

## TECHNICAL MEMORANDUM #3

### Sherman County Transportation System Plan Update

Existing & Future Conditions Analysis

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Date: May 31, 2015 Project #: 18054  
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cc: Project Advisory Committee

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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:

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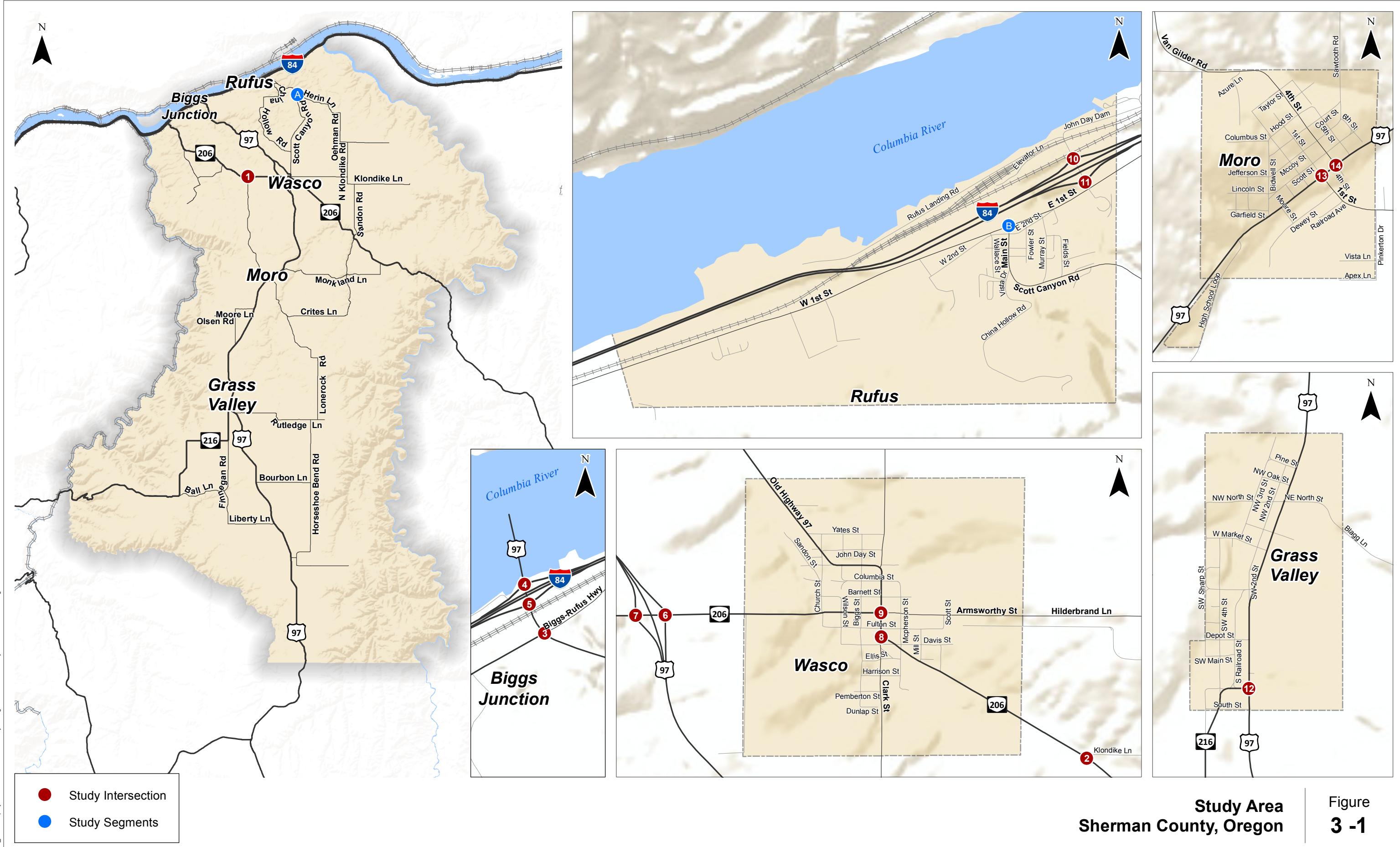
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## STUDY AREA

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 <sup>th</sup> St / US 97	Moro
A	Herin Lane at Scott Canyon Road	County
B	Main Street at 1 <sup>st</sup> Street/Biggs Rufus Highway	Rufus



## LAND USE AND POPULATION

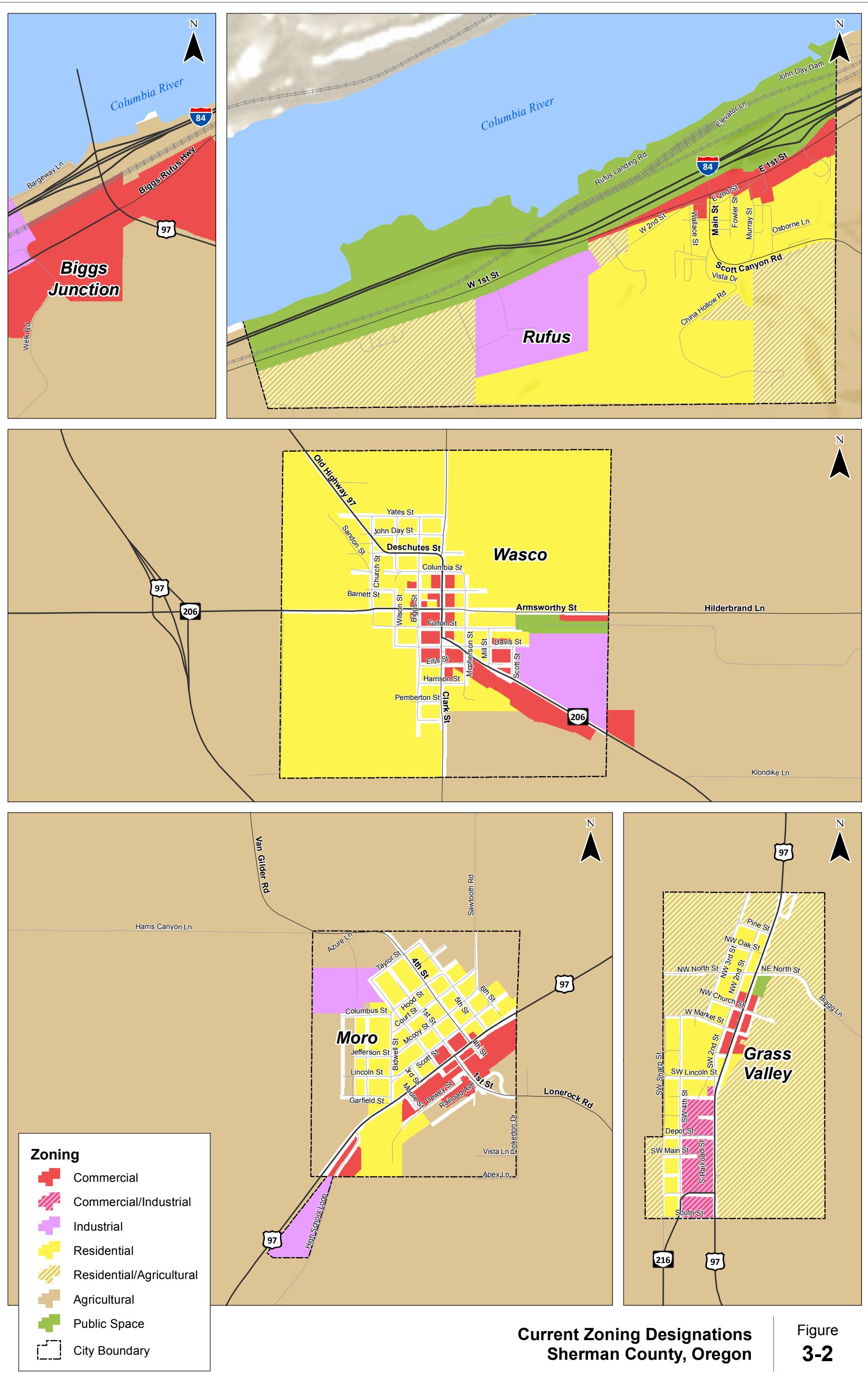
The land use and population inventory identifies existing, planned, and potential land uses. The land use and population inventory will inform existing and future conditions analyses, particularly as the project team works with the community to develop future alternative scenarios that capture the County's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

## 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	Sherman County (Total)	Population Projections				
		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	Sherman County (Total)	Population Projections				
		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

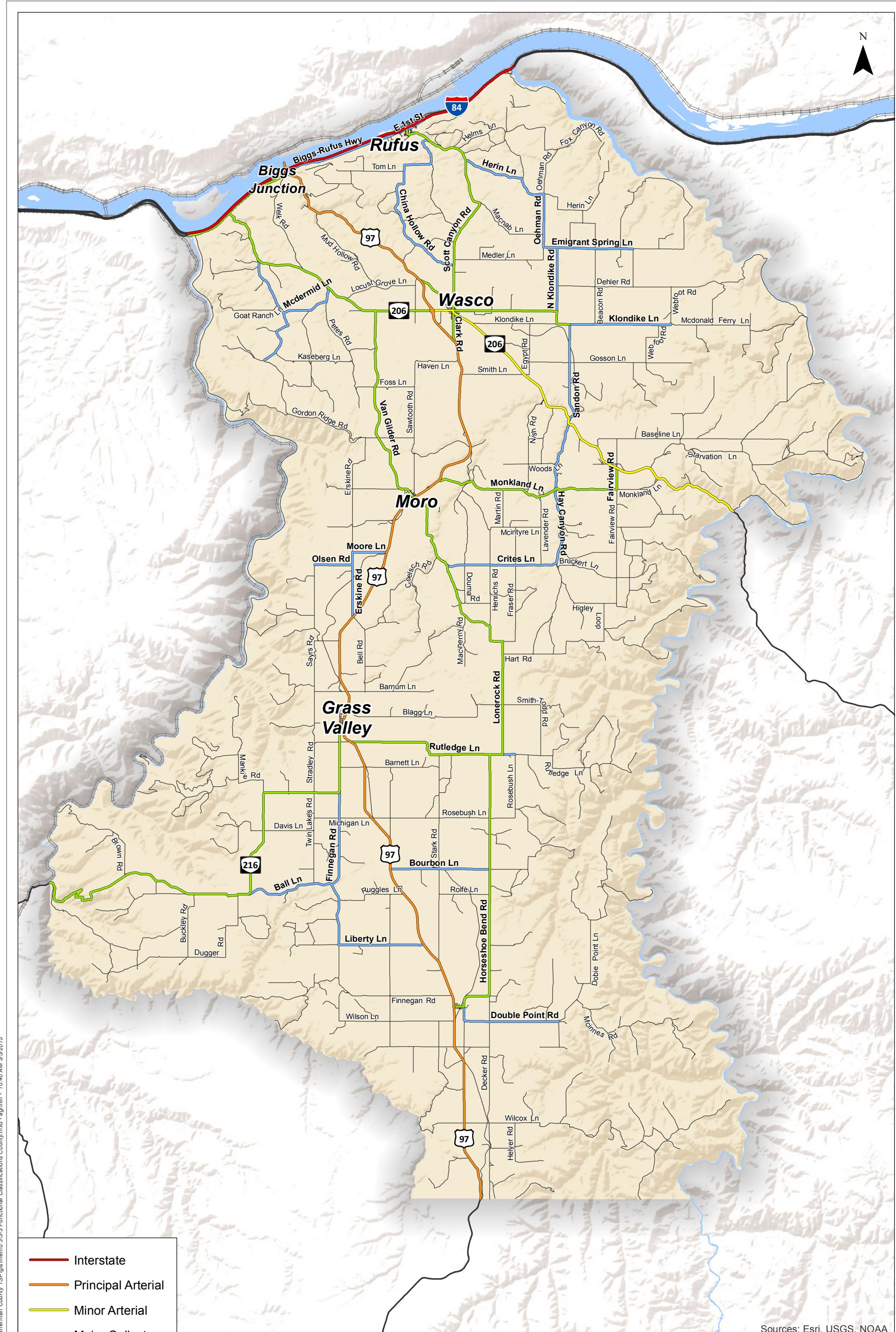
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highways that are classified as minor arterials, the highways must balance carrying through traffic and accommodating access to local destinations.

