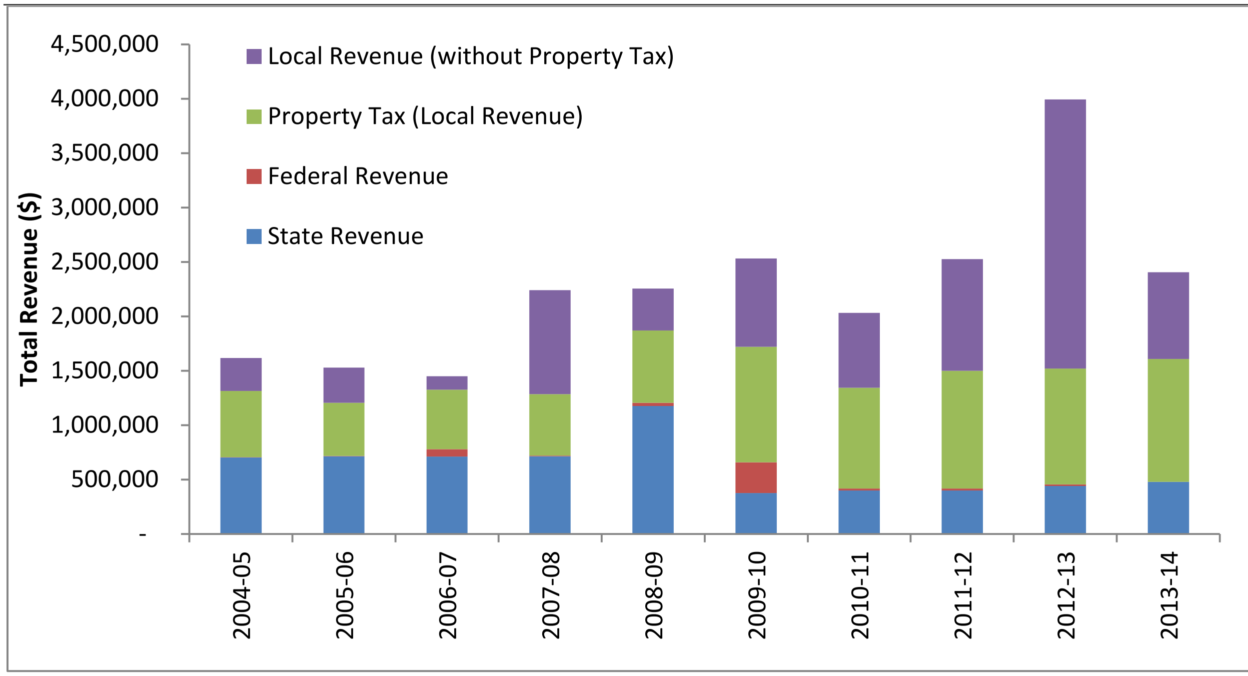


Exhibit 5-21. Sherman County Transportation Revenue Sources (2005 – 2014)

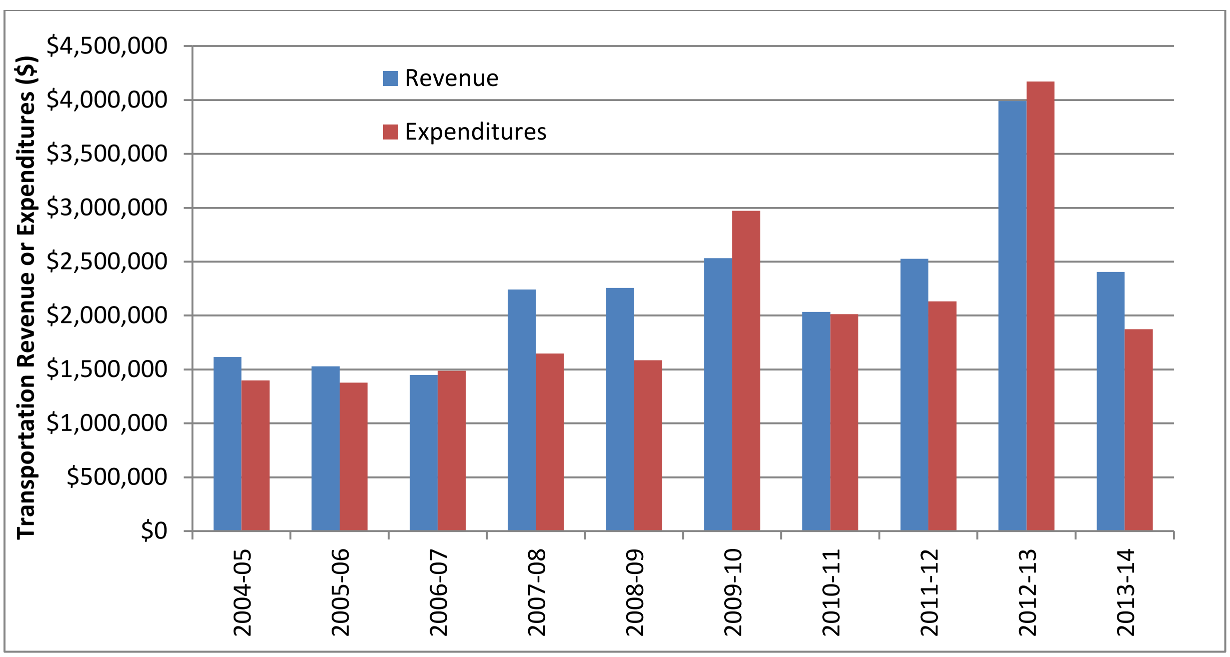


Exhibit 5-22. Sherman County Transportation Revenue Compared to Transportation Expenditures (2005 – 2014)

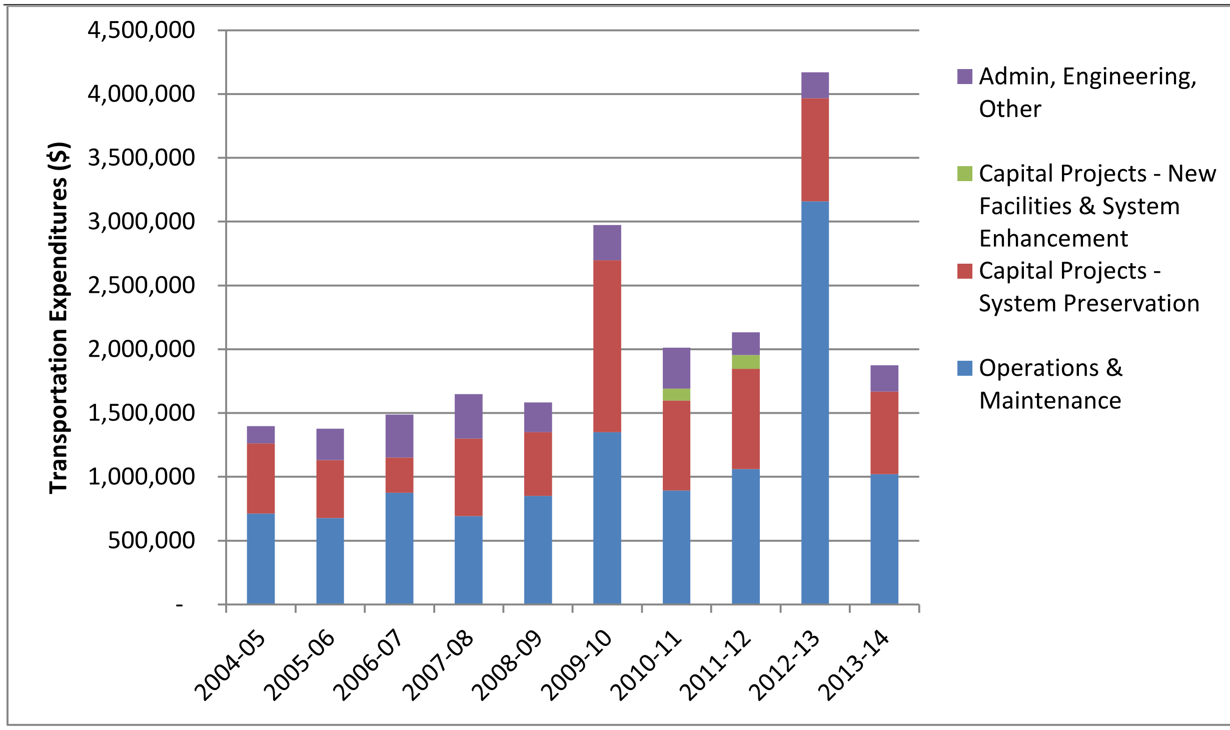


Exhibit 5-23. Sherman County Transportation Expenditures (2005 – 2014)

Transportation Funding Options

Sherman County faces two inter-related financing issues: how to finance operations and maintenance and how to finance capital projects. Presently, the majority of public works funding is devoted to operations and maintenance; there is no substantial funding for capital projects. As shown in Table 5-15, the total funding needed to accomplish all of the near-term alternatives summarized in this plan, including all projects and studies, systemic safety projects, and active transportation projects, would be approximately $2,615,000. *Comprehensive tables summarizing all modal alternatives and their cost estimate is provided in Attachment C.*

Table 5-15. Total Project Costs

Project Type	Near-Term	Medium/Long-Term
Systemic Safety	$1,780,000	$1,330,000
Roadway	$530,000	$3,250,000
Pedestrian and Bicycle	$305,000	$4,640,000
Total	$2,615,000	$9,220,000

Potential strategies for addressing these needs in Sherman 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 5-16 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 5-16. 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 Sherman County, one potential opportunity for this type of partnership is the bicycle wayfinding signage project. Private organizations that sponsor a sign may have the opportunity to provide their logo on a sign to help direct 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 5-17 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 5-17. 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. PAC & Public Feedback on the Draft List of Alternatives

Attachment B. Cost Estimate Calculations

Attachment C. Planned TSP Alternatives

Attachment A. PAC & Public Feedback on the Draft List of Alternatives

Handout #1: ***County***

Sherman County TSP Workshop Instructions:

We would like to get your feedback on the alternatives and priorities identified in Tech Memo #4.

Step 1: Please review the proposed roadway design guidelines and provide comments here letting us know if you agree with the guidelines. If you disagree, please explain why below or provide markups of your comments directly on the figures.

Jaclyn McCurdy (Rufus & Biggs service District) – "I disagree with the guidelines due to Rufus' 1st Street is not wide enough for 80 ft – needs to be 60 ft with bike and sidewalks."

Step 2: Please review the table provided and indicate whether you agree or disagree with the alternative's priority in the table. Please reference the figures for additional information on the project location if needed. **If you disagree with the project or priority, please be sure to explain why in the next column.** Feel free to provide any additional comments in the last column as well.

Step 3: Please indicate any alternatives to address existing or future needs that we have missed in the County or Cities by listing them below:

Caitlin Blagg's (Sherman County Health District/Medical Clinic) comments:

- Finish paving blagg ln from racetrack to Lonerock Rd (project #30)
- Install guardrail going down Lonerock towards Coelsch Road – deep canyon there

Cassie Strege's (City of Wasco) priorities:

#28, 27, 56, 15.

Jaclyn McCurdy's (Rufus and Biggs) comments: - referred to her as JMC in table

- Rufus left turn lane on West Hwy 30/1st Street into Industrial Park
- Business Loop district sign

Jessica Metta comments:

- Wasco projects to add:
    - Sidewalks along Clark from Columbia to Ellis need some improvements in places & road lacks curbs in some spots. See notes on Wasco map – add sidewalk East side, add signage for Cottonwood."

Mark Coles commented to add the following:

- US 97/Mud Hollow left turn ln. northbound onto Mud Hollow.

Paul Sather commented to add turn lanes at Wilcox too – very high priority.

Tom Miller commented:

- Left-turn lane from US 97 to Barnum;
- Left-turn lane from US 97 to North St (Grass Valley).

UNK(2) commented on maps:

- Upgrade classification of Herin Lane further east of where existing func class ends
- “lower” main st in rufus near curve

- ____
- ____
- ____
- ____

Step 4: If you have any additional comments, please provide them below.

Please provide your name and contact information below so that we may contact you with any follow up questions regarding your notes.

Name: ____

Organization: ____

Email address: ____

Phone number: ____

Thank you for your input!

If you would like to provide additional comments, please submit those to Georgia Macnab at Sherman County, or provide them online at www.shermancountytsp.com.

Table of Alternatives

Please focus on providing input on COUNTY, KENT, and BIGGS projects. If you have comments on the projects in other cities, please provide those as well.

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority	Agree / Disagree?	If you disagree, please explain why.
Biggs									
11	Project	Bridge	US 97 Bridge over Columbia River at Biggs Junction	The Biggs Rapids Bridge over the Columbia River is classified as functionally obsolete, indicating that it is still structurally sound but does not meet current design standards for its purpose. It likely needs widening.	Improve or replace bridge to meet current design standards.	Biggs Junction	Medium Priority		Mark Coles commented: In Poss…(?). UNK agrees. JMC agrees.
18	Study	Intermodal	Intermodal freight connections at Biggs Junction	Intermodal freight connections are limited at Biggs Junction. Some truck to river cargo connections exist. No rail service in Biggs Junction.	Evaluate opportunities for improved freight connections between trucks, rail, and river cargo.	Biggs Junction	Medium Priority		Mark Coles agrees. UNK agrees. JMC agrees.
County									
15	Policy	Modernization	Roadway Design Guidelines	Roadway design guidelines for cities are not reflective of the rural character of the communities.	Update roadway design guidelines for each community.	County	High Priority		Mark coles commented: have concerns. UNK DISagrees. Cassie Strege (Wasco) agrees. JMC agrees.
72	Project	Safety	Traffic Speeds on US 97	Residents are concerned about traffic speeds on US 97 in the County.	Enforcement, Education, ITS	County	High Priority		Mark Coles agrees. UNK agrees. JMC agrees;
73	Project	Safety	Truck Volumes on US 97 in Cities	Residents are concerned about high truck volumes on the highway within the downtown areas of the cities.	Install speed reduction treatments on US 97 to reinforce posted speeds in cities.	County	High Priority		JMC agrees; Mark Coles agrees. UNK DISagrees.
74	Project	Safety	Passing Opportunities on US 97	Residents are concerned about the lack of passing opportunities on US 97 and the impatience drivers experience while being stuck behind trucks.	TSP to identify specific locations of concern and recommend ODOT conduct county-wide study.	County	High Priority		Mark Coles agrees. Paul Sather agrees and commented “Top Priority, Bell Ridge, any passing lanes going south are needed. Going south trucks can’t get around each other.” UNK agrees. Bonne whitley (GV) Agrees; JMC agrees;
10	Project	Active Transportation	Bicyclist Routes	Bicyclists are uncomfortable riding on US 97 due to high speeds and truck traffic.	Promote the bike routes that are currently popular routes and identify opportunities to route cyclists off of US 97 when possible. Provide signage to encourage cyclists to use alternate routes from the highway and provide warnings signs on these routes to inform drivers of the bicycle routes.	County	Medium Priority		Caitlin Blagg’s comment: Bikes need to be aware of heavy farm equipment moving along back roads – farm equipment has limited visibility. Mark Coles commented that is should be Low Priority and said “not priority in my opinion.” UNK DISagrees. JMC agrees;
57	Project	Active Transportation	Van Gilder Road	Van Gilder Road is a heavily used bike route in the County.	Provide directional signage for cyclists; warning signs for motorists to share the road.	County	Medium Priority		Mark Coles commented that is should be Low Priority. UNK DISagrees. JMC agrees;
12	Project	Bridge	Mud Hollow Road Bridge over Spanish Hollow Creek	The Mud Hollow Road bridge, immediately west of US 97, over Spanish Hollow Creek has a low sufficiency rating and is classified as structurally deficient by ODOT.	Improve or replace bridge to meet current design standards.	County	Medium Priority		Mark Coles commented that is should be Low Priority but also agreed with project noting that “this has history.” UNK DISagrees. JMC agrees;

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority	Agree / Disagree?	If you disagree, please explain why.
14	Project	Bridge	Finnegan Road Bridge over Finnegan Creek	The bridge on Finnegan Road over Finnegan Creek has a low sufficiency rating and is classified as structurally deficient.	Improve or replace bridge to meet current design standards.	County	Medium Priority		Mark Coles agrees. UNK agrees. JMC agrees;
26	Policy & Study	Modernization	Biggs-Rufus Highway Upgrade (Maddie's Hump)	There is concern about a potential closure of Biggs-Rufus Highway at this location. The road serves the local residents who live/work in Biggs/Rufus and also provides an important alternative route to the interstate when it closes.	Upgrade from minor collector to major collector between Biggs and Rufus. Study feasibility of widening shoulders and installing guardrail and/or rock guard for vehicles.	County	Medium Priority		Mark Coles agrees and commented “money pit”. UNK agrees. JMC agrees;
31	Project	Safety	Northern Alternate Access to Raceway	The Oregon Raceway currently only has one access available: Blagg Lane from US 97.	Construct a secondary access from the Oregon Raceway to Barnum Lane.	County	Medium Priority		Caitlin Blagg commented “pave the secondary access.” Mark Coles commented “Low – They can go east to get out, its just gravel). Tom Miller agrees with this project. UNK DISagrees. Bonne Whitley (GV) agrees and notes “include turn lane from US 97”; JMC agrees;
76	Policy	Modernization	Van Gilder Road Upgrade	Van Gilder Road is currently classified as a major collector from US 97 in Moro to the intersection with OR 206. The route is a popular alternative to US 97 for local residents.	Upgrade Van Gilder Road from a major collector to a minor arterial from US 97 in Moro to the intersection with OR 206. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the road to arterial standards.	County	Medium Priority		Mark Coles commented – “not sure, thinking.” UNK agrees. JMC agrees;
16	Policy	Modernization	OR 206/Fulton Canyon Road & Biggs-Rufus Highway Upgrade	OR 206/Fulton Canyon Road (from the intersection of US 97 to the intersection with Biggs-Rufus Highway) and Biggs-Rufus Highway (from OR 206 to the western county limit) are currently classified as major collectors. These routes serve as popular alternatives to provide connections to I-84 (west) for local residents. Fulton Canyon Road access is restricted for trucks; trucks cannot use this route due to limited width.	Upgrade OR 206/Fulton Canyon Road from a major collector to a minor arterial from the intersection of US 97 to the intersection with Biggs-Rufus Highway. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the roads to arterial standards.	County	Medium Priority		Mark Coles commented “ODOT Concerns.” UNK agrees. JMC agrees;
17	Policy	Modernization	Scott Canyon Road Upgrade	Scott Canyon Road is currently classified as a major collector from OR 206 in Wasco to Biggs-Rufus Highway in Rufus. Route serves as a popular alternative connection to I-84 (east) for local residents. This road is difficult for trucks to traverse due to limited width. Trucks are discouraged from using this route.	Upgrade Scott Canyon Road from a major collector to a minor arterial from OR 206 in Wasco to Biggs-Rufus Highway in Rufus. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the road to arterial standards.	County	Medium Priority		Mark Coles commented “not sure, thinking”. UNK agrees. JMC agrees;
75	Policy &	Modernization	OR 216 Upgrade	OR 216 is currently classified as a major collector	Upgrade OR 216 from a major	County	Medium		Mark Coles commented “ODOT