Table 3-4. State Functional Classification

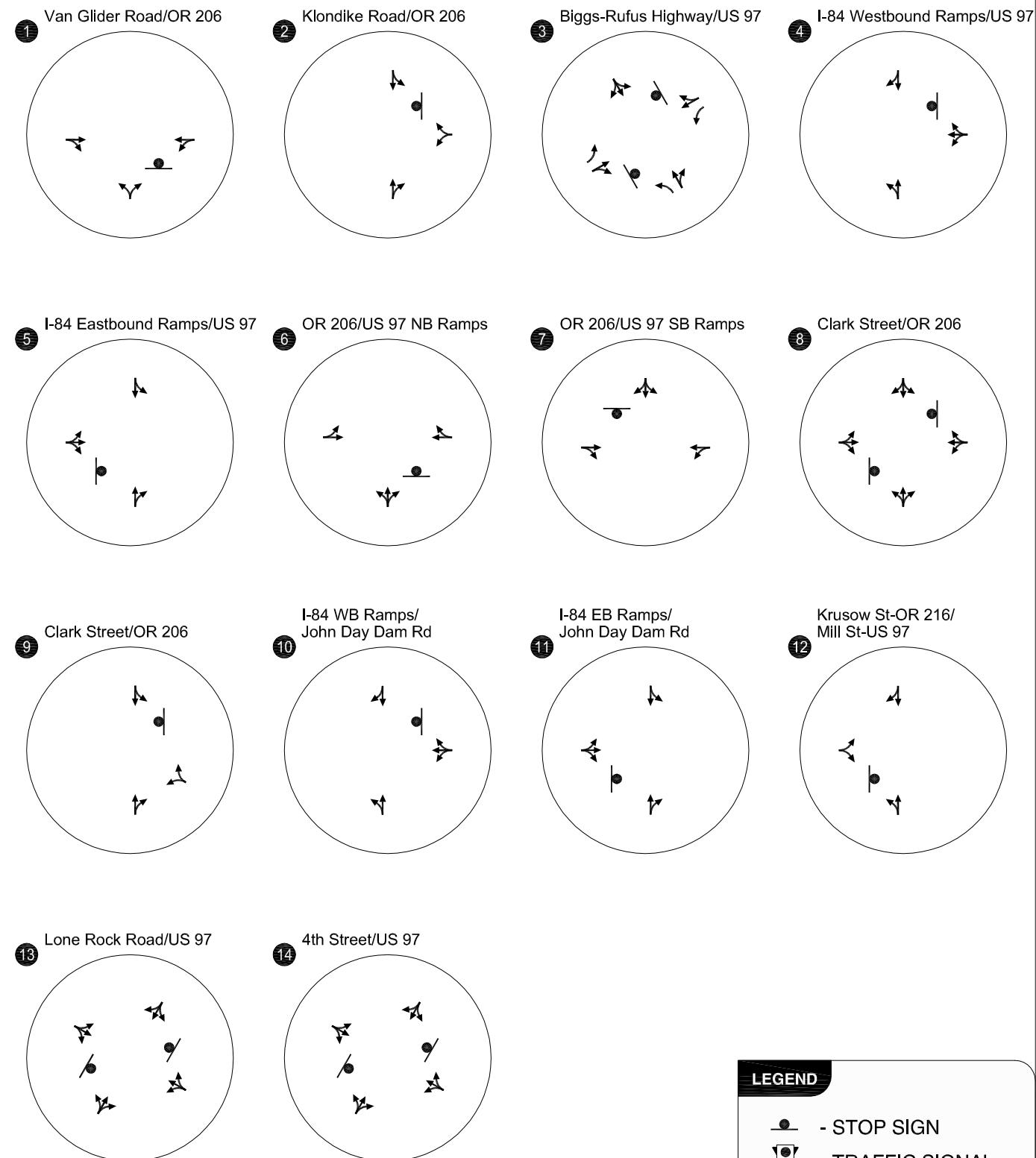
Route Name	Facility Extents	ODOT Facility Designation	ODOT Functional Classification	Posted Speed Limit (mph)	Number of Lanes	Pavement Condition (2012)
Interstate 84	Entire Section within County Limits	Interstate	Rural Interstate	65	4	Fair (West of Rufus) to Very Good (East of Rufus)
	Rufus City Limits	Interstate		65	4	Fair
US 97 ( <i>Freight Route</i> )	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**



**Existing Lane Configurations and Traffic Control Devices  
Sherman County, Oregon**

Figure  
**3-4**

### ***County Facilities***

Sherman County follows ODOT's roadway functional classification system by dividing county roads into three levels: urban collector/rural major collector, minor collector, and local roads. The existing functional classification system 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.

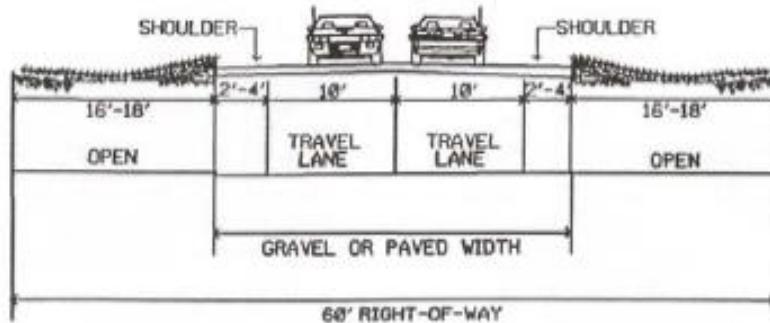
### ***County Facilities***

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.

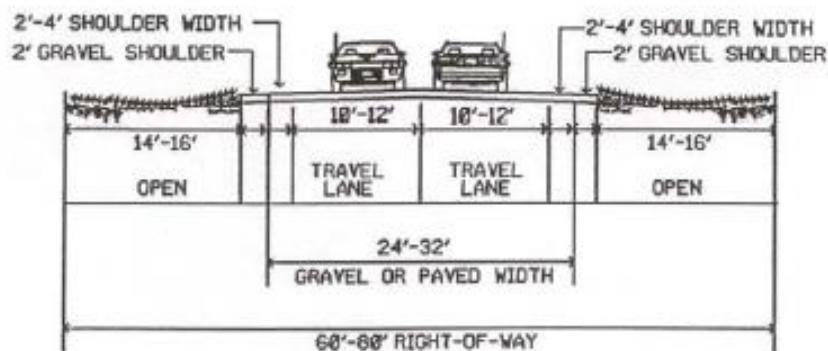
Rural roadways in the County are not currently required to have bike lanes or marked bicyclist facilities. The roadway design standards indicate that bicyclists shall be accommodated on the shoulder, when appropriate, based on the facility's traffic volumes. Rural roadways are not required to have separate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

Table 3-5. Sherman County Rural Roadway Design Standards

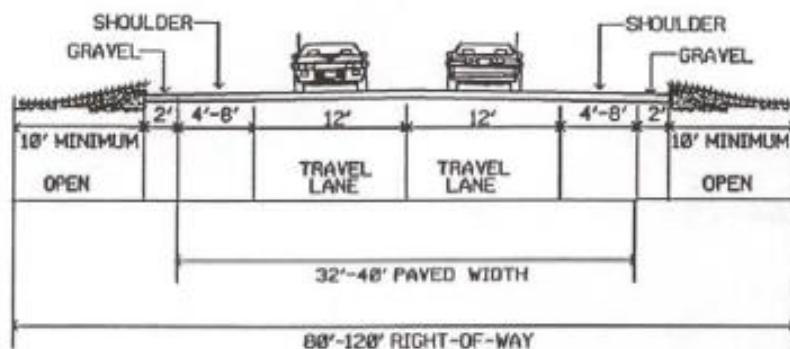
Classification	Right-of-Way Width (ft)	Roadway		Shoulder	
		Width (ft)	Surface	Width (ft)	Surface
Arterial Street	80-120	32-40	Paved	4-8	Paved
Collector Street	60-80	24-32	Paved/gravel	2-4	Paved/gravel
Local Street	60	24-28	Paved/gravel	2-4	Paved/gravel
Radius for cul-de-sac turn-around	50	40	-	-	-



Local Roads



Collector Roads



Arterial Roads

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.

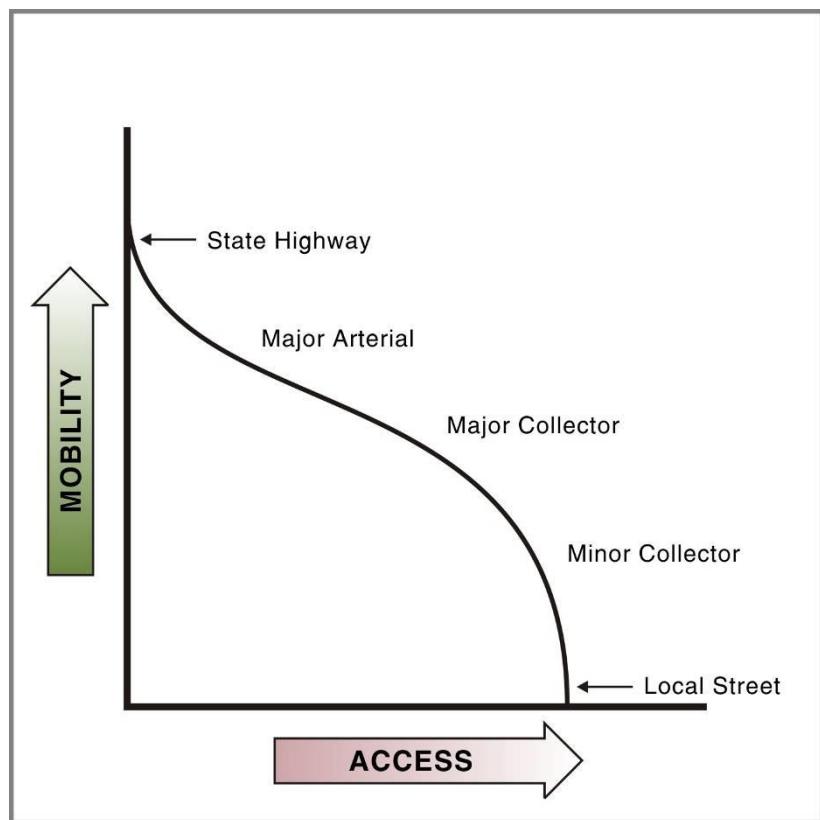


Exhibit 3-2. Relationship between Access, Mobility, and Functional Classification

### ***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 <i>(Freight Route)</i>	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

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	<b>0.70</b>
	Rufus City Limits	Interstate	N/A	N/A	<b>0.80</b>	0.70	0.70
US 97 (Freight Route)	Outside City Limits	Statewide Highway	0.85	0.80	<b>0.80</b>	0.70	0.70
	Moro	Statewide Highway	<b>0.85</b>	<b>0.80</b>	<b>0.80</b>	0.70	0.70
	Grass Valley	Statewide Highway	<b>0.85</b>	<b>0.80</b>	<b>0.80</b>	0.70	0.70
	Biggs Junction & Kent (Unincorporated Communities)	Statewide Highway	0.85	0.80	0.80	<b>0.70</b>	0.70
OR 206	Outside of Wasco City Limits, East of Wasco	Regional Highway	0.90	0.85	<b>0.85</b>	0.75	0.70
	Within Wasco City Limits, East of Clark Road	Regional Highway	<b>0.90</b>	<b>0.85</b>	<b>0.85</b>	0.75	0.70
	Within Wasco City Limits, West of Clark Road	District Highway	<b>0.95</b>	<b>0.90</b>	<b>0.90</b>	0.80	0.75
	Outside Wasco City Limits, West of Wasco	District Highway	0.95	0.90	<b>0.90</b>	0.80	0.75
OR 216	Within Grass Valley City Limits	District Highway	<b>0.95</b>	0.90	0.90	0.80	0.75
	Outside of Grass Valley City Limits		0.95	0.90	<b>0.90</b>	0.80	0.75
Biggs – Rufus Highway	OR 206 to Biggs Junction	District Highway	<b>0.95</b>	<b>0.90</b>	<b>0.90</b>	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 <sup>th</sup> 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

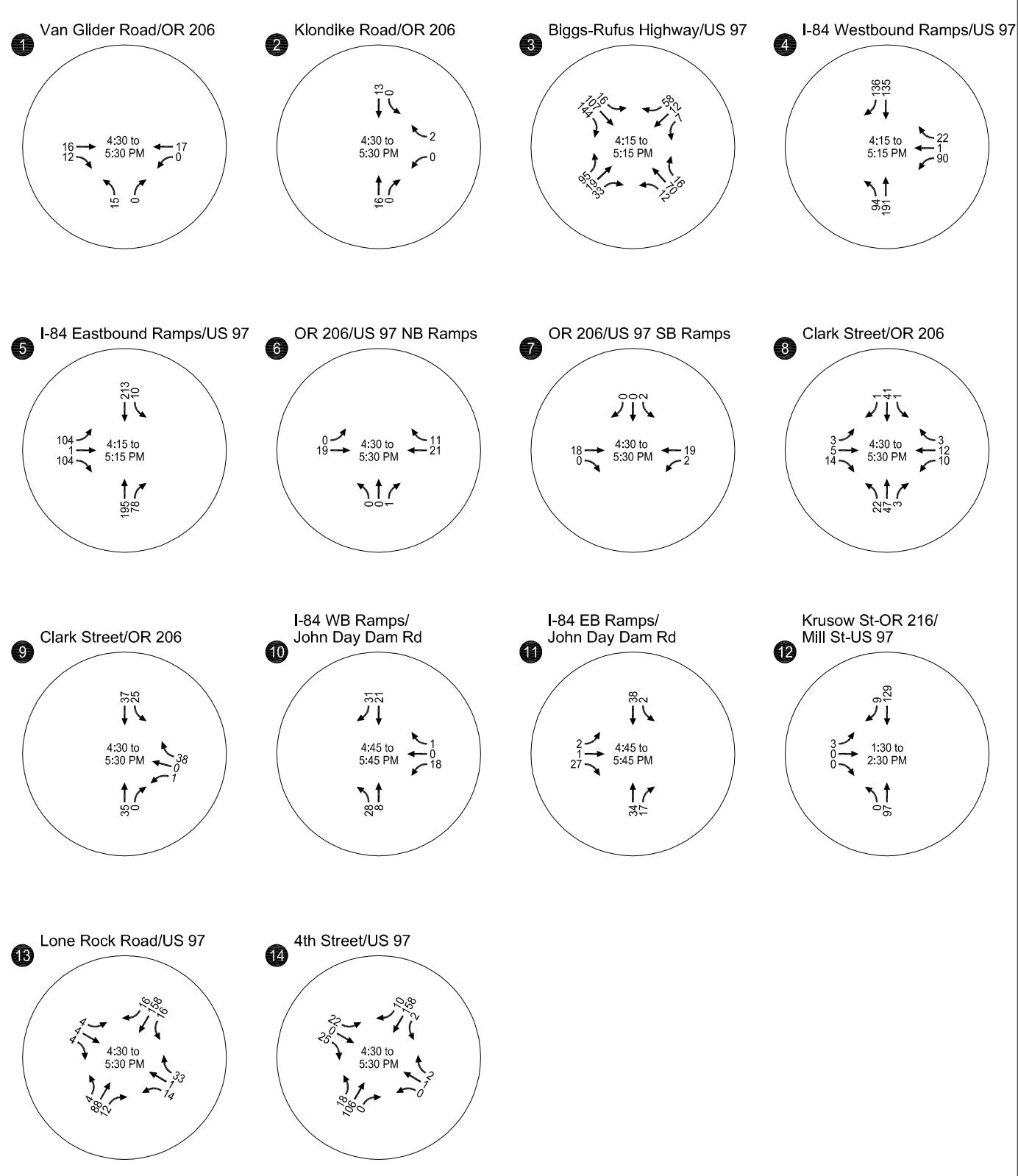
ID	Roadway	ADT from 2014 Traffic Counts	Peak Hour Time Period	Seasonally-Adjusted Peak Hour Count	PHF*	Two-Way Demand Flow	Critical Flow Rate	Units	Calculated V/C Ratio
A	Herin Lane, East of Scott Canyon Road	90	6:00 - 7:00 a.m.	16	0.67	26	3200	pc/h	0.0079
B	Main Street, South of 1 <sup>st</sup> Street 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**

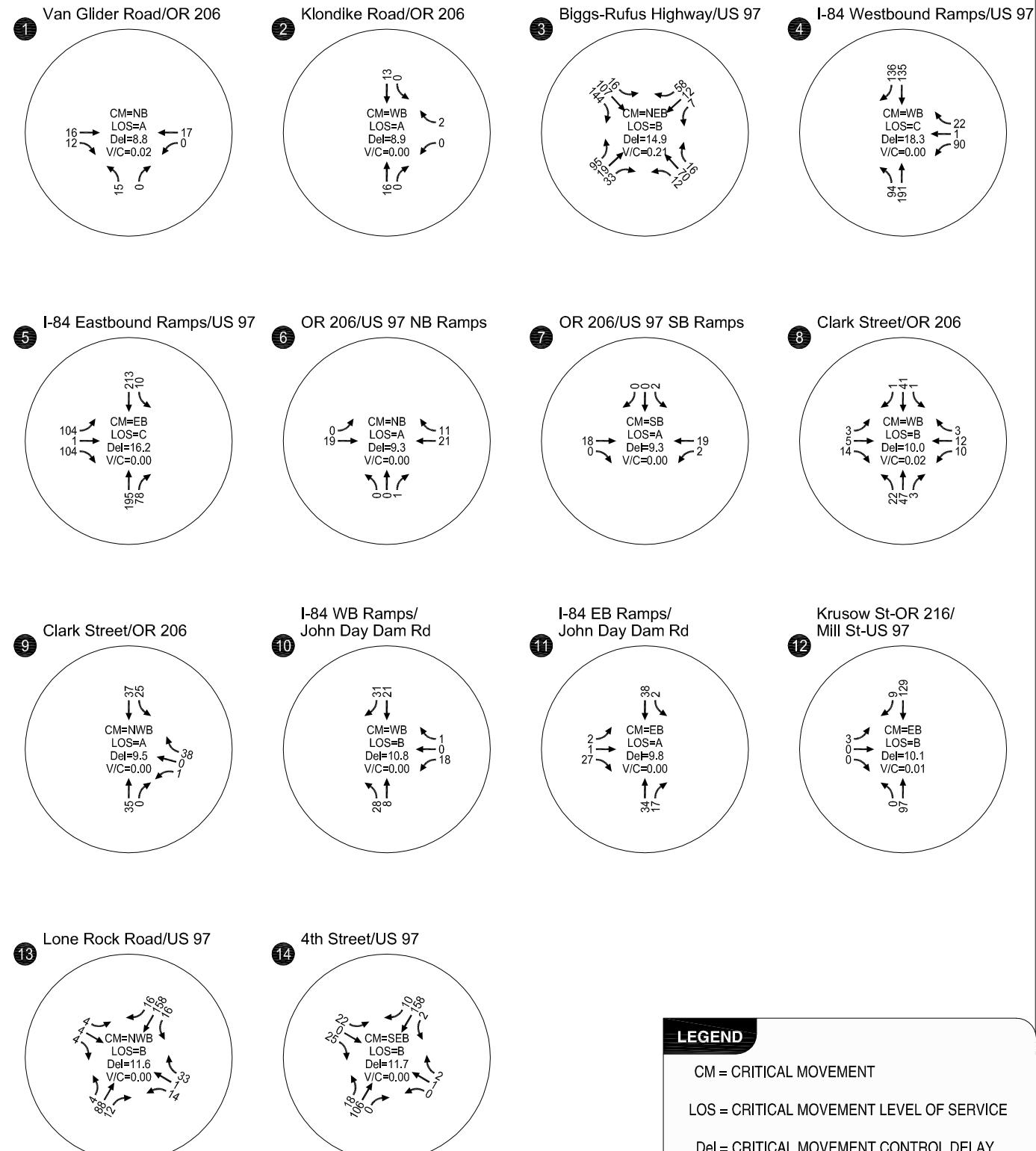
### Intersection Traffic Operations Analysis Results

Level-of-service (LOS), volume-to-capacity (v/c) ratios, average delay, and 95<sup>th</sup> 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 95<sup>th</sup> percentile queue lengths reflect the maximum queue length expected during the peak 15 minutes. The 95<sup>th</sup> 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)	95 <sup>th</sup> % 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	4 <sup>th</sup> St/US 97	SEBT	0.000	B	11.7	1	Yes

v/c = volume-to-capacity



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.
- 95<sup>th</sup> 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					Total
	Fatal	Injury A	Injury B	Injury C	PDO	
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%

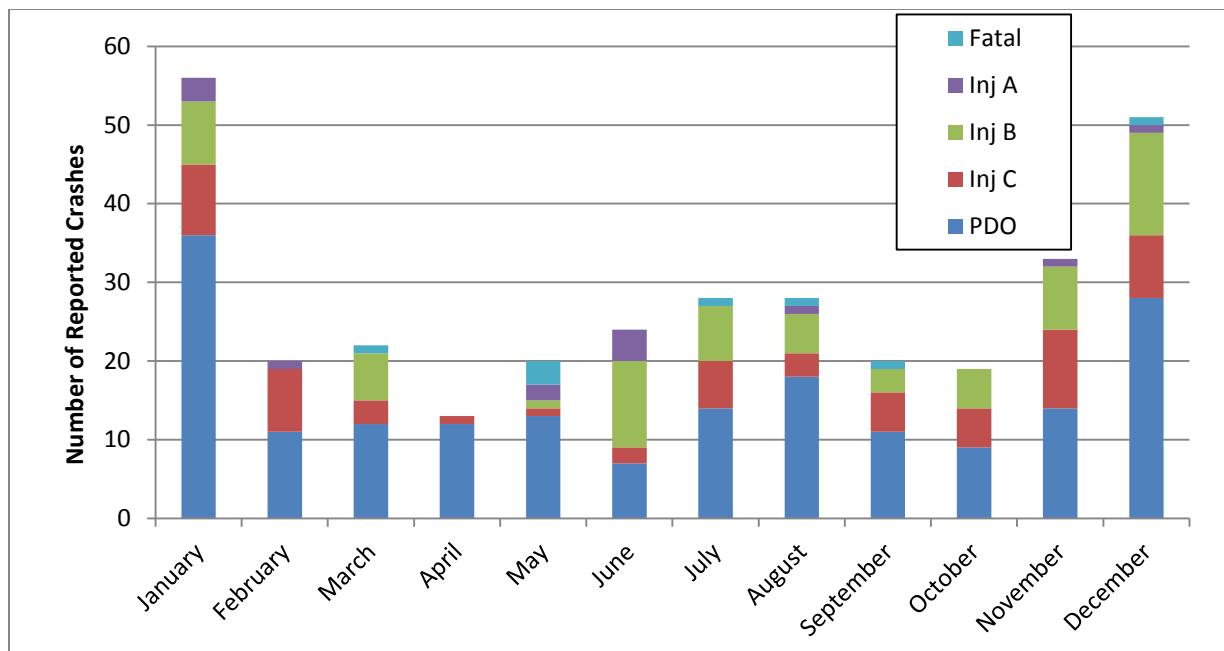
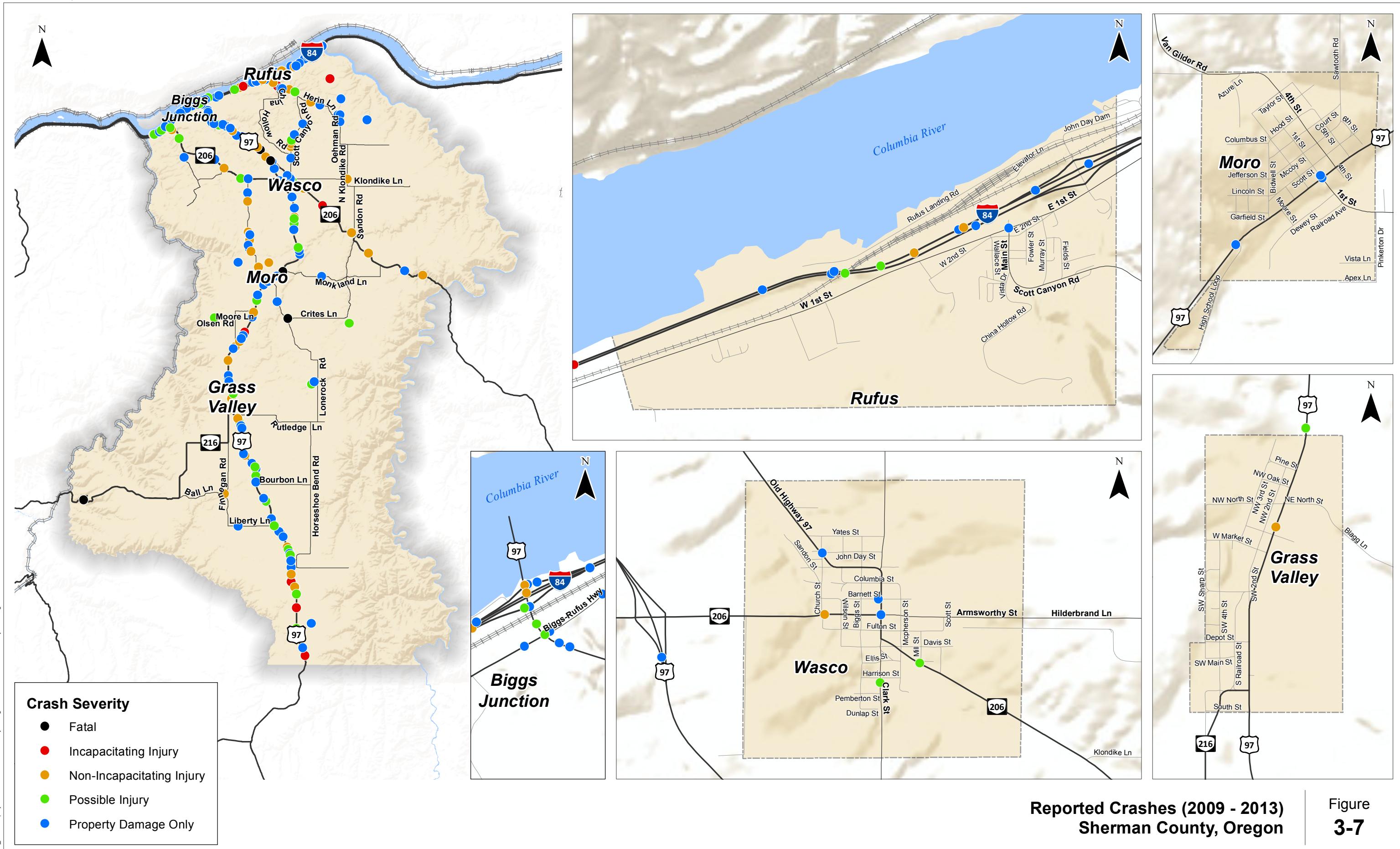


Exhibit 3-3. Reported Crashes by Month (2009-2013)



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 90<sup>th</sup> 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 90<sup>th</sup> percentile should be further analyzed. Two of the study intersections in Sherman County exceeded the 90<sup>th</sup> 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 90<sup>th</sup> 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 <sup>1</sup>	# Reported Crashes (2009-2013)	Crash Rate per MEV <sup>3</sup>	Statewide 90th Percentile Crash Rates	Crash Type					Crash Severity				
						Angle	Rear-End	Turning	Fixed-Object	Other	PDO <sup>2</sup>	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal
1	Van Gilder Rd/ OR 206	56	1	<b>0.98</b>	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	<b>2.28</b>	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

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

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

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

Reported crashes along study roadway segments are summarized in Table 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/1<sup>st</sup> 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	<b>6.672</b>	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.