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority	Agree / Disagree?	If you disagree, please explain why.
	Study			from US 97 in Grass Valley to Deschutes River. This route is a popular route for river access along the Deschutes and for residents traveling to the west.	collector to a minor arterial from US 97 in Grass Valley to Deschutes River. This route is a popular route for river access along the Deschutes and for residents traveling to the east. Study the feasibility of improving the road to arterial standards.		Priority		Concerns." UNK agrees. JMC agrees;
39	Project	Active Transportation	Ped/Bike Connections along Lonerock Road, east of City Limits of Moro	There are no ped/bike connections along Lonerock Road from the East City Limits of Moro to Fairgrounds.	Install a shared-use path along Lonerock Road from East City Limits to Fairgrounds.	County	Low Priority		Jessica Metta notes this should be Medium priority; Mark Coles agrees at Low Priority. UNK DISagrees. JMC agrees;
46	Project	Modernization	US 97 / Erskine Road	Narrow throat at intersection; road is crumbling.	Widen the throat of Erskine Road.	County	Low Priority		Mark Coles agrees (& stars this one) and notes Medium priority. UNK agrees. JMC agrees;
30	Project	Roadway	Eastern Alternate Access to Raceway	The Oregon Raceway currently only has one access available: Blagg Lane from US 97.	Pave Blagg Lane from Oregon Raceway to Lonerock Road. Consider upgrading the functional classification.	County	Low Priority		Caitlin Blagg agrees and commented "#1 – this needs to happen." Mark Coles agrees and notes Medium priority. Tom Miller agrees with this project and commented that he would like to see higher priority – safety. UNK agrees. Bonne Whitley (GV) agrees and notes "need for another way from race track"; JMC agrees;
55	Study	Safety	Wildlife Crossings	Residents are concerned about wildlife crashes.	Conduct a study to determine where wildlife crossings are needed on the major state highways. Estimate the cost of installing the crossings.	County	Low Priority		UNK DISagrees. JMC agrees;
Grass Valley									
45	Project	Modernization	North Street/US 97	Turn radius for westbound right turn is too small to accommodate large vehicles.	Reconstruct North Street approach to US 97 to provide larger turn radius.	Grass Valley	Medium Priority		Jessica Metta notes "also add project to replace street lights with pedestrian scale attractive ones"; Mark Coles agrees with this project. Tom Miller agrees with this project. Bonne Whitley (GV) agrees and also commented "upgrade street lights"; JMC agrees;
Moro									
66	Project	Safety	High School Access	The high school currently has three access locations via two general areas. One has limited sight distance. The high school serves younger/vulnerable drivers. There is desire to restrict access to one location, but concerns about maintaining two points for emergency	Consolidate access points. Consider a new access point just north of high school, closing southern access, and converting northern access to ped/bike only route. Maintain secondary access for emergency	Moro	High Priority		Caitlin Blagg disagreed and commented "a gate will slow down emergency vehicles – not good in an emergency. This needs work, I just don't think this is the answer." Mark Coles agrees and notes "yes something different what we

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority	Agree / Disagree?	If you disagree, please explain why.
				access. The elementary school will be moving to the same site, increasing traffic by about 25 vehicles per day (according to numbers provided to Brad Dehart by the school district).	vehicles only by using a gate.				currently have, left turn lane and decel lane." JMC agrees;
7	Project	Active Transportation	Sidewalks to High School	No pedestrian or bicycle facilities exist to connect the High School to residential areas of Moro.	Install sidewalks or a shared-use path between the High School and the existing sidewalks on Main Street. Consider converting some of the existing roadway to pedestrian and bicycle access only.	Moro	Medium Priority		Mark Coles commented that the high school loop road does have bike path H.S. north. JMC agrees;
38	Project	Active Transportation	Ped/Bike Connections along 4th Street to Azure Lane in Moro	There are no ped/bike connections along 4th Street/Van Gilder Road from Hood Street to Azure Lane, which serves a major employer, in Moro.	Install a shared-used path along 4th Street/Van Gilder Road from Hood Street to Azure Lane.	Moro	Medium Priority		JMC agreed but also noted – "Done, removed." Jessica Metta notes this should be changed to Low priority; Mark Coles commented "completed." JMC agrees;
9	Project	Active Transportation	Lonerock Road Sidewalks	No sidewalks exist along Lonerock Road between US 97 and the Steve Burnett Extension & Research Building.	Construct sidewalks on the north side of the road.	Moro	Low Priority		Jessica Metta notes this should be changed to medium priority; Mark Coles agrees. JMC agrees;
29	Project	Modernization	Moro Truck Traffic	Moro is bisected by US 97 which has a high truck volume. In addition, residents have observed vehicles traveling fast through the downtown area.	Install a bypass around Moro.	Moro	Low Priority		Caitlin Blagg commented "or install speed cameras & Fine people who are speeding." Jessica Metta notes "bad idea – do not support." Mark Coles disagrees. Bonne Whitley (GV) disagrees and notes "bad idea"; JMC agrees;
Rufus									
32	Project	Active Transportation	1st Street Sidewalks (Rufus)	1st Street lacks sidewalks and serves as an east-west route through Rufus.	Install sidewalks along both sides of 1st Street from Sullivan Ln to Wallace Street	Rufus	High Priority		Janice Strand (R) – agrees and commented "#1 - Highest – will definitely upgrade downtown but might actually slow traffic". Jessica Metta commented "also add ped-scale attractive street lights to this part." Mark Coles agrees. Mayor of Rufus commented online: "Human safety should be an important element for ODOT. When ODOT diverted traffic through town due to the closure of I-84 2 years ago, there was a major concern for safety. Rufus has a highway going through town. It is the feelings of the citizens that ODOT has no regard for human safety by ignoring the fact there is a need for sidewalks, safe parking, and erosion control for their bridges which are severely under maintained and falling apart. Once again we need to address these problems with long term fixes instead of bandage repairs. As the Mayor of Rufus it has been a major topic for our citizens and nothing has been done." JMC

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority	Agree / Disagree?	If you disagree, please explain why.
									agrees (#1);
65	Project	Active Transportation	Main Street Sidewalks	Main Street lacks sidewalks. It is a collector in city limits.	Install sidewalks on Main Street from Vista Drive to 1st Street.	Rufus	High Priority		Janice Strand (R) – commented "S/B Low Priority – traffic too fast". Mark Coles commented "Medium priority – Agree just don't have the money." He also commented "county rd scott canyon." JMC agrees but noted Medium Priority;
19	Project	Modernization	Murray Street	This residential road is used as a cut-through in Rufus.	Install traffic calming measures on Murray Street to reinforce posted speed and deter cut-through traffic.	Rufus	High Priority		Janice Strand (R) – commented #3 – city can handle this. Mark Coles agrees. JMC agrees;
21	Project	Safety	2nd Street/Wallace Street	The existing intersection is too close to the highway.	Connect 2nd Street to 1st Street 300' west of Wallace Street. Vacate 2nd Street from new connection to Wallace Street. Consider extending 3rd Street to 2nd Street/1st Street.	Rufus	High Priority		Janice Strand (R) – commented #3 – intersection/access is confusing- extend guardrail parallel to Hwy 30. Mark Coles agrees. JMC agrees (#2);
68	Project	Safety	Intersection of 2nd Street/Biggs Rufus Highway	The intersection of 2nd Street/1st street/Biggs Rufus Highway is skewed.	Vacate 2nd Street from Murray Street to 1st Street.	Rufus	High Priority		Janice Strand (R) – agreed& commented #2. JMC agrees (#2);
34	Project	Active Transportation	Bikes on Main Street (Rufus)	Bicyclists share the roadway with vehicles along this road. Truck traffic is heavy during harvest time.	Widen to accommodate a bicycle lane.	Rufus	Medium Priority		Mark Coles agrees. JMC agrees;
70	Project	Active Transportation	Pedestrian Crossings of Biggs-Rufus Highway	There are no defined crossings or marked crosswalks along Biggs-Rufus Highway/1st Street in Rufus.	Stripe crossing of 1st Street at Main Street.	Rufus	Medium Priority		Janice Strand (R) – commented S/B High Priority. Mark Coles agrees. Mayor of Rufus commented online: "U.S.30 through town is a major concern. Parking is dangerous and has no safe parameters. Backing onto U.S.30 from a parking space has created fender benders and WILL cause a major life threating accident. Our time to have ODOT address these issues with safety is long needed. We are a major area for recreation and traffic control is non-existent." JMC agrees (#2 – noted High Priority);
23	Project	Bridge	1st Street/Biggs-Rufus Highway Bridge (west of Sullivan Ln)	Visual inspection indicates bridge needs repair	Evaluate structure integrity of the existing bridge and establish cost estimates for required improvements.	Rufus	Medium Priority		Janice Strand (R) – commented S/B High Priority. Mark Coles agrees. Mayor of Rufus commented online: "As the Mayor of Rufus there are a few points of concern along U.S. 30 through the city. One point of major concern and safety is the bridge at the east end of town. Obviously when originally constructed it worked well for the traffic and the size and weight of the vehicles in the 40's. Times have change with vehicles, trucks and traffic. The bridge is undersized in relation to the road traffic, in dire need of major repair versus patching. Heavy loads are a common sight through our city" JMC agrees (#2 – noted High Priority);
24	Project	Bridge	1st Street/Biggs-	Visual inspection indicates bridge needs repair	Evaluate structure integrity of the	Rufus	Medium		Janice Strand (R) – commented S/B High

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority	Agree / Disagree?	If you disagree, please explain why.
			Rufus Highway Bridge (east of Fowler St)		existing bridge and establish cost estimates for required improvements.		Priority		Priority. Mark Coles agrees. Mayor of Rufus commented: "As the Mayor of Rufus there are a few points of concern along U.S. 30 through the city. One point of major concern and safety is the bridge at the east end of town. Obviously when originally constructed it worked well for the traffic and the size and weight of the vehicles in the 40's. Times have change with vehicles, trucks and traffic. The bridge is undersized in relation to the road traffic, in dire need of major repair versus patching. Heavy loads are a common sight through our city" JMC agrees (#2 – noted High Priority);
22	Project	Modernization	Biggs Rufus Highway (1st Street) lacks defined on-street parking.	Access to business is not defined, and no on-street parking exists through downtown area.	Define access management along the highway and define on-street parking spaces.	Rufus	Medium Priority		Jessica Metta comments "High Priority – just because this would be related to project 32 – adding sidewalks will restrict access to some current parking." Mark Coles agrees. JMC agrees;
71	Study	Modernization	Rufus Parking Analysis	The downtown area of Rufus lacks a detailed parking analysis to help identify parking needs and options.	Conduct a parking options study and analysis for the business and residential block.	Rufus	Medium Priority		Janice Strand (R)-commented S/B Low Priority – we can aggect this with sidewalks & closure of Fowler St. between 1st and 2nd plus sidewalks with aprons can help. JMC agrees but notes Low Priority;
33	Project	Active Transportation	2nd Street Sidewalks (Rufus)	2nd Street lacks sidewalks. This street serves access to the Community Center.	Install sidewalks along the south side of 2nd Street from Main Street to Community Center	Rufus	Low Priority		JMC agrees;
67	Project	Active Transportation	Rufus Ped/Bike Access Under Freeway and Railroad	There is no ped/bike access under the freeway and river.	Conduct environmental impact study to determine whether Gerking Gulch is a feasible undercrossing of I-84 and railroad for ped/bike users between 1st Street and the Columbia River.	Rufus	Low Priority		Janice Strand (R)- commented S/B Medium Priority; JMC agrees but notes Medium Priority;
25	Project	Bridge	2nd Street Bridge (east of Fowler St)	Visual inspection indicates bridge needs repair	Evaluate structure integrity of the existing bridge and recommend closure of road if bridge is not structurally sound.	Rufus	Low Priority		Janice Strand (R)- commented – eliminate – we will close 2nd at Fowler across bridge going East. JMC agrees;
69	Project	Modernization	Fowler Street Parking	There is a lack of defined parking spaces in downtown Rufus.	Vacate Fowler Street from 1st Street to 2nd Street and convert to a parking lot with access to 2nd Street only.	Rufus	Low Priority		JMC agrees;
Wasco									
56	Project	Modernization	Wasco Wayfinding Signage	The Wasco wayfinding signage is limited, and many drivers make incorrect turns.	Provide better signage to direct vehicles to highways & Rufus.	Wasco	High Priority		Mark Coles put a ? by this one. Cassie Strege (Wasco) agrees. JMC agrees;
35	Project	Active Transportation	Old Highway 97 Sidewalks	Old Highway 97 is a Major Collector in Wasco and lacks sidewalks from Clark Street to the north	Install sidewalks on both sides of Old Highway 97 from Clark Street to 6th	Wasco	Medium Priority		JMC agrees;

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority	Agree / Disagree?	If you disagree, please explain why.
				and west. It provides connections to residences between Clark Street to Asher Street in Wasco.	Street and along the east side of the road from 6th Street to Asher Street.				
61	Project	Active Transportation	OR 206 Sidewalks (Clark Street to Scott Street)	OR 206 lacks sidewalks from Clark Street east to Scott Street (an arterial in city limits).	Install sidewalks on OR 206 from Clark Street east to Scott Street.	Wasco	Medium Priority		Mark Coles put a ? by this one. JMC agrees;
63	Project	Active Transportation	Clark Street Sidewalks	Clark Street from Old Highway 97 to Yates Street lacks sidewalks. It is a collector in the city limits.	Install sidewalks on Clark Street from Old Highway 97 to Yates Street.	Wasco	Medium Priority		JMC agrees;
64	Project	Active Transportation	OR 206 Sidewalks (Biggs Street to Church Street)	OR 206 from Biggs Street to Church Street lacks sidewalks. It is an arterial in city limits.	Install sidewalks on OR 206 from Biggs Street to Church Street.	Wasco	Medium Priority		JMC agrees;
62	Project	Active Transportation	Armsworthy Street Sidewalks	Armsworthy Street lacks sidewalks. It is a collector in the city limits.	Install sidewalks on Armsworthy Street from Church Street to Scott Street.	Waso	Medium Priority		JMC agrees;
Systemic Safety Projects									
3	Project	Systemic Safety	Fixed-object and non-collision crashes	The County-wide crash history showed a high proportion of fixed-object and non-collision crashes.	County wide systemic safety projects for rural roads (rumble strips, shoulder widening).	County	High Priority		Mark Coles commented “not in my opinion.” JMC agrees;
5	Project or Study	Systemic Safety	Weather-related crashes	The County-wide crash history showed a high percentage of weather-related crashes. I-84 had the highest number of crashes in the County.	County wide systemic safety projects for weather related crashes, which may include: ITS treatments, different pavement materials, warning signs, etc.	County	High Priority		Mark Coles put a ? by this one. JMC agrees;
2	Project	Systemic Safety	Herin Lane	Crash rate is above the statewide 90th percentile for similar facilities. Key crash trends: fixed object and non-collision crashes as well as icy road conditions. This segment was studied because it was counted, and it likely represents similar characteristics of other County roads.	County-wide systemic safety projects for rural roads (rumble strips, shoulder widening)	County	High Priority		Mark Coles wrote medium priority and commented “more shoulders, no rumble strips. *Like to know what year that crash data was pulled from*.” JMC agrees;
59	Project	Systemic Safety	Blagg Lane Curve Warning Signs	There is no warning of the approaching curve (& adjacent drop-off) when traveling westbound on Blagg Lane from the racetrack.	Install curve warning signs on the outside of the horizontal curve on Blagg Lane 1/2 mile east of US 97.	County	High Priority		Caitlin Blagg agreed and marked this as #3 for her. Mark Coles commented “I believe there is, I need to check.” JMC agrees;
27	Project	Systemic Safety	US 97 / Old Highway 97	There is a high volume of southbound traffic on US 97 turning left onto Old Highway 97.	Install a southbound left-turn lane.	County	Medium Priority		JMC agrees;Cassie Strege (Wasco) agrees and says high priority - #2. Mark Coles agrees.
28	Project	Systemic Safety	US 97 / Clark Street	Northbound right-turn traffic from US 97 has little time to slow before making the right-turn	Install a northbound right-turn deceleration lane on US 97 at Clark Street	County	Medium Priority		JMC agrees;Cassie Strege (Wasco) agrees and says high priority - #1. Mark Coles changed this to low priority and commented “there is one just needs to be longer.”
4	Project	Systemic Safety	US 97 from Grass Valley to Kent	Observations from the residents indicate there is a high frequency of crashes in this location.	Passing lanes, speed treatments/enforcements, curve warning signs, etc.	County	Medium Priority		Mark Coles commented “to County Line” instead of to Kent” JMC agrees;
42	Project	Systemic Safety	US 97 / Stark Lane	There is limited sight distance at the intersection of US 97 / Stark Lane.	Improve sight distance at the intersection of US 97/Stark Lane.	County	Medium Priority		Mark Coles commented: “? Really. I need to check”. JMC agrees;

ID	Type	Category	Name	Description of Need	Description of Alternative(s)	Location	Priority	Agree / Disagree?	If you disagree, please explain why.
44	Project	Systemic Safety	US 97 / Rutledge Lane	There is limited sight distance at the intersection of US 97 / Rutledge Lane.	Improve sight distance at the intersection of US 97 / Rutledge Lane.	County	Medium Priority		JMC agrees;Mark Coles starred this one.
48	Project	Systemic Safety	Lonerock Road	Lonerock Road lacks guardrail on curves.	Install guardrail.	County	Medium Priority		Caitlin Blagg agreed and marked this as #2 for her. She commented "canyon coming out of Moro towards Coelsch Rd needs guardrail." Mark Coles agreed with this one and noted it as 2-3 on his priority list. JMC agrees;
49	Project	Systemic Safety	Van Gilder Road	Van Gilder Road lacks guardrail on curves.	Install guardrail.	County	Medium Priority		Mark Coles commented "low no crash data". JMC agrees;
50	Project	Systemic Safety	US 97 / Monkland Lane	There is limited sight distance at the intersection of US 97 / Monkland Lane.	Improve sight distance at the intersection of US 97 / Monkland Lane.	County	Medium Priority		Mark Coles commented "High" priority and noted it as 2-3 on his list. JMC agrees;
40	Project	Systemic Safety	US 97 / Liberty Lane	There is no southbound right-turn deceleration lane on US 97 at Liberty Lane.	Install southbound right-turn deceleration lane on US 97 at Liberty Lane.	County	Low Priority		Mark Coles noted this as medium priority and as his top 2-3 priorities. (Paul Sather commented that this intersection should be high priority); JMC agrees;
41	Project	Systemic Safety	US 97 / Bourbon Lane	There are no turn lanes from US 97 at Bourbon Lane.	Install turn lanes on US 97 at Bourbon Lane.	County	Low Priority		Mark Coles commented that this should be medium priority. (Paul Sather commented that this intersection should be high priority); JMC agrees;
47	Project	Systemic Safety	US 97 / Moore Lane	Short deceleration lane length.	Extend deceleration lane length.	County	Low Priority		Mark Coles commented that this should be low priority and noted "at least they have one." JMC agrees;
51	Project	Systemic Safety	Hay Canyon Road / Monkland Lane	There is a rock bluff at Hay Canyon Road / Monkland Lane that blocks sight distance.	KAI to evaluate intersection and identify project on 5/6.	County	Low Priority		Mark Coles noted Medium priority and circle "KAI" to find out what KAI is. JMC agrees;
52	Project	Systemic Safety	OR 206 / Fairview Road	There is a blind corner at OR 206 / Fairview Road.	KAI to evaluate intersection and identify project on 5/6.	County	Low Priority		JMC agrees;Mark Coles noted Medium priority and circle "KAI" to find out what KAI is.
43	Project	Systemic Safety	US 97 / Dobie Point Rd (Kent)	There are no turn lanes from US 97 at Dobie Point Road. This road is heavily used by harvest trucks.	Install turn lanes on US 97 at Dobie Point Road in Kent.	Kent	High Priority		Bonne Whitley (GV) agrees; Mark Coles agrees with this and noted "left-turn and decel". Paul Sather commented "Agree, Add bourbon, liberty, Wilcox- very high priority."
20	Project	Systemic Safety	W 1st Street / Industrial access	Access to industrial areas off of 1st Street/Biggs-Rufus Highway lacks turn lanes.	Construct westbound left-turn lane on 1st Street at Industrial Park	Rufus	High Priority		Mark Coles agrees with this.

Attachment B. Cost Estimate Calculations

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

High School Shared Use Path				
ITEM #	**DESCRIPTION**	**U/M QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 12,000.00	$ 12,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 2,000.00	$ 2,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 3,000.00	$ 3,000.00
4	PROVIDE SUBGRADE PREPARATION	LS 1	$ 8,000.00	$ 8,000.00
5	F&P 1-1/2" MINUS AGGREGATE BASE	TON 937	$ 35.00	$ 32,793.70
6	F&P 3/4" MINUS AGGREGATE BASE	TON 268	$ 45.00	$ 12,046.67
7	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 531	$ 110.00	$ 58,433.12
8	F&P PAINT STRIPING	LS 1	$ 1,000.00	$ 1,000.00
9	F&P ALL NECESSARY SIGNAGE	LS 1	$ 500.00	$ 500.00
			CONSTRUCTION QUOTE =	**$ 129,773.49**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 28,550.17
2	CONTINGENCY	LS 1	20%	$ 25,954.70
			TOTAL QUOTE =	**$ 184,278.36**
High School Shared Use Path				