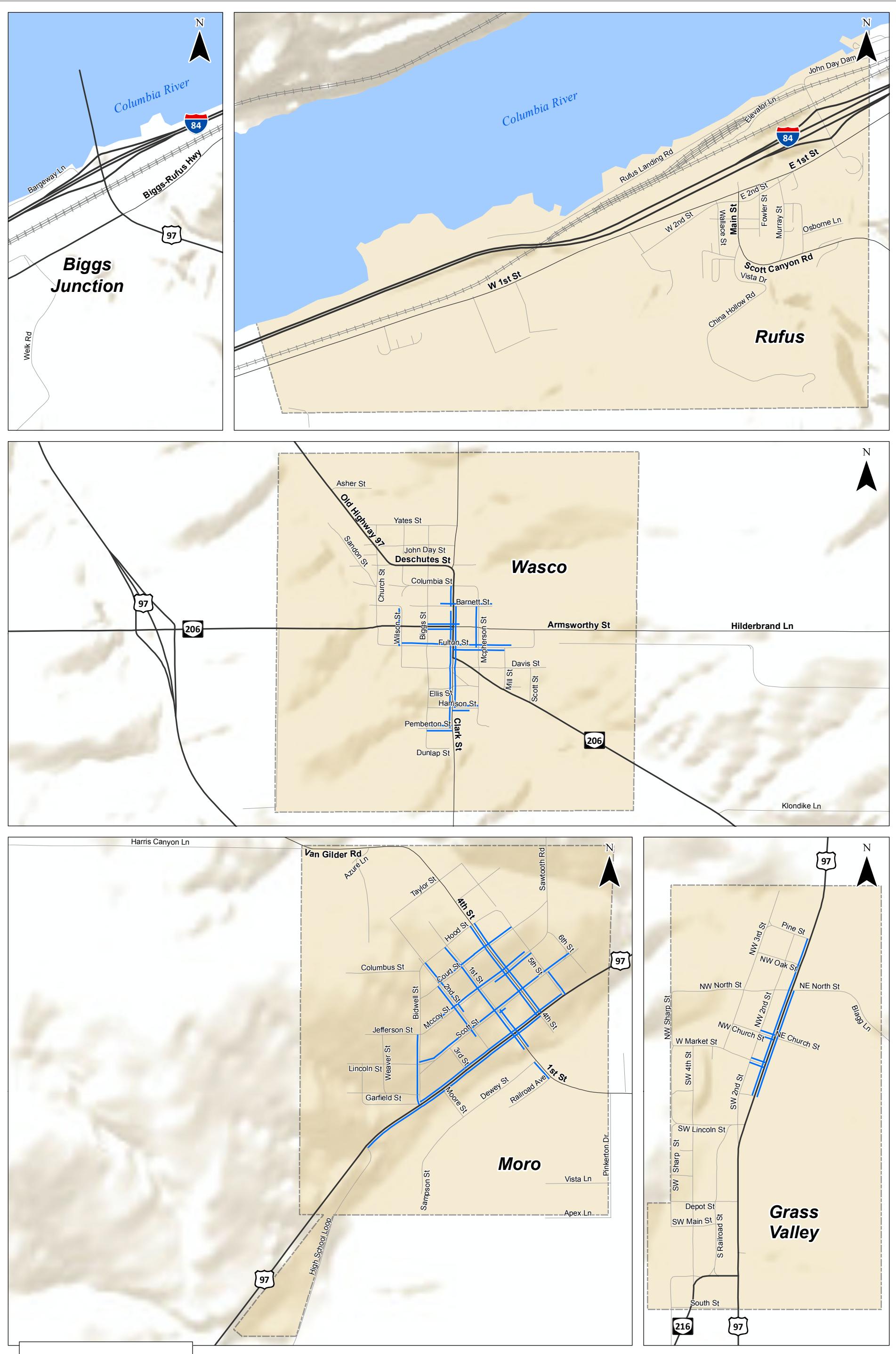
### PEDESTRIAN SYSTEM

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

## 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.

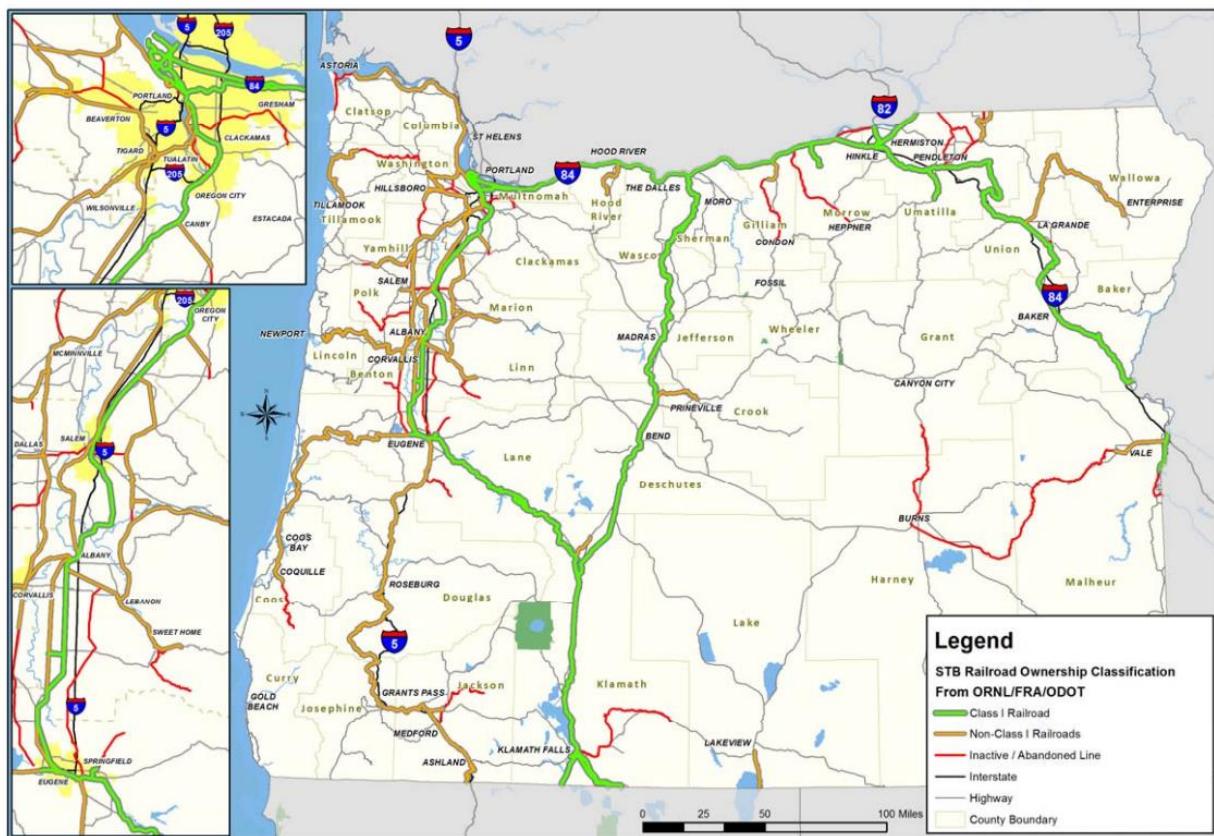
## TRUCK FREIGHT ROUTES

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.

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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

Fiscal Year	STATE REVENUE					FEDERAL REVENUE			LOCAL REVENUE					TOTAL REVENUE
	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	
2004-05	137,621	472,026	87,349	6,016	-	200	-	-	609,579	236,270	49,577	-	16,741	<b>1,615,379</b>
2005-06	140,862	472,877	96,825	3,616	-	113	983	-	490,221	185,521	100,625	-	36,411	<b>1,528,054</b>
2006-07	138,123	469,544	91,336	11,065	-	211	66,861	-	547,619	-	73,178	-	50,648	<b>1,448,586</b>
2007-08	132,194	461,347	100,834	19,719	-	6,012	282	-	565,112	-	901,781	-	53,430	<b>2,240,711</b>
2008-09	120,561	151,239	124,143	17,561	761,973	1,228	29,027	-	663,775	-	107,022	241,802	37,605	<b>2,255,936</b>
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	<b>2,532,198</b>
2010-11	163,216	110,295	117,890	7,206	-	1,859	14,628	-	927,776	-	115,389	564,451	9,651	<b>2,032,361</b>
2011-12	189,965	68,475	135,832	5,808	-	1,900	14,629	-	1,082,374	-	159,872	855,294	11,721	<b>2,525,870</b>
2012-13	196,868	101,240	134,794	6,027	-	1,371	13,165	-	1,064,854	-	225,336	2,233,527	14,317	<b>3,991,499</b>
2013-14	209,650	98,016	160,576	11,023	-	-	-	-	1,128,331	-	124,833	659,620	13,369	<b>2,405,417</b>

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

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

## 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 30<sup>th</sup> highest hour traffic volume forecasts for intersections.

### Year 2035 Forecast Traffic Volumes

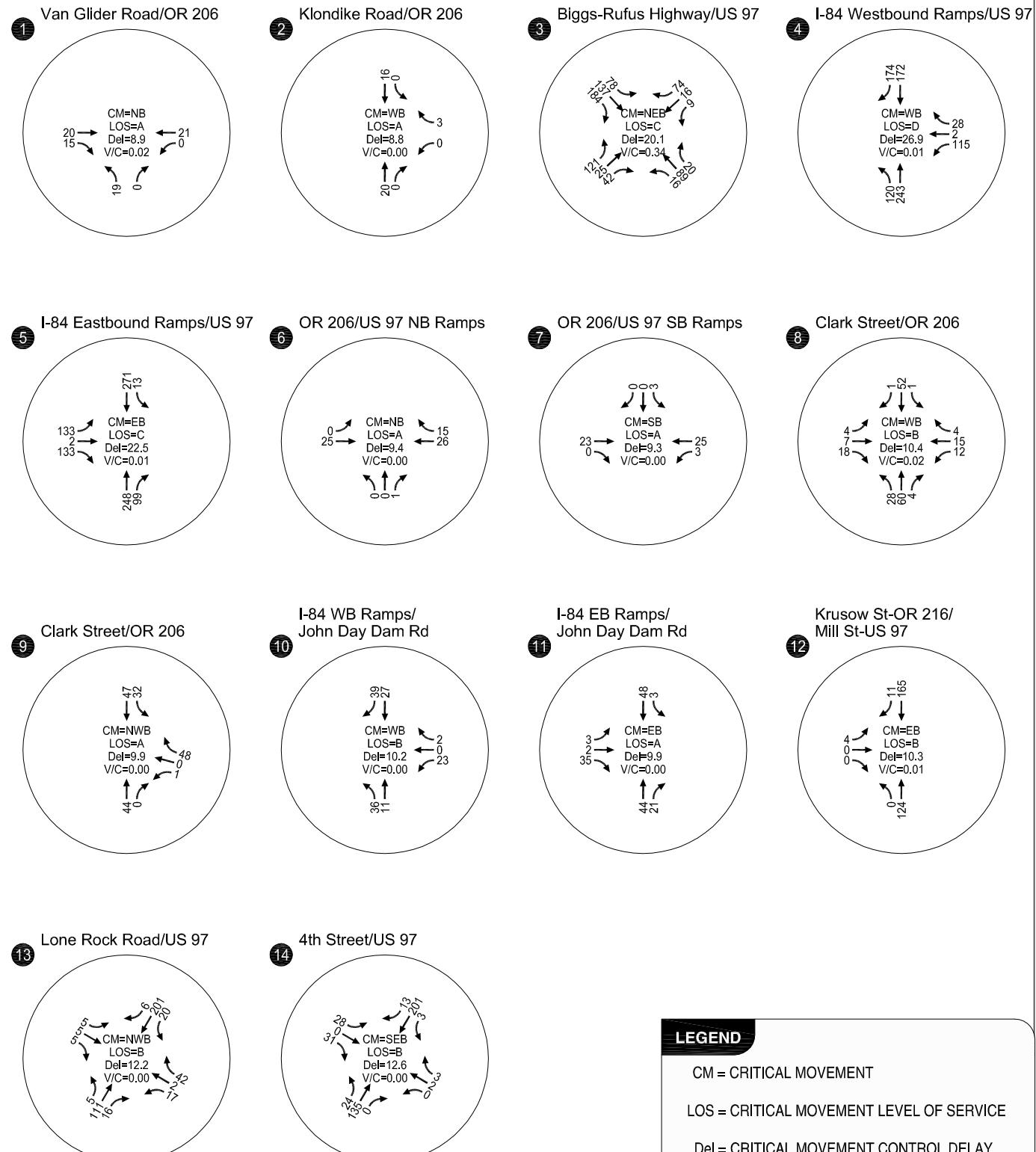
The projected 1.3 percent annual growth rate was applied to existing 2014 volumes to estimate forecast year 2035 traffic volumes.

### 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 30<sup>th</sup> highest hour traffic volumes and the resulting intersection operations. All study intersections are expected to operate with volume-to-capacity (v/c) ratio of less than 0.4. All intersections are expected to meet their performance standards in 2035. *Appendix H includes the operational analysis worksheets for all study intersections.*

**LEGEND**

CM = CRITICAL MOVEMENT

LOS = CRITICAL MOVEMENT LEVEL OF SERVICE

Del = CRITICAL MOVEMENT CONTROL DELAY

V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

**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 90 <sup>th</sup> 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 90<sup>th</sup> 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**

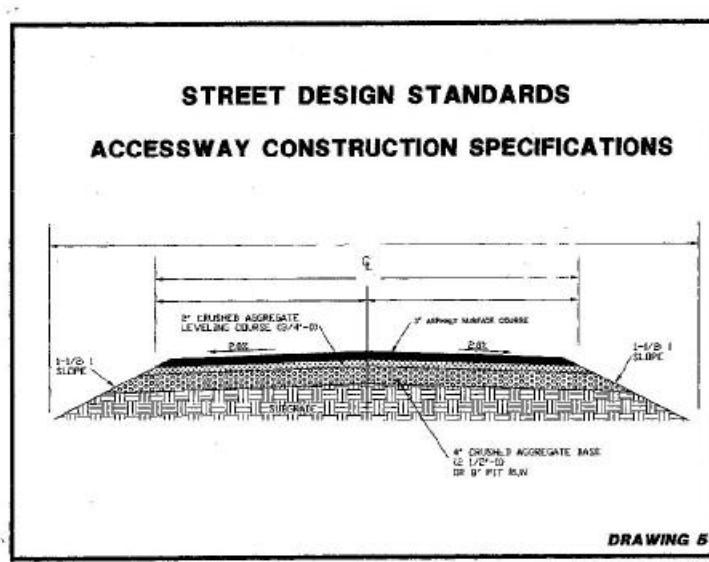
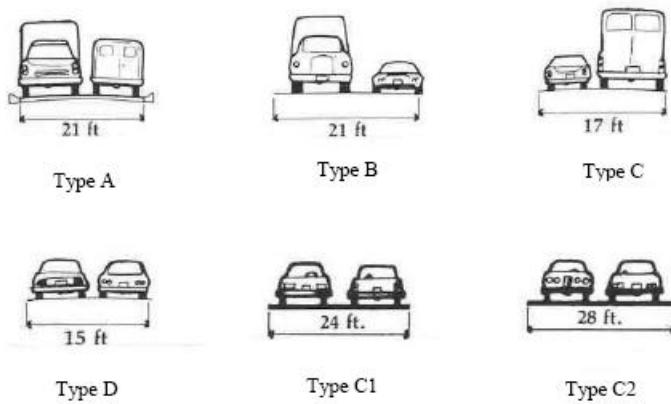