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

Lonerock Rd. Sidewalk

ITEM #	DESCRIPTION	U/M QTY	UNIT COST		TOTAL	
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$	11,000.00	$	11,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$	3,500.00	$	3,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$	2,000.00	$	2,000.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 2,466	$	1.50	$	3,699.00
5	PROVIDE SUBGRADE PREPARATION	LS 1	$	5,000.00	$	5,000.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 69	$	35.00	$	2,424.14
7	F&P 3/4" MINUS AGGREGATE BASE	TON 20	$	45.00	$	890.50
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 47	$	110.00	$	5,183.31
9	F&P CONCRETE CURBS	LF 1,233	$	25.00	$	30,825.00
10	F&P CONCRETE WALK	SF 6,165	$	8.00	$	49,320.00
11	F&P CONCRETE WALK INSTERSECTION RETURNS	EA 2	$	600.00	$	1,200.00
12	F&P CONCRETE WALK DRIVEWAY DROPS	EA 7	$	400.00	$	2,800.00
12	F&P PAINT STRIPING	LS 1	$	2,500.00	$	2,500.00
13	F&P ALL NECESSARY SIGNAGE	LS 1	$	1,000.00	$	1,000.00
			CONSTRUCTION QUOTE =		**$**	**121,341.95**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%		$	26,695.23
2	CONTINGENCY	LS 1	20%		$	24,268.39
			TOTAL QUOTE =		**$**	**172,305.57**

Lonerock Rd. Sidewalk

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

2nd St. Realignment (Rufus)

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 3,100.00	$ 3,100.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 3,000.00	$ 3,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 1,500.00	$ 1,500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 5,050	$ 1.75	$ 8,837.50
5	PROVIDE GRADE PREPARATION & DEMO	LS 1	$ 2,500.00	$ 2,500.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 143	$ 40.00	$ 5,711.65
7	F&P 3/4" MINUS AGGREGATE BASE	TON 41	$ 50.00	$ 2,039.88
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 73	$ 75.00	$ 5,508.92
9	F&P PAINT STRIPING	LS 1	$ 1,500.00	$ 1,500.00
10	F&P ALL NECESSARY SIGNAGE	LS 1	$ 1,250.00	$ 1,250.00
			CONSTRUCTION QUOTE =	**$ 34,947.95**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 7,688.55
2	CONTINGENCY	LS 1	20%	$ 6,989.59
			TOTAL QUOTE =	**$ 49,626.09**

2nd St. Realignment (Rufus)

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

3rd St. Extension (Rufus)				
ITEM #	**DESCRIPTION**	**U/M QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 3,500.00	$ 3,500.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 1,000.00	$ 1,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 1,500.00	$ 1,500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 1,600	$ 1.75	$ 2,800.00
5	PROVIDE GRADE PREPARATION	LS 1	$ 3,000.00	$ 3,000.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 200	$ 40.00	$ 7,996.20
7	F&P 3/4" MINUS AGGREGATE BASE	TON 57	$ 50.00	$ 2,855.79
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 102	$ 75.00	$ 7,637.10
9	F&P PAINT STRIPING	LS 1	$ 1,500.00	$ 1,500.00
10	F&P ALL NECESSARY SIGNAGE	LS 1	$ 750.00	$ 750.00
			CONSTRUCTION QUOTE =	**$ 32,539.09**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 7,158.60
2	CONTINGENCY	LS 1	20%	$ 6,507.82
			TOTAL QUOTE =	**$ 46,205.51**

3rd St. Extension (Rufus)

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

Eastern Alternate Raceway Access

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 160,000.00	$ 160,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 4,000.00	$ 4,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 2,000.00	$ 2,000.00
4	PROVIDE GRADE PREPARATION	LS 1	$ 50,000.00	$ 50,000.00
5	F&P 1-1/2" MINUS AGGREGATE BASE	TON 19,900	$ 30.00	$ 597,000.00
6	F&P 3/4" MINUS AGGREGATE BASE	TON 5,700	$ 40.00	$ 228,000.00
7	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 11,600	$ 65.00	$ 754,000.00
8	F&P PAINT STRIPING	LS 1	$ 6,500.00	$ 6,500.00
9	F&P ALL NECESSARY SIGNAGE	LS 1	$ 1,000.00	$ 1,000.00
			CONSTRUCTION QUOTE =	**$ 1,802,500.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 396,550.00
2	CONTINGENCY	LS 1	20%	$ 360,500.00
			TOTAL QUOTE =	**$ 2,559,550.00**

Eastern Alternate Raceway Access

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

Northern Alternate Raceway Access

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 31,000.00	$ 31,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 1,500.00	$ 1,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 3,000.00	$ 3,000.00
4	PROVIDE CLEARING & GRUBBING	LS 1	$ 4,000.00	$ 4,000.00
5	PROVIDE GRADE PREPARATION	LS 1	$ 10,000.00	$ 10,000.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 3,094	$ 40.00	$ 123,777.98
7	F&P 3/4" MINUS AGGREGATE BASE	TON 884	$ 50.00	$ 44,206.42
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 1,579	$ 75.00	$ 118,421.66
9	F&P PAINT STRIPING	LS 1	$ 2,500.00	$ 2,500.00
10	F&P ALL NECESSARY SIGNAGE	LS 1	$ 2,500.00	$ 2,500.00
			CONSTRUCTION QUOTE =	**$ 340,906.05**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 74,999.33
2	CONTINGENCY	LS 1	20%	$ 68,181.21
			TOTAL QUOTE =	**$ 484,086.59**

Northern Alternate Raceway Access

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

1st St. Sidewalks (Rufus - Concept 2)

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 19,000.00	$ 19,000.00
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	$ 3,000.00	$ 3,000.00
5	F&P CONCRETE CURBS	LF 3,993	$ 18.00	$ 71,874.00
6	F&P CONCRETE WALK	SQ FT 19,965	$ 5.00	$ 99,825.00
7	PEDESTRIAN LIGHTING	LS 1	$ 6,000.00	$ 6,000.00
			CONSTRUCTION QUOTE=	**$ 211,699.00**
7	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 46,573.78
8	CONTINGENCY	LS 1	20%	$ 42,339.80
			TOTAL QUOTE=	**$ 300,612.58**

1st St. Sidewalks (Rufus - Concept 2)

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

2nd St. Sidewalks (Rufus)				
ITEM #	**DESCRIPTION**	**U/M QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 23,000.00	$ 23,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 6,000.00	$ 6,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 2,500.00	$ 2,500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 13,320	$ 1.75	$ 23,310.00
5	F&P STORM CATCH BASIN	EA 4	$ 1,500.00	$ 6,000.00
6	F&P STORM SEWER MANHOLE	EA 3	$ 2,000.00	$ 6,000.00
6	F&P STORM SEWER	LF 1,000	$ 40.00	$ 40,000.00
7	PROVIDE SUBGRADE PREPARATION	LS 1	$ 5,000.00	$ 5,000.00
8	F&P 1-1/2" MINUS AGGREGATE BASE	TON 530	$ 35.00	$ 18,549.68
9	F&P 3/4" MINUS AGGREGATE BASE	TON 151	$ 45.00	$ 6,814.17
10	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 361	$ 110.00	$ 39,663.06
11	F&P CONCRETE CURBS	LF 1,080	$ 25.00	$ 27,000.00
12	F&P CONCRETE WALK	SF 5,400	$ 8.00	$ 43,200.00
13	F&P CONCRETE WALK INTERSECTION RETURNS	EA 3	$ 600.00	$ 1,800.00
14	F&P CONCRETE WALK DRIVEWAY DROPS	EA 6	$ 400.00	$ 2,400.00
14	F&P PAINT STRIPING	LS 1	$ 5,000.00	$ 5,000.00
15	F&P ALL NECESSARY SIGNAGE	LS 1	$ 3,000.00	$ 3,000.00
			CONSTRUCTION QUOTE =	**$ 259,236.90**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 57,032.12
2	CONTINGENCY	LS 1	20%	$ 51,847.38
			TOTAL QUOTE =	**$ 368,116.40**
2nd St. Sidewalks (Rufus)				

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

Main St. Bike Lanes (Rufus)				
ITEM #	**DESCRIPTION**	**U/M QTY**	**UNIT COST**	**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 10,000.00	$ 10,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 2,000.00	$ 2,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 1,000.00	$ 1,000.00
4	PROVIDE GRADE PREPARATION	LS 1	$ 5,000.00	$ 5,000.00
5	F&P 1-1/2" MINUS AGGREGATE BASE	TON 1,038	$ 40.00	$ 41,522.96
6	F&P 3/4" MINUS AGGREGATE BASE	TON 297	$ 50.00	$ 14,829.63
7	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 504	$ 75.00	$ 37,834.39
8	F&P PAINT STRIPING	LS 1	$ 3,000.00	$ 3,000.00
9	F&P ALL NECESSARY SIGNAGE	LS 1	$ 400.00	$ 400.00
			CONSTRUCTION QUOTE =	**$ 115,586.99**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 25,429.14
2	CONTINGENCY	LS 1	20%	$ 23,117.40
			TOTAL QUOTE =	**$ 164,133.52**
Main St. Bike Lanes (Rufus)				

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

Old Highway 97 Sidewalks (Wasco)					
ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL	
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 65,000.00	$ 65,000.00	
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 12,000.00	$ 12,000.00	
3	F&P EROSION CONTROL MEASURES	LS 1	$ 4,000.00	$ 4,000.00	
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 47,658	$ 1.75	$ 83,401.50	
5	F&P STORM CATCH BASIN	EA 10	$ 1,500.00	$ 15,000.00	
6	F&P STORM SEWER MANHOLE	EA 5	$ 2,000.00	$ 10,000.00	
6	F&P STORM SEWER	LF 2,100	$ 40.00	$ 84,000.00	
7	PROVIDE SUBGRADE PREPARATION	LS 1	$ 15,000.00	$ 15,000.00	
8	F&P 1-1/2" MINUS AGGREGATE BASE	TON 1,458	$ 35.00	$ 51,030.78	
9	F&P 3/4" MINUS AGGREGATE BASE	TON 417	$ 45.00	$ 18,746.00	
10	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 992	$ 110.00	$ 109,114.39	
11	F&P CONCRETE CURBS	LF 3,639	$ 25.00	$ 90,975.00	
12	F&P CONCRETE WALK	SF 18,195	$ 8.00	$ 145,560.00	
13	F&P CONCRETE WALK INTERSECTION RETURNS	EA 14	$ 600.00	$ 8,400.00	
14	F&P CONCRETE WALK DRIVEWAY DROPS	EA 5	$ 400.00	$ 2,000.00	
14	F&P PAINT STRIPING	LS 1	$ 7,500.00	$ 7,500.00	
15	F&P ALL NECESSARY SIGNAGE	LS 1	$ 5,000.00	$ 5,000.00	
		CONSTRUCTION QUOTE =		**$ 726,727.67**	
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 159,880.09	
2	CONTINGENCY	LS 1	20%	$ 145,345.53	
		TOTAL QUOTE =		**$ 1,031,953.30**	

Old Highway 97 Sidewalks (Wasco)

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

4th St. Shared Use Path

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 8,500.00	$ 8,500.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 4,000.00	$ 4,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 2,500.00	$ 2,500.00
4	PROVIDE CLEARING & GRUBBING	LS 1	$ 2,000.00	$ 2,000.00
5	PROVIDE GRADE PREPARATION	LS 1	$ 25,000.00	$ 25,000.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 525	$ 40.00	$ 20,990.67
7	F&P 3/4" MINUS AGGREGATE BASE	TON 150	$ 50.00	$ 7,496.67
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 298	$ 75.00	$ 22,313.69
9	F&P PAINT STRIPING	LS 1	$ 1,000.00	$ 1,000.00
10	F&P ALL NECESSARY SIGNAGE	LS 1	$ 1,000.00	$ 1,000.00
			CONSTRUCTION QUOTE =	**$ 94,801.03**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 20,856.23
2	CONTINGENCY	LS 1	20%	$ 18,960.21
			TOTAL QUOTE =	**$ 134,617.46**

4th St. Shared Use Path

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

Grass Valley North St. & US 97					
ITEM #	**DESCRIPTION**	**U/M QTY**	**UNIT COST**		**TOTAL**
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$	5,000.00	$ 5,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$	10,000.00	$ 10,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$	3,000.00	$ 3,000.00
4	PROVIDE CONCRETE AND PAINT REMOVAL	LS 1	$	5,000.00	$ 5,000.00
5	PROVIDE GRADE PREPARATION	LS 1	$	10,000.00	$ 10,000.00
6	PROVIDE N.B. RT. TURN CURB, RAMP, S.W. & DEMO	LS 1	$	7,000.00	$ 7,000.00
7	F&P 1-1/2" MINUS AGGREGATE BASE	TON 133	$	40.00	$ 5,329.40
8	F&P 3/4" MINUS AGGREGATE BASE	TON 38	$	50.00	$ 1,903.36
9	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 84	$	75.00	$ 6,317.68
10	F&P PAINT STRIPING	LS 1	$	7,500.00	$ 7,500.00
11	F&P ALL NECESSARY SIGNAGE	LS 1	$	3,000.00	$ 3,000.00
		CONSTRUCTION QUOTE =			**$ 64,050.43**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%		$ 14,091.09
2	CONTINGENCY	LS 1	20%		$ 12,810.09
		TOTAL QUOTE =			**$ 90,951.61**
Grass Valley North St. & US 97					

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

US 97 & Erskine Road

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	$	3,000.00	$	3,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$	1,000.00	$	1,000.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 2,600	$	1.75	$	4,550.00
5	PROVIDE GRADE PREPARATION	LS 1	$	2,500.00	$	2,500.00
6	F&P 1-1/2" MINUS AGGREGATE BASE	TON 162	$	40.00	$	6,484.59
7	F&P 3/4" MINUS AGGREGATE BASE	TON 46	$	50.00	$	2,315.93
8	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 140	$	75.00	$	10,463.69
9	12" CULVERT REPLACEMANT	L.F. 95	$	50.00	$	4,750.00
10	F&P PAINT STRIPING / REMOVAL	LS 1	$	1,000.00	$	1,000.00
11	F&P ALL NECESSARY SIGNAGE	LS 1	$	1,000.00	$	1,000.00
		CONSTRUCTION QUOTE =			**$**	**40,064.21**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%		$	8,814.13
2	CONTINGENCY	LS 1	20%		$	8,012.84
		TOTAL QUOTE =			**$**	**56,891.18**

US 97 & Erskine Road

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

OR 206 Sidewalks (East)

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 41,000.00	$ 41,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 8,000.00	$ 8,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 3,000.00	$ 3,000.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 19,968	$ 1.50	$ 29,952.00
5	F&P STORM CATCH BASIN	EA 8	$ 1,500.00	$ 12,000.00
6	F&P STORM SEWER MANHOLE	EA 3	$ 2,000.00	$ 6,000.00
6	F&P STORM SEWER	LF 1,200	$ 40.00	$ 48,000.00
7	PROVIDE SUBGRADE PREPARATION	LS 1	$ 12,500.00	$ 12,500.00
8	F&P 1-1/2" MINUS AGGREGATE BASE	TON 1,178	$ 35.00	$ 41,243.78
9	F&P 3/4" MINUS AGGREGATE BASE	TON 337	$ 45.00	$ 15,150.78
10	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 1,069	$ 110.00	$ 117,583.69
11	F&P CONCRETE CURBS	LF 2,331	$ 25.00	$ 58,275.00
12	F&P CONCRETE WALK	SF 11,655	$ 8.00	$ 93,240.00
13	F&P CONCRETE WALK INSTERSECTION RETURNS	EA 15	$ 600.00	$ 9,000.00
14	F&P CONCRETE WALK DRIVEWAY DROPS	EA 6	$ 750.00	$ 4,500.00
14	F&P PAINT STRIPING	LS 1	$ 6,000.00	$ 6,000.00
15	F&P ALL NECESSARY SIGNAGE	LS 1	$ 4,000.00	$ 4,000.00
			CONSTRUCTION QUOTE =	**$ 509,445.26**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 112,077.96
2	CONTINGENCY	LS 1	20%	$ 101,889.05
			TOTAL QUOTE =	**$ 723,412.26**

OR 206 Sidewalks (East)

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

Armsworthy 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	$ 6,000.00	$ 6,000.00
3	F&P EROSION CONTROL MEASURES	LS	1	$ 2,500.00	$ 2,500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT	1,664	$ 1.50	$ 2,496.00
5	F&P STORM CATCH BASIN	EA	4	$ 1,500.00	$ 6,000.00
6	F&P STORM SEWER MANHOLE	EA	4	$ 2,000.00	$ 8,000.00
6	F&P STORM SEWER	LF	1,200	$ 40.00	$ 48,000.00
7	PROVIDE SUBGRADE PREPARATION	LS	1	$ 10,000.00	$ 10,000.00
8	F&P 1-1/2" MINUS AGGREGATE BASE	TON	148	$ 35.00	$ 5,167.02
9	F&P 3/4" MINUS AGGREGATE BASE	TON	42	$ 45.00	$ 1,898.09
10	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON	100	$ 110.00	$ 11,048.17
11	F&P CONCRETE CURBS	LF	1,649	$ 25.00	$ 41,225.00
12	F&P CONCRETE WALK	SF	11,785	$ 8.00	$ 94,280.00
13	F&P CONCRETE WALK INTERSECTION RETURNS	EA	7	$ 600.00	$ 4,200.00
14	F&P CONCRETE WALK DRIVEWAY DROPS	EA	4	$ 400.00	$ 1,600.00
14	F&P PAINT STRIPING	LS	1	$ 5,000.00	$ 5,000.00
15	F&P ALL NECESSARY SIGNAGE	LS	1	$ 2,500.00	$ 2,500.00
				CONSTRUCTION QUOTE =	**$ 279,914.28**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS	1	22%	$ 61,581.14
2	CONTINGENCY	LS	1	20%	$ 55,982.86
				TOTAL QUOTE =	**$ 397,478.28**
Armsworthy St. Sidewalks					

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

Clark Street Sidewalks				
ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 20,000.00	$ 20,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 3,500.00	$ 3,500.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 2,000.00	$ 2,000.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 1,200	$ 1.50	$ 1,800.00
5	F&P STORM CATCH BASIN	EA 4	$ 1,500.00	$ 6,000.00
6	F&P STORM SEWER MANHOLE	EA 2	$ 2,000.00	$ 4,000.00
6	F&P STORM SEWER	LF 600	$ 40.00	$ 24,000.00
7	PROVIDE SUBGRADE PREPARATION	LS 1	$ 2,500.00	$ 2,500.00
8	F&P 1-1/2" MINUS AGGREGATE BASE	TON 84	$ 35.00	$ 2,949.07
9	F&P 3/4" MINUS AGGREGATE BASE	TON 24	$ 45.00	$ 1,083.33
10	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 57	$ 110.00	$ 6,305.73
11	F&P CONCRETE CURBS	LF 1,196	$ 25.00	$ 29,900.00
12	F&P CONCRETE WALK	SF 5,980	$ 8.00	$ 47,840.00
13	F&P CONCRETE WALK INTERSECTION RETURNS	EA 7	$ 600.00	$ 4,200.00
14	F&P CONCRETE WALK DRIVEWAY DROPS	EA 1	$ 400.00	$ 400.00
14	F&P PAINT STRIPING	LS 1	$ 4,000.00	$ 4,000.00
15	F&P ALL NECESSARY SIGNAGE	LS 1	$ 2,500.00	$ 2,500.00
			CONSTRUCTION QUOTE =	**$ 162,978.14**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 35,855.19
2	CONTINGENCY	LS 1	20%	$ 32,595.63
			TOTAL QUOTE =	**$ 231,428.96**
Clark Street Sidewalks				

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

OR 206 Sidewalks (West)

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 7,500.00	$ 7,500.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 5,000.00	$ 5,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 2,000.00	$ 2,000.00
4	PROVIDE SUBGRADE PREPARATION	LS 1	$ 15,000.00	$ 15,000.00
5	F&P PEDESTRIAN BRIDGE ACROSS DRAINAGE	EA 2	$ 6,000.00	$ 12,000.00
6	F&P CONCRETE WALK	SF 7,225	$ 8.00	$ 57,800.00
7	F&P CONCRETE WALK INSTERSECTION RETURNS	EA 8	$ 600.00	$ 4,800.00
8	F&P PAINT STRIPING	LS 1	$ 1,500.00	$ 1,500.00
9	F&P ALL NECESSARY SIGNAGE	LS 1	$ 2,000.00	$ 2,000.00
			CONSTRUCTION QUOTE =	**$ 107,600.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 23,672.00
2	CONTINGENCY	LS 1	20%	$ 21,520.00
			TOTAL QUOTE =	**$ 152,792.00**

OR 206 Sidewalks (West)