Figure 7-3

**Exhibit A-1. Street Design Standards for Rufus**

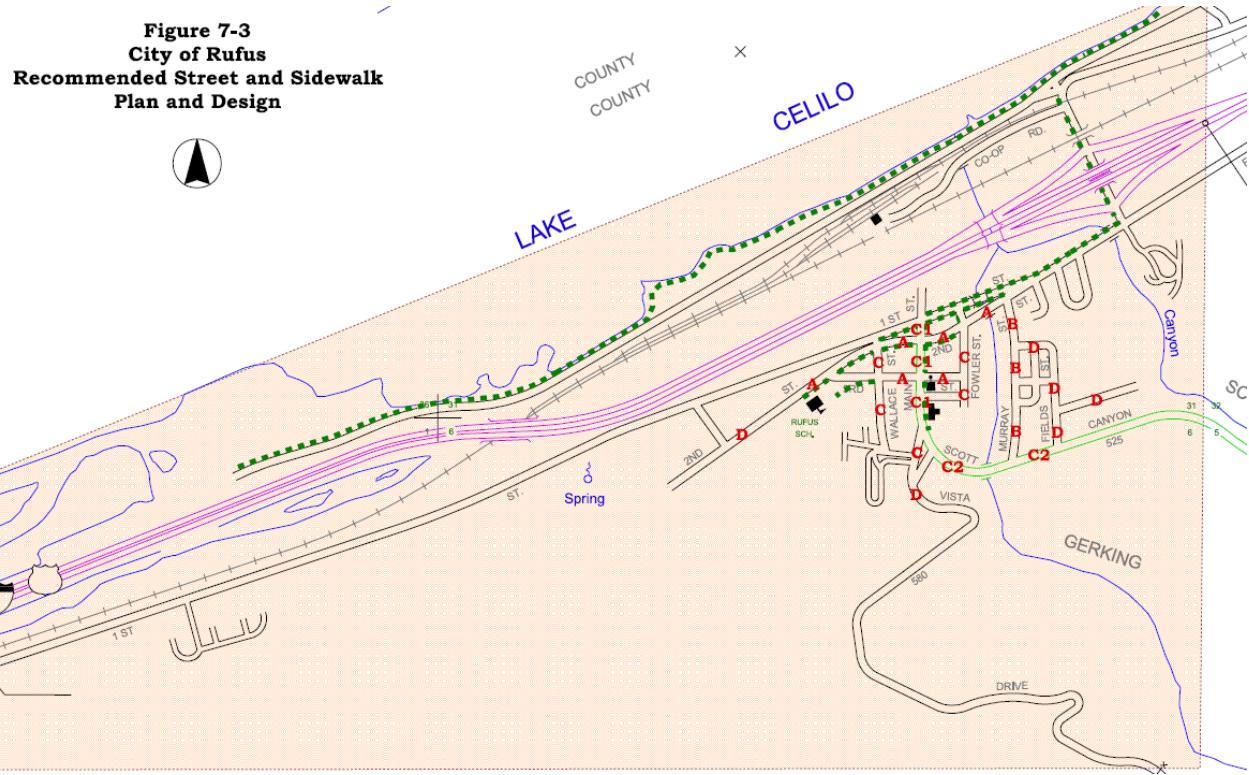


Exhibit A-2. Map of Street Design Standards for Rufus

**Recommended Street Standards  
For  
City of Wasco**

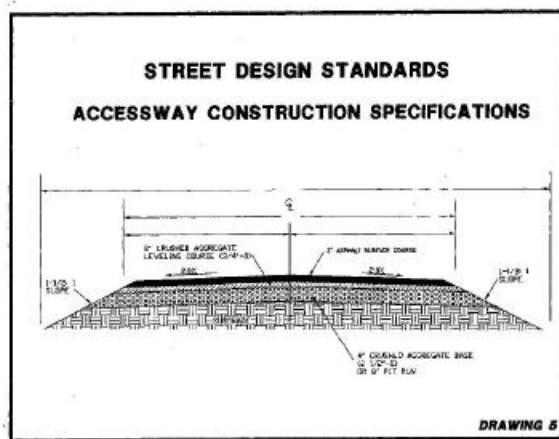
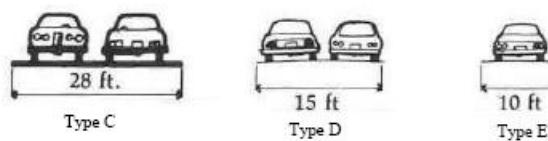
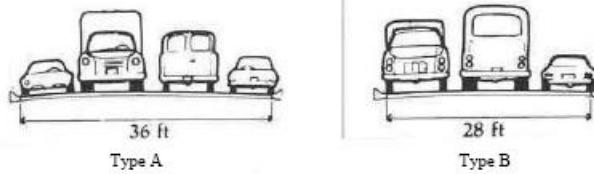


Figure 7-4

**Exhibit A-3. Street Design Standards for Wasco**

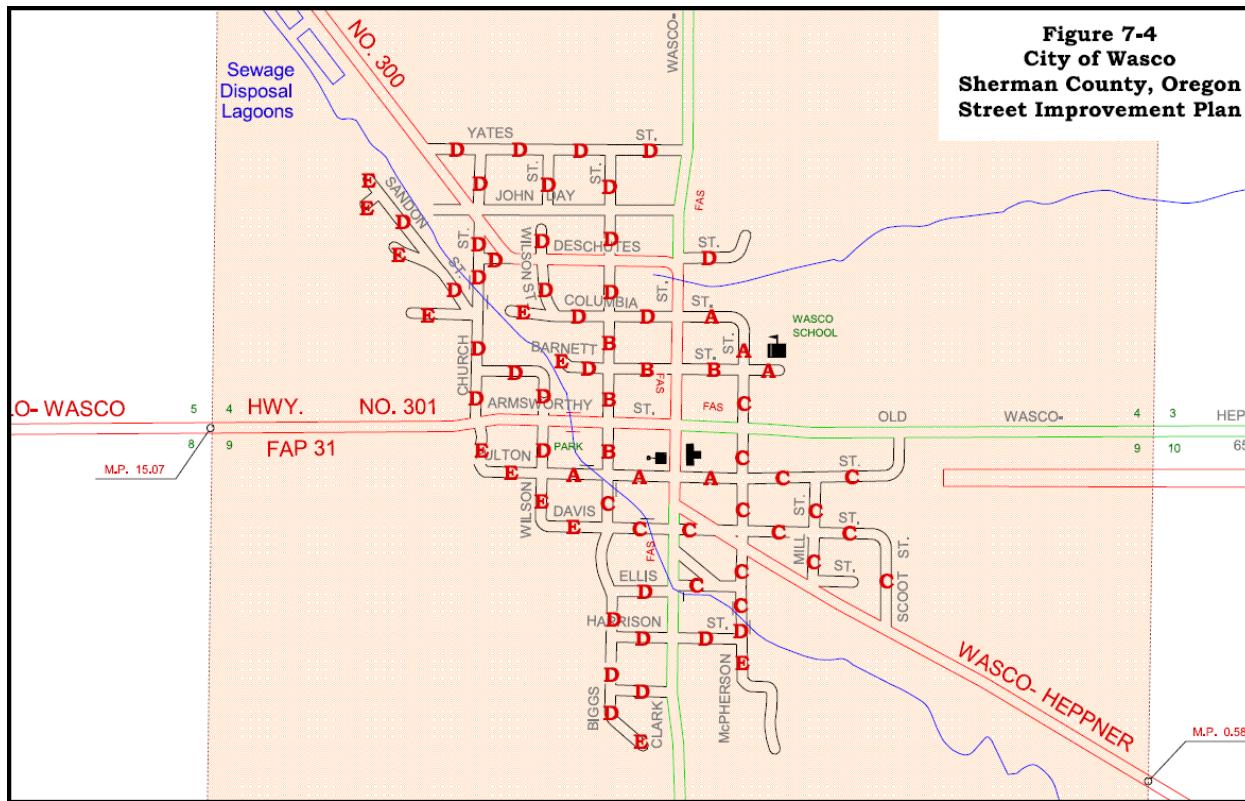


Exhibit A-4. Map of Street Design Standards for Wasco

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.)

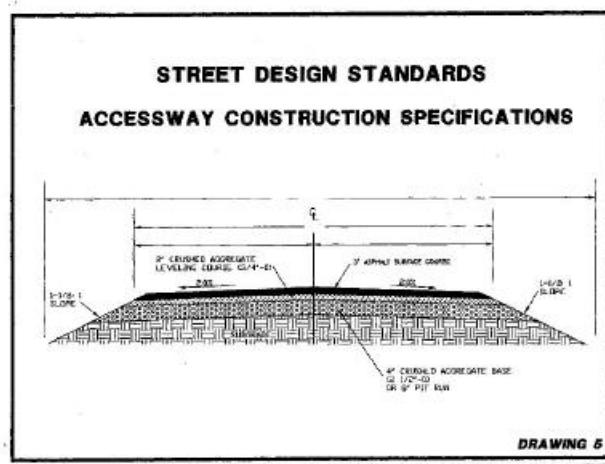
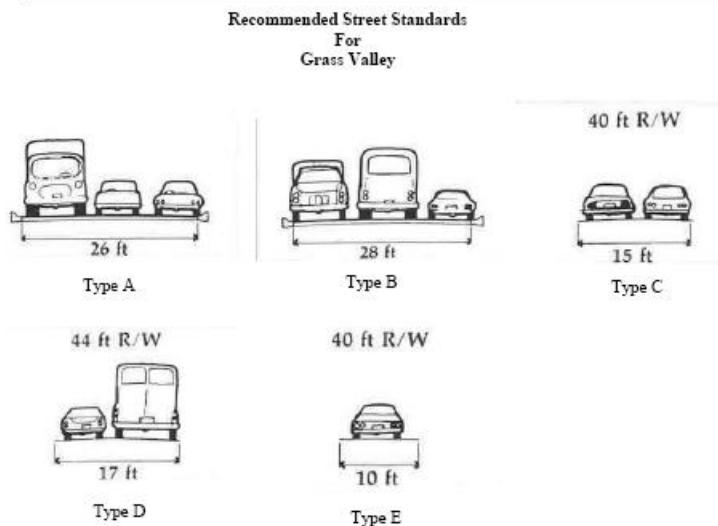


Figure 7-6

Exhibit A-6. Street Design Standards for Grass Valley

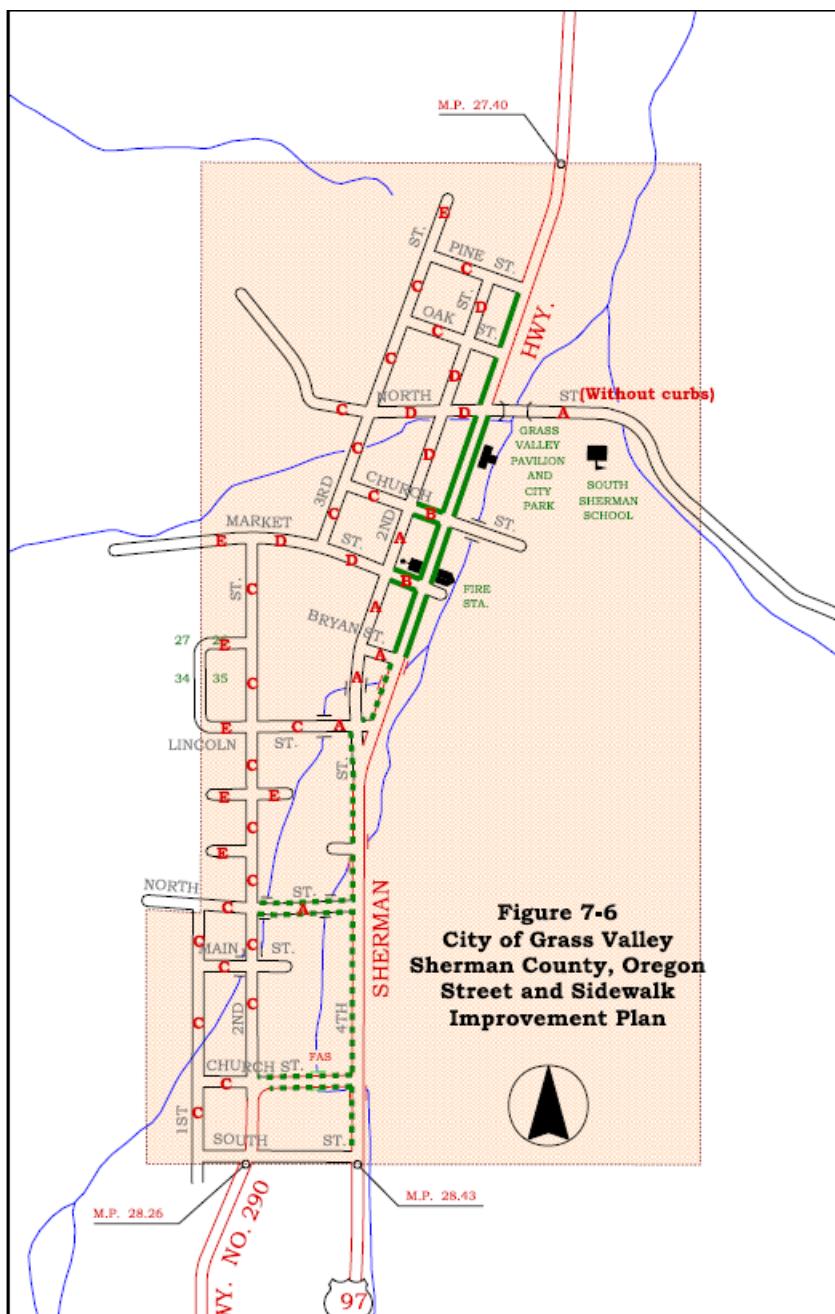


Exhibit A-7. Map of Street Design Standards for Grass Valley

## Appendix B Traffic Count Data

All Traffic Data Services, Inc.

9660 W 44th Ave

Wheat Ridge, CO 80033

[www.alltrafficdata.net](http://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				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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
Total	0	0	0	0	0	11	2	0	2	0	10	0	3	7	0	0	35
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
11:00 AM	0	0	0	0	0	1	0	0	0	0	3	0	1	3	0	0	8
11:15 AM	0	0	0	0	0	2	0	0	0	0	1	0	2	1	0	0	6
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
12:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	6
12:15 PM	0	0	0	0	0	1	2	0	0	0	3	0	3	3	0	0	12
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
Total	0	0	0	0	0	12	2	0	0	0	9	0	9	11	0	0	43
01:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	4	1	0	0	6

All Traffic Data Services, Inc.

9660 W 44th Ave  
Wheat Ridge, CO 80033  
[www.alltrafficdata.net](http://www.alltrafficdata.net)

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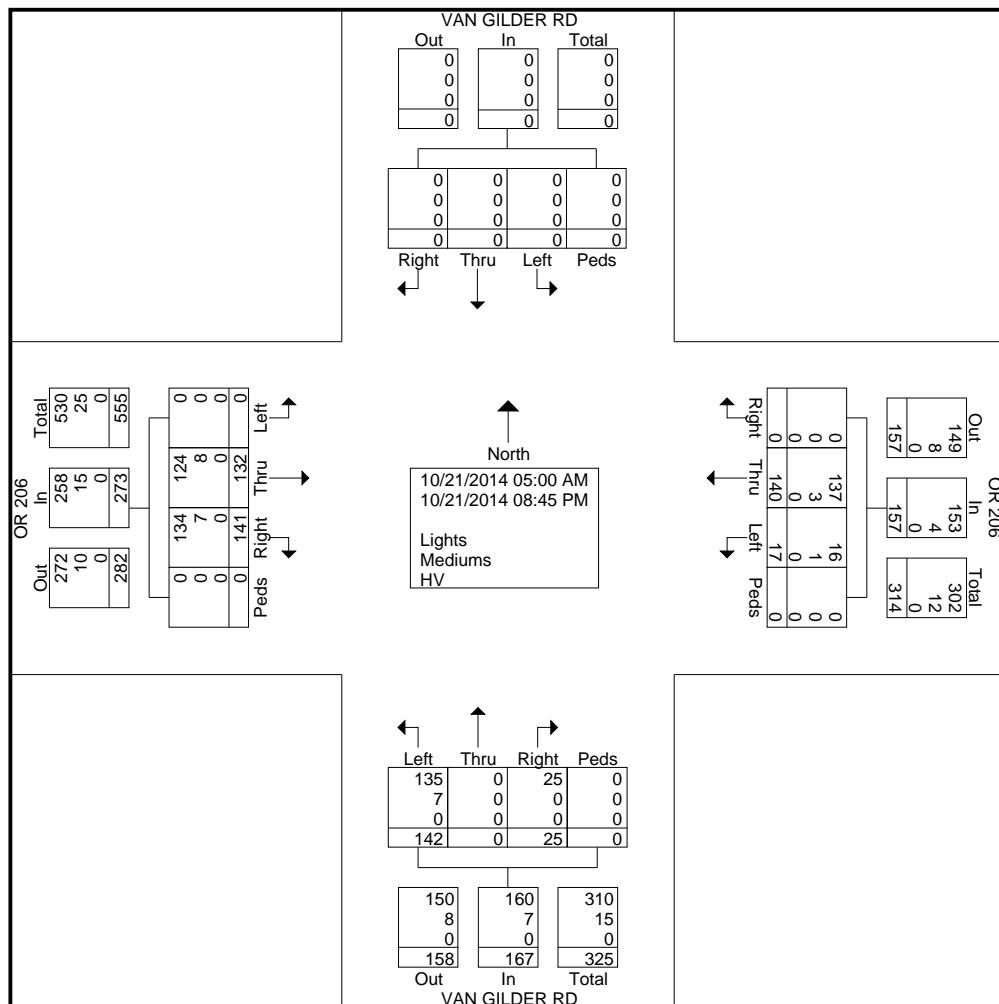
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All Traffic Data Services, Inc.

9660 W 44th Ave

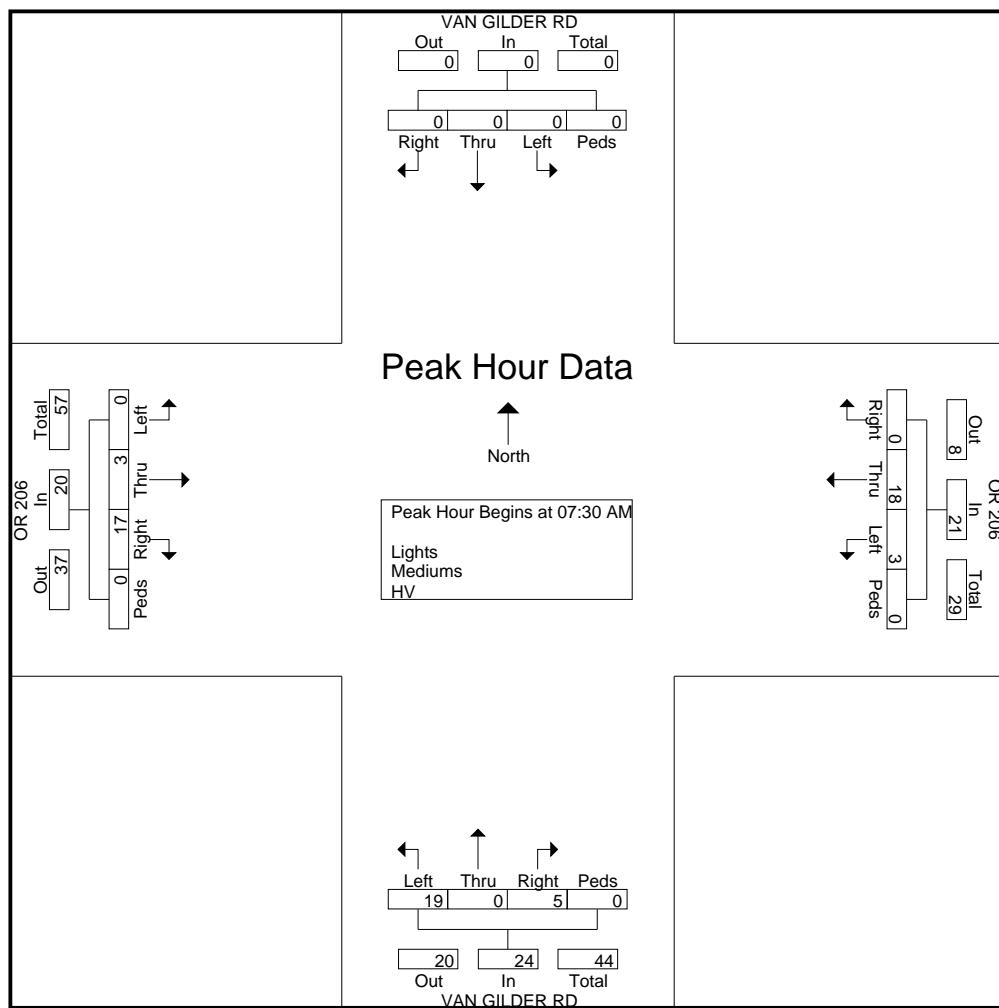
Wheat Ridge, CO 80033

[www.alltrafficdata.net](http://www.alltrafficdata.net)



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	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																					
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	0	85.7	14.3	0	20.8	0	79.2	0	85	15	0	0	0	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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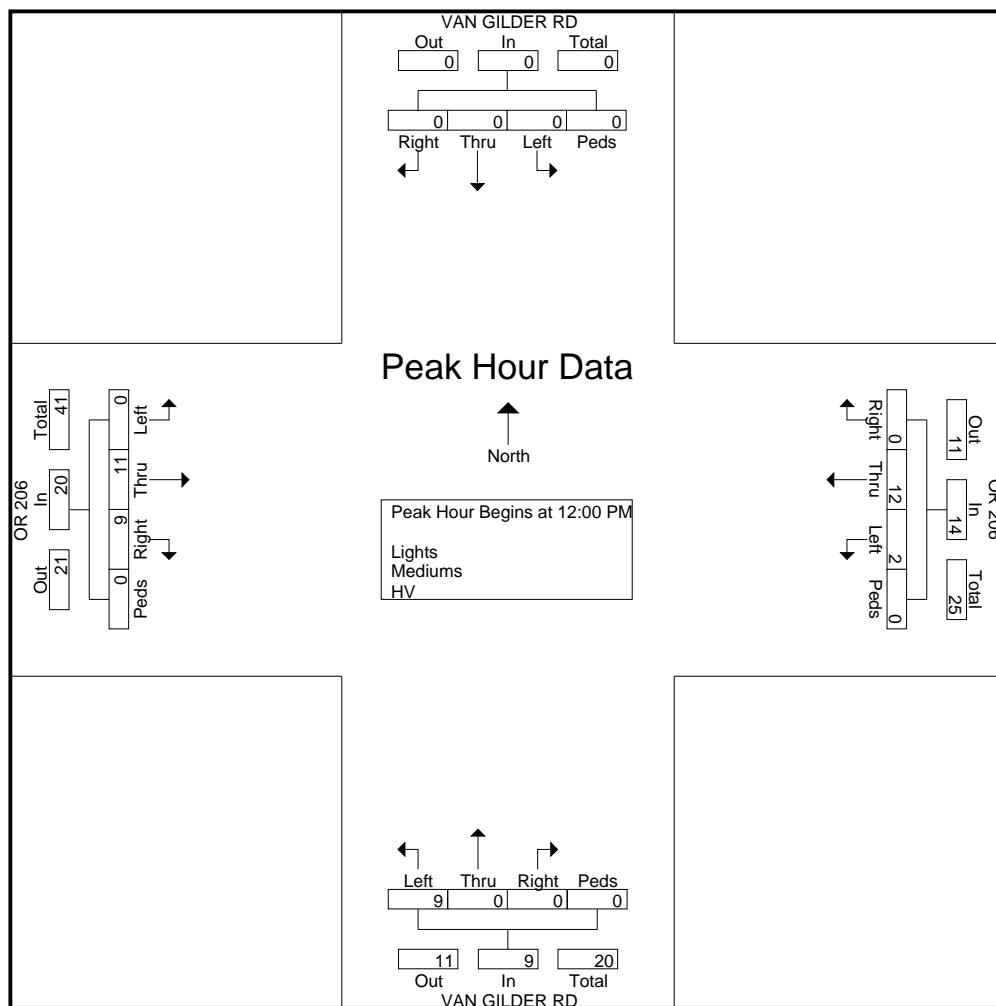


Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:00 PM

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

File Name : #1 VANGILDER&OR206  
 Site Code : 48044  
 Start Date : 10/21/2014  
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#### Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

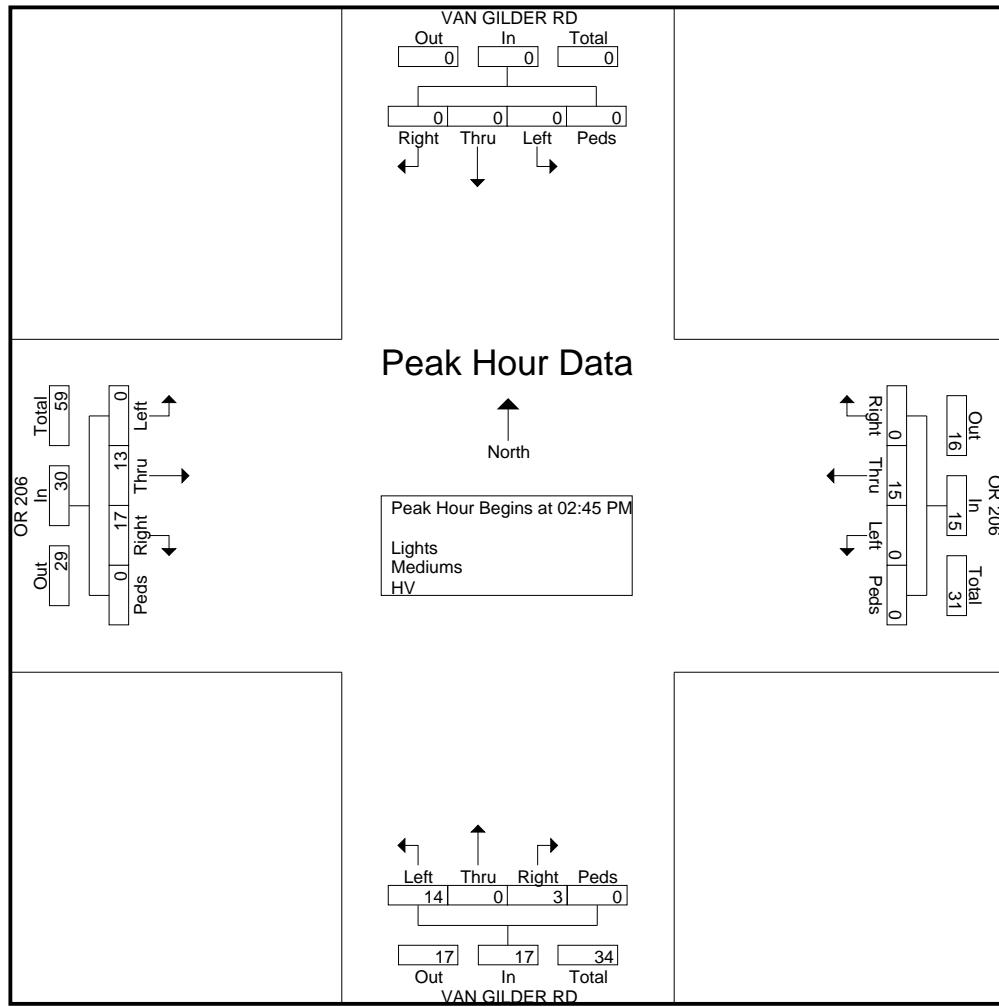
Peak Hour for Entire Intersection Begins at 02:45 PM

02:45 PM	0	0	0	0	0	0	7	0	0	7	1	0	4	0	5	1	5	0	0	0	6	18	
03:00 PM	0	0	0	0	0	0	0	1	0	0	1	1	0	5	0	6	5	3	0	0	0	8	15
03:15 PM	0	0	0	0	0	0	0	4	0	0	4	0	0	2	0	2	6	3	0	0	0	9	15
03:30 PM	0	0	0	0	0	0	0	3	0	0	3	1	0	3	0	4	5	2	0	0	0	7	14
Total Volume	0	0	0	0	0	0	0	15	0	0	15	3	0	14	0	17	17	13	0	0	0	30	62
% App. Total	0	0	0	0	0	0	0	100	0	0	17.6	0	82.4	0	56.7	43.3	0	0	0	0	0	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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File Name : #1 VANGILDER&OR206  
Site Code : 48044  
Start Date : 10/21/2014  
Page No : 6



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

**Groups Printed- Lights - Mediums - HV**

Start Time	OR 206 Southbound				KLONDIKE RD Westbound				OR 206 Northbound				KLONDIKE RD Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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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File Name : #2 OR206&KLONDIKE  
Site Code : 48050  
Start Date : 10/21/2014  
Page No : 2