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

Main St. Sidewalks (Rufus)				
ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 31,000.00	$ 31,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 8,000.00	$ 8,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 3,000.00	$ 3,000.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 20,568	$ 1.75	$ 35,994.00
5	F&P STORM CATCH BASIN	EA 8	$ 1,500.00	$ 12,000.00
6	F&P STORM SEWER MANHOLE	EA 2	$ 2,000.00	$ 4,000.00
6	F&P STORM SEWER	LF 800	$ 40.00	$ 32,000.00
7	PROVIDE SUBGRADE PREPARATION	LS 1	$ 10,000.00	$ 10,000.00
8	F&P 1-1/2" MINUS AGGREGATE BASE	TON 818	$ 35.00	$ 28,643.37
9	F&P 3/4" MINUS AGGREGATE BASE	TON 234	$ 45.00	$ 10,522.06
10	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 557	$ 110.00	$ 61,245.48
11	F&P CONCRETE CURBS	LF 1,477	$ 25.00	$ 36,925.00
12	F&P CONCRETE WALK	SF 7,385	$ 8.00	$ 59,080.00
13	F&P CONCRETE WALK INTERSECTION RETURNS	EA 11	$ 600.00	$ 6,600.00
14	F&P CONCRETE WALK DRIVEWAY DROPS	EA 10	$ 400.00	$ 4,000.00
14	F&P PAINT STRIPING	LS 1	$ 6,000.00	$ 6,000.00
15	F&P ALL NECESSARY SIGNAGE	LS 1	$ 3,500.00	$ 3,500.00
			CONSTRUCTION QUOTE =	**$ 352,509.91**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 77,552.18
2	CONTINGENCY	LS 1	20%	$ 70,501.98
			TOTAL QUOTE =	**$ 500,564.07**
Main St. Sidewalks (Rufus)				

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

Moro High School South Access (Fork)

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 1,950.00	$ 1,950.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 4,000.00	$ 4,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 500.00	$ 500.00
4	PROVIDE PAINT REMOVAL	LS 1	$ 5,000.00	$ 5,000.00
5	F&P PAINT STRIPING	LS 1	$ 5,000.00	$ 5,000.00
6	F&P ALL NECESSARY SIGNAGE	LS 1	$ 5,000.00	$ 5,000.00
			CONSTRUCTION QUOTE =	**$ 21,450.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 4,719.00
2	CONTINGENCY	LS 1	20%	$ 4,290.00
			TOTAL QUOTE =	**$ 30,459.00**

Moro High School South Access (Fork)

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

Moro High School North Access (Left Turn)

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	$	6,000.00	$	6,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$	2,500.00	$	2,500.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 2,500	$	1.75	$	4,375.00
5	PROVIDE GRADE PREPARATION	LS 1	$	25,000.00	$	25,000.00
6	PROVIDE UTILITY RELOCATION	LS 1	$	10,000.00	$	10,000.00
7	F&P 1-1/2" MINUS AGGREGATE BASE	TON 556	$	40.00	$	22,226.19
8	F&P 3/4" MINUS AGGREGATE BASE	TON 159	$	50.00	$	7,937.92
9	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 382	$	75.00	$	28,674.36
10	F&P PAINT STRIPING	LS 1	$	5,000.00	$	5,000.00
11	F&P ALL NECESSARY SIGNAGE	LS 1	$	3,000.00	$	3,000.00
			CONSTRUCTION QUOTE =		**$**	**122,713.48**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%		$	26,996.96
2	CONTINGENCY	LS 1	20%		$	24,542.70
			TOTAL QUOTE =		**$**	**174,253.14**

Moro High School North Access (Left Turn)

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

Existing Clark St. Sidewalks

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 12,500.00	$ 12,500.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 2,000.00	$ 2,000.00
3	F&P EROSION CONTROL MEASURES	LS 1	$ 1,000.00	$ 1,000.00
4	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 9,490	$ 1.50	$ 14,235.00
5	PROVIDE SUBGRADE PREPARATION	LS 1	$ 10,000.00	$ 10,000.00
6	F&P CONCRETE WALK	SF 12,525	$ 8.00	$ 100,200.00
7	F&P CONCRETE WALK INSTERSECTION RETURNS	EA 7	$ 600.00	$ 4,200.00
8	F&P PAINT STRIPING	LS 1	$ 2,000.00	$ 2,000.00
9	F&P ALL NECESSARY SIGNAGE	LS 1	$ 500.00	$ 500.00
			CONSTRUCTION QUOTE =	**$ 146,635.00**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 32,259.70
2	CONTINGENCY	LS 1	20%	$ 29,327.00
			TOTAL QUOTE =	**$ 208,221.70**

Existing Clark St. Sidewalks

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

US 97 Lighting

ITEM #	DESCRIPTION	U/M QTY	UNIT COST	TOTAL
1	MOBILIZATION, PROJ MGT, TEMP. FACILITIES, ETC.	LS 1	$ 17,000.00	$ 17,000.00
2	PROVIDE TRAFFIC CONTROL	LS 1	$ 5,000.00	$ 5,000.00
3	PROVIDE DEMOLITION & PAVEMENT REMOVAL	SQ FT 8,040	$ 1.50	$ 12,060.00
4	F&P 1-1/2" MINUS AGGREGATE BASE	TON 226	$ 35.00	$ 7,903.52
5	F&P 3/4" MINUS AGGREGATE BASE	TON 65	$ 45.00	$ 2,903.33
6	F&P 1/2" DENSE ODOT LEVEL 2 MHMAC PAVING	TON 205	$ 110.00	$ 22,532.48
7	F&P ORNAMENTAL LIGHT POLE	EA 24	$ 5,000.00	$ 120,000.00
			CONSTRUCTION QUOTE =	**$ 187,399.34**
1	ENGINEERING, SURVEYING, MANAGEMENT	LS 1	22%	$ 41,227.85
2	CONTINGENCY	LS 1	20%	$ 37,479.87
			TOTAL QUOTE =	**$ 266,107.06**

US 97 Lighting

Cost estimates for remaining projects were developed using the following unit costs, with 42% contingency applied.

- New enhanced signs: $600 per sign
- Marked crosswalk: $2,000 per crossing
- Guardrail (based on ODOT bid costs)
    - Average cost for guardrail (small project only): $53 per lin ft
    - Average cost estimate for anchors: $903 ea
    - Average cost estimate for non-flare terminals: $2,550 ea
- New curb: $25 per lin ft
- Improving sight distance: $5,000 per location
- Left-turn lanes on US 97 to side streets:
    - Assumptions: taper rate of 55:1 for 65 mph road; 660’ of taper; 100’ of storage, 450’ of deceleration.
    - $15 per sq ft of new pavement
    - Including contingency: $304,920 per left-turn lane
- Right-turn deceleration lane on US 97: $210,000 including contingency
- Rural intersection treatments:
    - $360 per new sign
    - $650 per new oversized sign
    - $1,000 for Stop Ahead legend
    - $7.55 per sq ft of raised median
- Shoulder widening: $15 per sq ft of new pavement
- Rumble strips:
    - Centerline rumble strips (including labor): $3,000 per mile
    - Shoulder rumble strips (including labor): $850 per mile

Attachment C. Planned TSP Alternatives

Systemic Safety Roadway Departure Projects

						Potential Countermeasures							
ID	Roadway	Start MP or Cross Street	End MP or Cross Street	Priority	Cost Estimate	Inlaid Raised Pavement Markers	Widen Shoulder & Install Safety Edge	Install Centerline and Shoulder Rumble Strips*	Curve Warning Signs	Chevrons at Curves	Guard-rail	Passing Lanes^	Speed Enforcement
95	US 97	0.86	6.20	High	$18,500	X		X	X	X			
4	US 97	42.43	43	High	$4,800	X		X	X	X		X	X
87	OR 206	3	6.1	Medium	$12,900	X		X	X	X			
88	US 97	22.5	23.9	Medium	$8,600	X		X				X**	
89	Scott Canyon Road	Rufus City Limits	Herin Lane	Medium	$9,500	X	X	X	X	X			
90	US 97	12	13.28	Medium	$6,600	X		X					
91	US 97	33.33	33.58	Medium	$4,000	X		X	X	X			
49 & 86	Van Gilder Road	4	5.6	Medium	$14,700	X	X	X	X	X	X		
92	Scott Canyon Road	Medler Ln	Gerking Canyon Rd	Low	$6,600	X	X	X	X	X			
2	Herin Lane	Scott Canyon Road	Oehman Road	Low	$9,200	X	X	X					
48	Lonerock Road	N/A	N/A	High	$5,300	X	X	X			X		
59	Blagg Lane	N/A	N/A	Low	$3,500	X	X	X	X	X			

*Rumble strips should only be installed in locations where the shoulder width permits it.

^Passing lanes and speed enforcement should involve further study prior to implementation. Cost estimates do not include passing lanes.

**Passing lanes exist from approximately MP 23 to 23.55. The study should evaluate whether this passing lane can be lengthened.

Systemic Safety Intersection Projects

					Potential Countermeasures						
ID	Major Road	Minor Road	Priority	Cost Estimate	Rural Intersection Signing and Marking Improvements	Right-turn deceleration Lane	Lengthen existing right-turn deceleration lane	Install left-turn lane	Lengthen existing left-turn lane	Improve sight distance	Reduce intersection skew
50	US 97	Monkland Lane	High	$309,900				X		X	
77	US 97	Barnum Lane	High	$309,900				X			
93	US 97	Sawtooth Road	High	$6,500	X						
94	US 97	Finnegan Road	Medium	$18,500							X
42	US 97	Stark Lane	Medium	$5,000						X	
47	US 97	Moore Lane	Low	$25,600			X				
52	OR 206	Fairview Road	Medium	$27,300	X						X
44	US 97	Rutledge Lane	Medium	$25,600							X
80	US 97	Mud Hollow Road	Medium	$309,900				X			
40	US 97	Liberty Lane	Medium	$210,000		X					
41	US 97	Bourbon Lane	Medium	$309,900				X			
27	US 97	Old Highway 97	Medium	$309,900				X			
20	W 1st Street / Biggs-Rufus Highway	Industrial Access	High	$309,900				X			
43	US 97	Dobie Point Road	High	$514,900		X		X			
28	US 97	Clark Street	Low	$25,600			X				
81	US 97	Wilcox Lane	Medium	$309,900				X			
51	Monkland Lane	Hay Canyon Road	Medium	$3,200	X						

Planned Transportation Improvements in Sherman County (including unincorporated areas of Biggs and Kent)

ID	Name	Description	Category	Type	Cost Estimate[1]	Potential Funding Source ODOT/ State	County	Cities	Private
Short-Term Projects									
15	Roadway Design Guidelines	Update roadway design guidelines for each community.	Modernization	Policy	$0		X	X	
72	Traffic Speeds on US 97	Improve education and enforcement related to traffic speeds in the County through programs and additional signage or campaigns. Evaluate the feasibility of using ITS treatments to reduce speed in Cities throughout the County.	Safety	Program/ Study	$20,000	X	X	X	
73	Truck Volumes and Speeds on US 97 in Cities	Install speed reduction treatments on US 97 to reinforce posted speeds in cities. Speed reduction treatments may consider automated speed enforcement, speed feedback signs, roadway modifications to visually indicate to drivers that they are entering urban area.	Safety	Project	$56,800	X	X	X	
74	Passing Opportunities on US 97	Conduct study to determine locations where passing lanes are needed. Supplement with previous work ODOT has completed.	Safety	Study	$10,000	X	X		
5	Weather-related crashes	Conduct study to determine feasibility and cost of implementing treatments for weather related crashes, including: ITS treatments, different pavement materials, warning signs, etc.	Safety	Study	$10,000	X			
16	OR 206/Fulton Canyon Road & Biggs-Rufus Highway Upgrade	Upgrade OR 206/Fulton Canyon Road from a major collector to a minor arterial from the intersection of US 97 to the intersection with Biggs-Rufus Highway. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the roads to arterial standards.	Modernization	Policy & Study	$10,000	X	X		
17	Scott Canyon Road Upgrade	Upgrade Scott Canyon Road from a major collector to a minor arterial from OR 206 in Wasco to Biggs-Rufus Highway in Rufus. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the road to arterial standards.	Modernization	Policy & Study	$0		X		
75	OR 216 Upgrade	Upgrade OR 216 from a major collector to a minor arterial from US 97 in Grass Valley to Deschutes River. This route is a popular route for river access along the Deschutes and for residents traveling to the east. Study the feasibility of improving the road to arterial standards.	Modernization	Policy & Study	$10,000	X			
76	Van Gilder Road Upgrade	Upgrade Van Gilder Road from a major collector to a minor arterial from US 97 in Moro to the intersection with OR 206. Route serves as a popular alternative to US 97 for local residents. Study the feasibility of improving the road to arterial standards.	Modernization	Policy & Study	$10,000		X		
Medium and Long-Term Projects									
11	US 97 Bridge over Columbia River at Biggs Junction	Improve or replace bridge to meet current design standards. (Note: Future improvement or maintenance of this bridge falls under the Washington Department of Transportation's responsibility)	Bridge	Project	N/A	X			
18	Intermodal freight connections at Biggs Junction	Evaluate opportunities for improved freight connections between trucks, rail, and river cargo.	Intermodal	Study	$20,000	X	X		X
14	Finnegan Road Bridge over Finnegan Creek	Study feasibility of improving or replacing bridge to meet current design standards.	Bridge	Project	$20,000		X		
26	Maddie's Hump	Upgrade to major collector. Study feasibility of widening shoulders.	Modernization	Project & Study	$10,000	X	X		
46	US 97 / Erskine Road	Widen the throat of Erskine Road.	Modernization	Project	$56,900	X	X		
30	Eastern Alternate Access to	Pave Blagg Lane from Oregon Raceway to Lonerock Road. Consider upgrading the functional classification.	Roadway	Project	$2,559,600		X		X

ID	Name	Description	Category	Type	Cost Estimate[1]	Potential Funding Source: ODOT/ State	County	Cities	Private
	Raceway								
31	Northern Alternate Access to Raceway	Construct a secondary access from the Oregon Raceway to Barnum Lane.	Safety	Project	$484,100		X		X
12	Mud Hollow Road Bridge over Spanish Hollow Creek	Improve or replace bridge to meet current design standards.	Bridge	Project	$100,000		X		
55	Wildlife Crossings	Conduct a study to determine where wildlife crossings are needed on the major state highways. Estimate the cost of installing the crossings.	Safety	Study	$10,000	X			

Planned Transportation Improvements in Urban Areas

ID	City	Name	Description	Category	Type	Cost Estimate[1]	Potential Funding Source			
							ODOT/ State	County	Cities	Private
Short-Term Projects										
23	Rufus	1st Street/Biggs-Rufus Highway Bridge (west of Sullivan Ln)	Evaluate structural integrity of the existing bridge and establish cost estimates for required improvements to support structural integrity and serve existing traffic use.	Bridge	Study	$20,000	X	X		
24	Rufus	1st Street/Biggs-Rufus Highway Bridge (east of Fowler St)	Evaluate structure integrity of the existing bridge and establish cost estimates for required improvements.	Bridge	Study	$20,000	X	X		
19	Rufus	Murray Street	Install traffic calming measures on Murray Street to reinforce posted speed and deter cut-through traffic.	Modernization	Project	$10,000			X	
21	Rufus	2nd Street/Wallace Street	Connect 2nd Street to 1st Street 300' west of Wallace Street. Vacate 2nd Street from new connection to Wallace Street. Consider extending 3rd Street to 2nd Street/1st Street.	Safety	Project	$95,800			X	
68	Rufus	Intersection of 2nd Street/Biggs Rufus Highway	Vacate 2nd Street from Murray Street to 1st Street.	Safety	Project	$22,300	X		X	
56	Wasco	Wasco Wayfinding Signage	Provide better signage to direct vehicles to highways, Rufus, and Cottonwood Canyon State Park.	Modernization	Project	$6,800			X	
66	Moro	High School Access	Restripe southern access points to restrict minor street left-turns to northern part of fork and make southern entrance one-way incoming northbound only. Add southbound left-turn lane at northern intersection on US 97. Relocated speed limit signs to reduce speed limit further in advance of intersection. Consider speed feedback signs to reduce speeds in advance of intersections.	Safety	Project	$204,700	X	X	X	
Medium and Long-Term Projects										
22	Rufus	Biggs Rufus Highway (1st Street) lacks defined on-street parking.	Define access management along the highway and define on-street parking spaces.	Modernization	Project	$28,400	X		X	
25	Rufus	2nd Street Bridge (east of Fowler St)	Close bridge to traffic when 2nd Street is closed to traffic as part of Project #68.	Bridge	Project	$0			X	
69	Rufus	Fowler Street Parking	Vacate Fowler Street from 1st Street to 2nd Street and convert to a parking lot with access to 2nd Street only.	Modernization	Project	$27,300			X	
71	Rufus	Rufus Parking Analysis	Conduct a parking options study and analysis for the business and residential block.	Modernization	Study	$10,000			X	
45	Grass Valley	North Street/US 97	Reconstruct North Street approach to US 97 to provide larger turn radius, and add a left-turn lane from US 97 to North Street.	Modernization	Project	$91,000	X		X	

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

Table 5-1. Planned Pedestrian and Bicycle Improvements in Sherman County

ID	Location	Name	Description	Category	Cost Estimate[1]	Potential Funding Source: ODOT/ State	County	Cities	Private
Short-Term Projects									
32	Rufus	1st Street Sidewalks (Rufus)	Install sidewalks and pedestrian scale lighting along both sides of 1st Street from Sullivan Ln to Wallace Street	Pedestrian	$300,600	X		X	
70	Rufus	Pedestrian Crossings of Biggs-Rufus Highway	Stripe crossing of 1st Street at Main Street.	Pedestrian	$2,800	X		X	
Medium- & Long-Term Projects									
10	County	Bicyclist Routes	Promote the bike routes that are currently popular routes and identify opportunities to route cyclists off of US 97 when possible. Provide signage to encourage cyclists to use alternate routes from the highway and provide warnings signs on these routes to inform drivers of the bicycle routes.	Bike	$17,000	X	X		
57	County	Van Gilder Road	Provide directional signage for cyclists; warning signs for motorists to share the road.	Bike	$5,100		X		X
39	County	Ped/Bike Connections along Lonerock Road, east of City Limits of Moro	Install a shared-use path along Lonerock Road from East City Limits to Fairgrounds.	Path	$270,300		X		
34	Rufus	Bikes on Main Street (Rufus)	Widen to accommodate a bicycle lane.	Bike	$164,100	X		X	
65	Rufus	Main Street Sidewalks	Install sidewalks on Main Street from Vista Drive to 1st Street.	Pedestrian	$500,600				
67	Rufus	Rufus Ped/Bike Access Under Freeway and Railroad	Conduct environmental impact study to determine whether Gerking Gulch is a feasible undercrossing of I-84 and railroad for ped/bike users between 1st Street and the Columbia River.	Path	$20,000	X		X	
33	Rufus	2nd Street Sidewalks (Rufus)	Install sidewalks along the south side of 2nd Street from Main Street to Community Center	Pedestrian	$368,100			X	
35	Wasco	Old Highway 97 Sidewalks	Install sidewalks on both sides of Old Highway 97 from Clark Street to 6th Street and along the east side of the road from 6th Street to Asher Street.	Pedestrian	$1,032,000	X	X		
61	Wasco	OR 206 Sidewalks (Clark Street to Scott Street)	Install sidewalks on OR 206 from Clark Street east to Scott Street.	Pedestrian	$723,400	X		X	
62	Wasco	Armsworthy Street Sidewalks	Install sidewalks on Armsworthy Street from Church Street to Scott Street.	Pedestrian	$397,500	X		X	
63	Wasco	Clark Street Sidewalks	Install sidewalks on Clark Street from Old Highway 97 to Yates Street.	Pedestrian	$231,400	X		X	
64	Wasco	OR 206 Sidewalks (Biggs Street to Church Street)	Install sidewalks on OR 206 from Biggs Street to Church Street.	Pedestrian	$152,800	X		X	
79	Wasco	Existing Clark Street Sidewalks	Upgrade existing sidewalks along Clark Street from Columbia to Ellis, and add sidewalks on the east side.	Pedestrian	$208,200	X		X	
9	Moro	Lonerock Road Sidewalks	Construct sidewalks on the north side of the road.	Pedestrian	$172,300		X	X	
38	Moro	Ped/Bike Connections along 4th	Install a shared-used path along 4th Street/Van Gilder Road from	Path	$134,600		X	X	X

ID	Location	Name	Description	Category	Cost Estimate[1]	Potential Funding Source ODOT/ State	County	Cities	Private
		Street to Azure Lane in Moro	Hood Street to Azure Lane.						
7	Moro	Sidewalks to High School	Install sidewalks or a shared-use path between the High School and the existing sidewalks on Main Street.	Pedestrian	$184,300	X	X	X	
84	Grass Valley	US 97 Pedestrian Scale Lighting	Install pedestrian scale lighting along the sidewalks on US 97 in Grass Valley.	Pedestrian	$266,100	X		X	

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