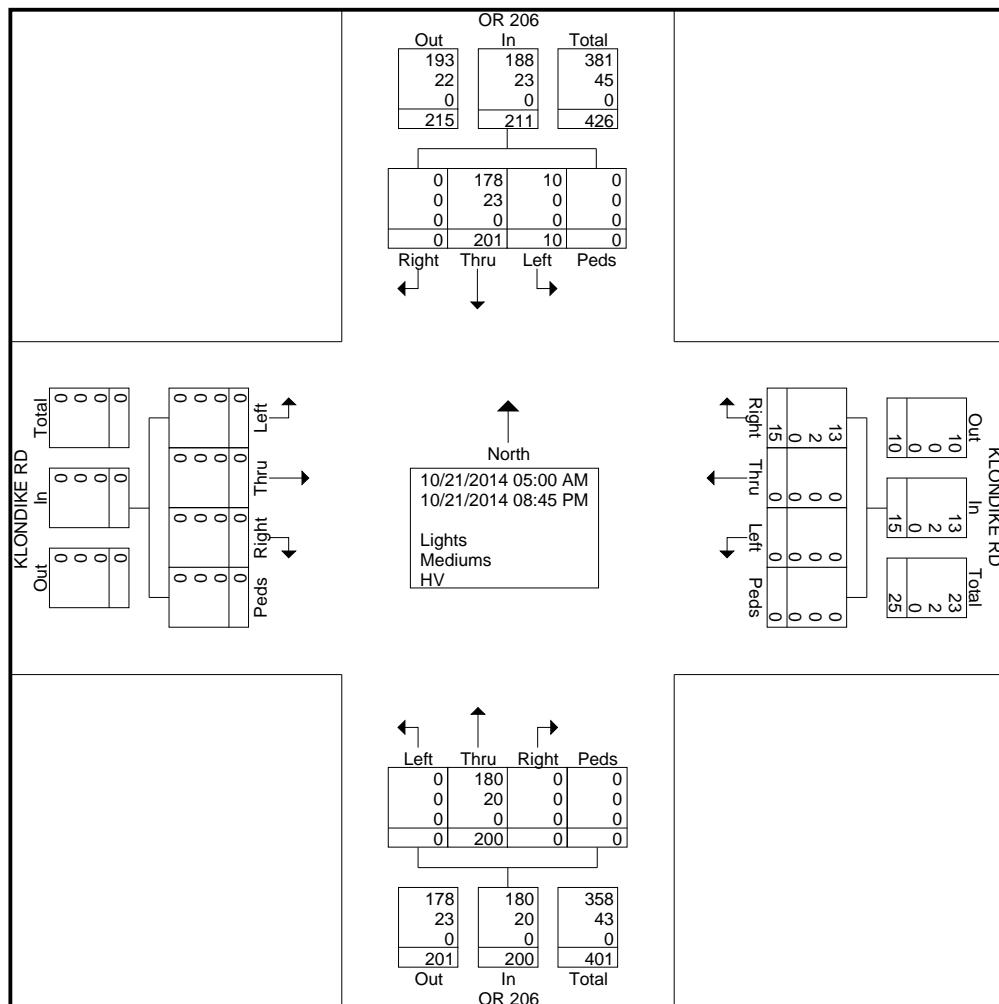
## **Groups Printed- Lights - Mediums - HV**

All Traffic Data Services, Inc.

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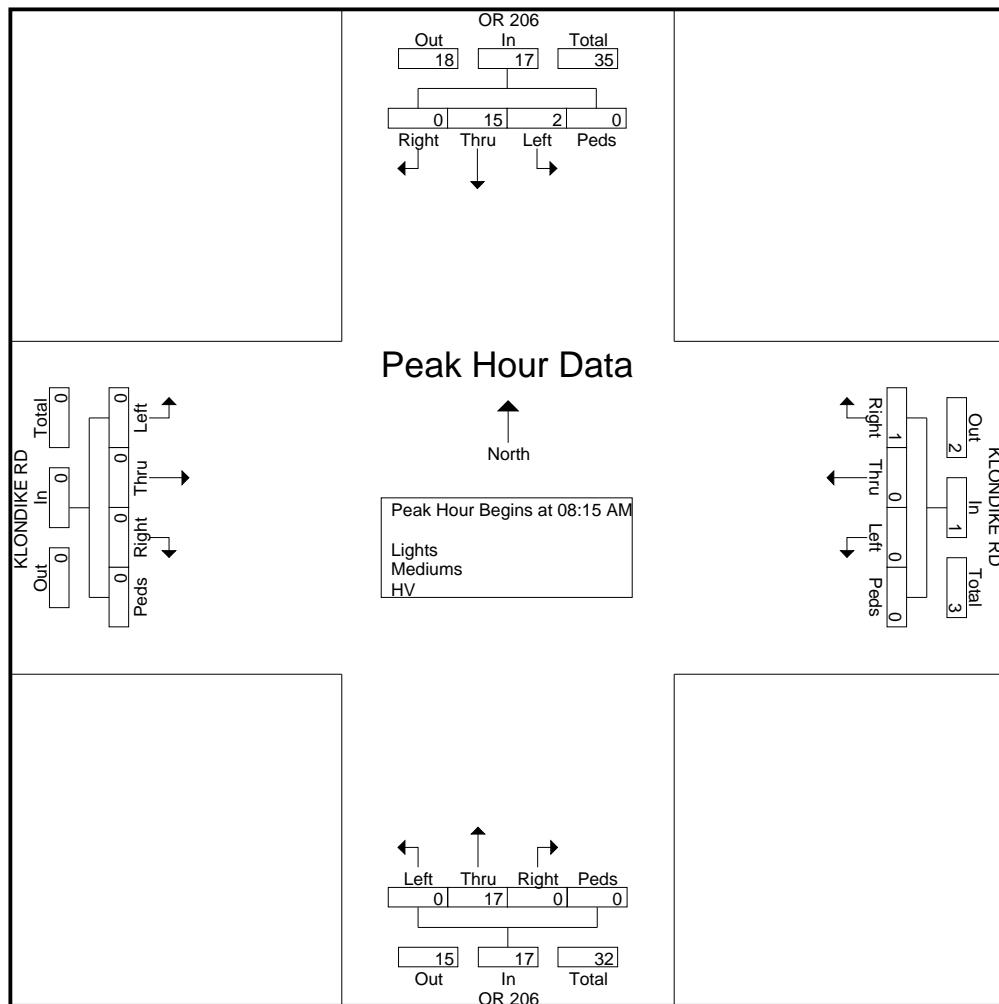
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Start Time	OR 206 Southbound				KLONDIKE RD Westbound				OR 206 Northbound				KLONDIKE RD Eastbound								
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																					
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	0	0	
PHF	.000	.625	.500	.000	.607	.250	.000	.000	.000	.250	.000	.708	.000	.000	.708	.000	.000	.000	.000	.000	.875

File Name : #2 OR206&KLONDIKE  
 Site Code : 48050  
 Start Date : 10/21/2014  
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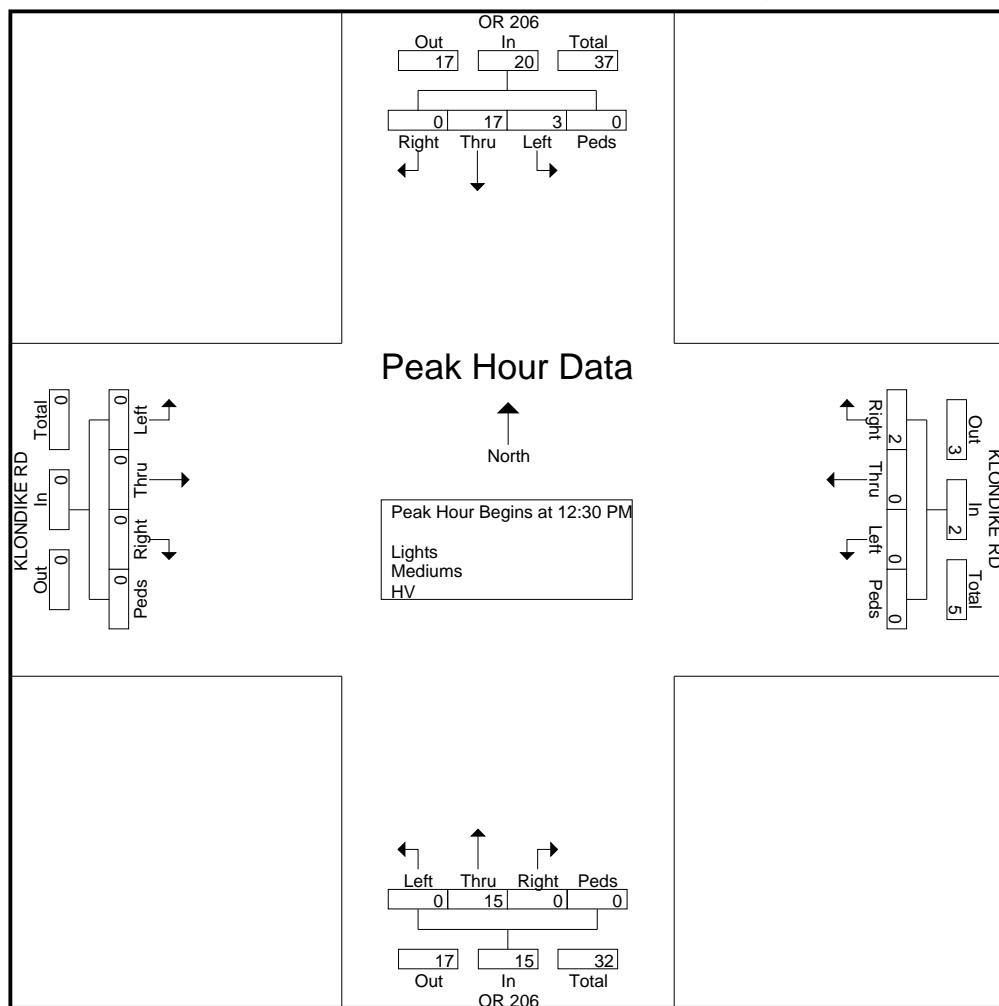


#### Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:30 PM

12:30 PM	0	<b>9</b>	1	0	<b>10</b>	1	0	0	0	1	0	1	0	0	1	0	0	0	0	<b>12</b>	
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	<b>2</b>	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	0	
PHF	.000	.472	.375	.000	.500	.500	.000	.000	.000	.500	.000	.750	.000	.000	.750	.000	.000	.000	.000	.771	

File Name : #2 OR206&KLONDIKE  
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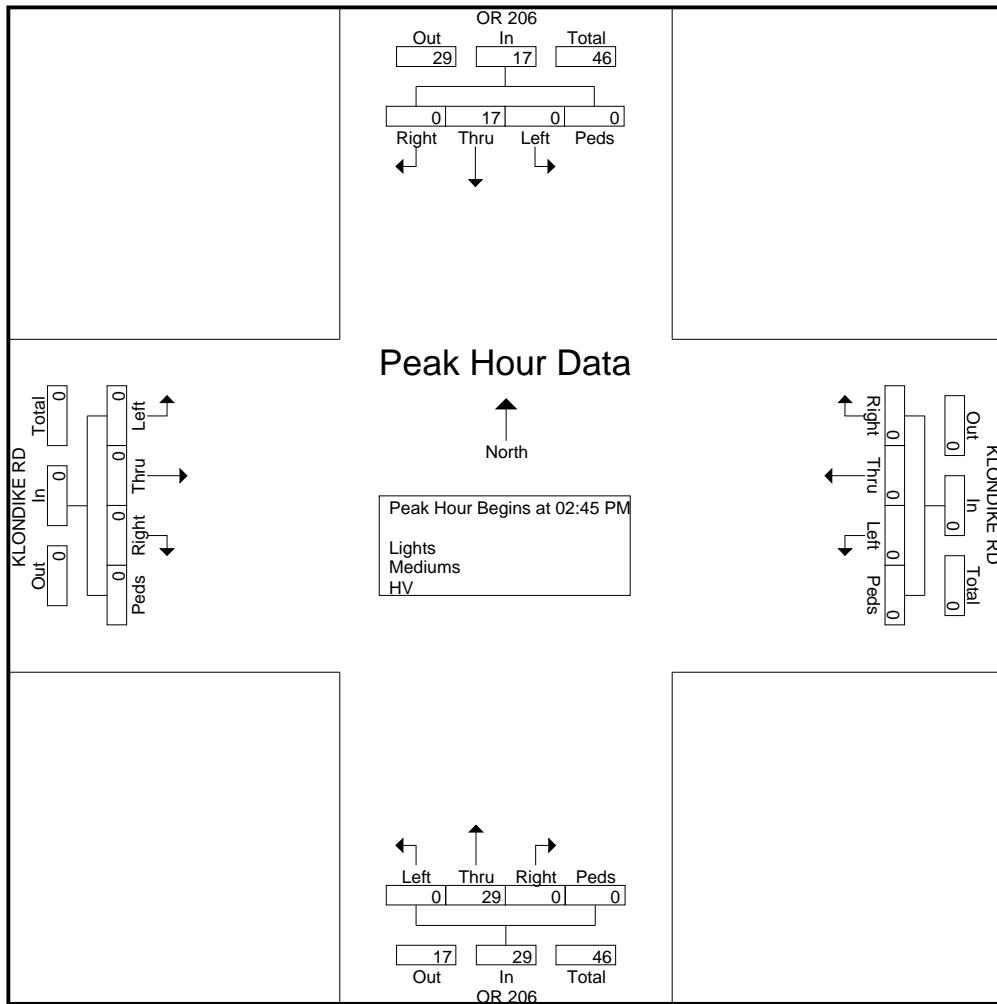


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:45 PM

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

File Name : #2 OR206&KLONDIKE  
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All Traffic Data Services, Inc.

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File Name : #3 BIGGS&US97

Site Code : 48061

Start Date : 10/21/2014

Page No : 1

Groups Printed- Lights - Medium - HV

Start Time	US97 Southbound				Biggs-Rufus Hwy Westbound				US97 Northbound				Biggs-Rufus Hwy Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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

All Traffic Data Services, Inc.  
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File Name : #3 BIGGS&US97  
Site Code : 48061  
Start Date : 10/21/2014  
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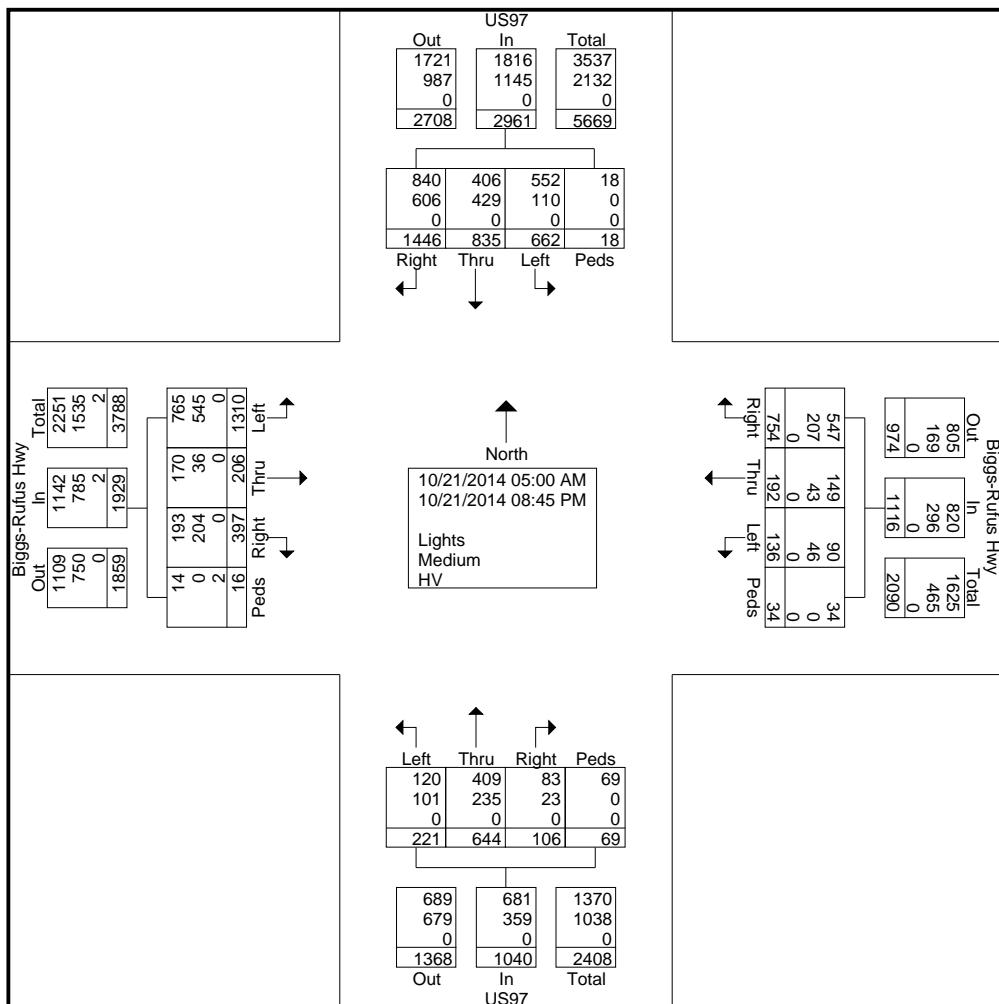
## **Groups Printed- Lights - Medium - HV**

All Traffic Data Services, Inc.

9660 W 44th Ave

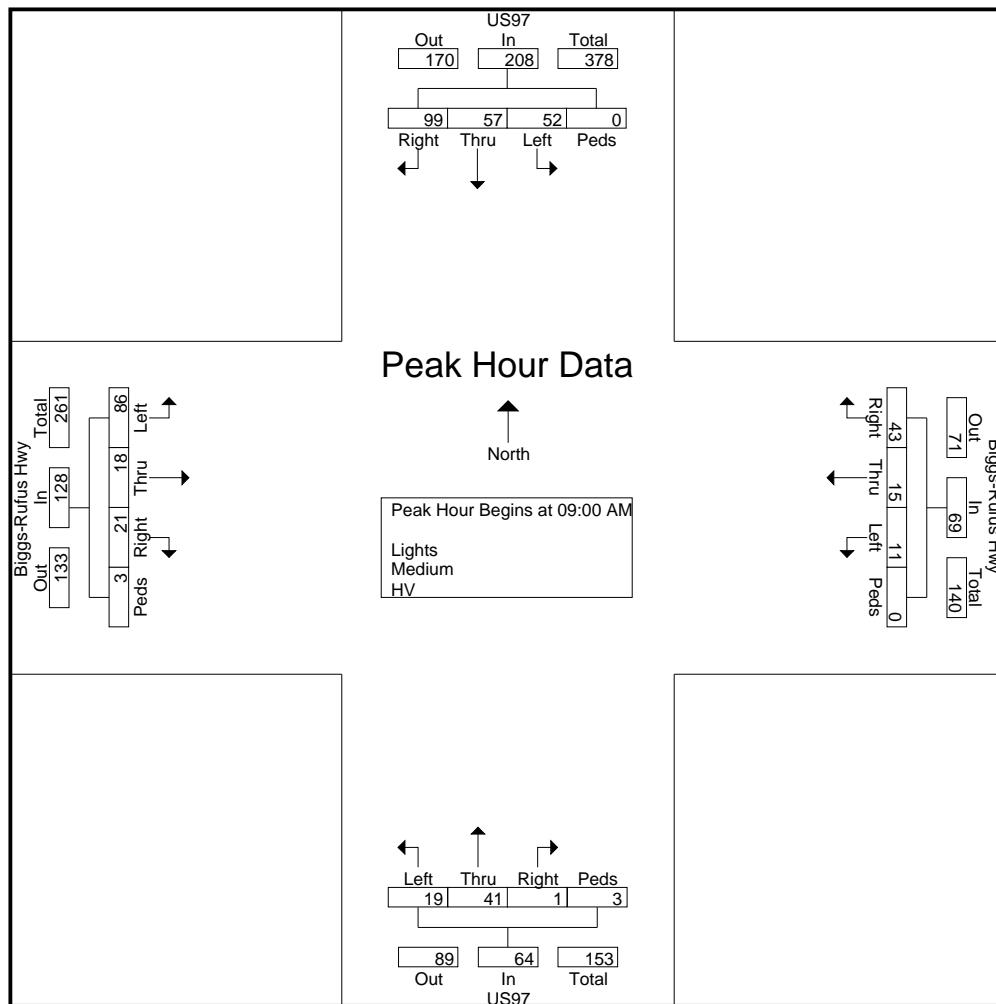
Wheat Ridge, CO 80033

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Start Time	US97 Southbound				Biggs-Rufus Hwy Westbound				US97 Northbound				Biggs-Rufus Hwy Eastbound				Int. Total				
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total					
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																					
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

File Name : #3 BIGGS&US97  
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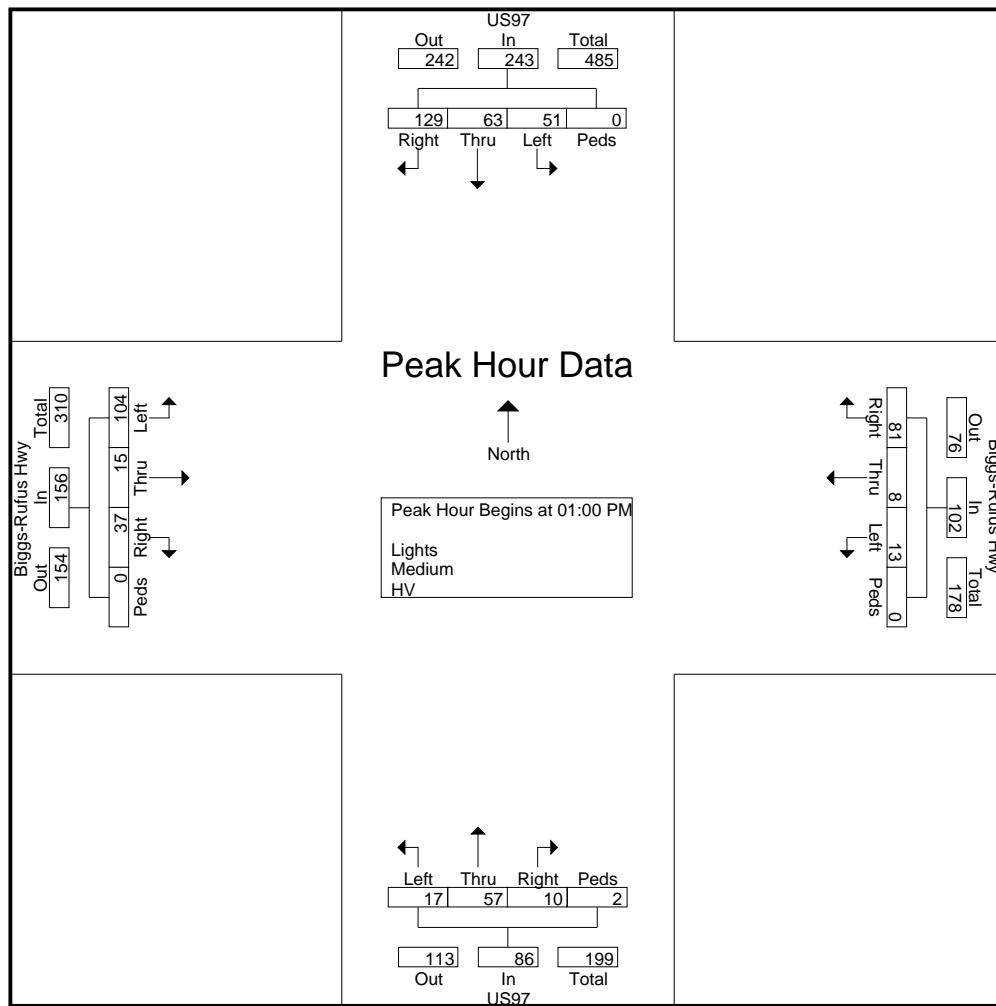


#### Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

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

File Name : #3 BIGGS&US97  
 Site Code : 48061  
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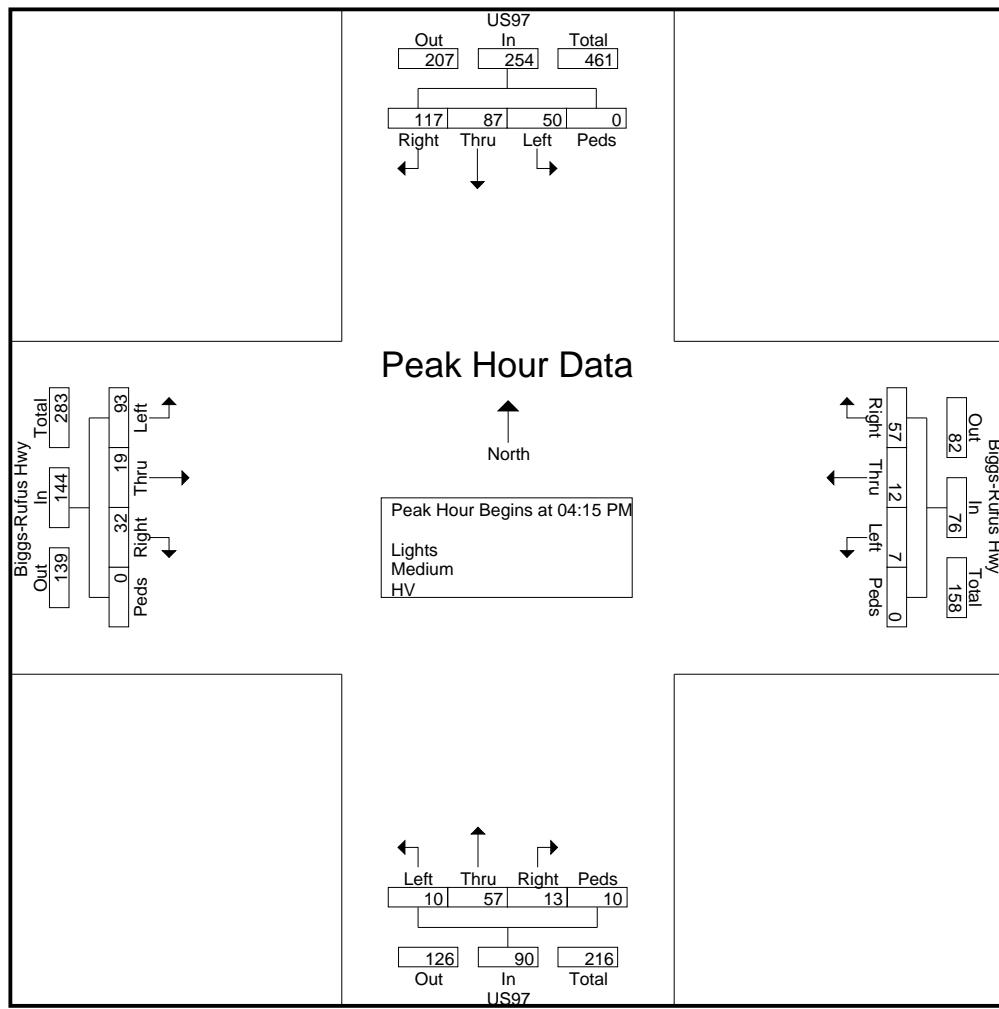


#### Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:15 PM

04:15 PM	30	19	<b>16</b>	0	65	15	<b>4</b>	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	<b>5</b>	<b>24</b>	<b>6</b>	3	<b>38</b>	<b>11</b>	2	<b>26</b>	0	<b>39</b>	144
04:45 PM	<b>32</b>	<b>29</b>	13	0	<b>74</b>	10	4	1	0	15	3	10	0	5	18	8	7	24	0	39	<b>146</b>
05:00 PM	29	21	14	0	64	<b>17</b>	3	<b>4</b>	0	<b>24</b>	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

File Name : #3 BIGGS&US97  
Site Code : 48061  
Start Date : 10/21/2014  
Page No : 6



File Name : #4 US97&I84WB RAMPS  
 Site Code : 28012009  
 Start Date : 10/21/2014  
 Page No : 1

**Groups Printed- Lights - Mediums - HV**

Start Time	US 97 Southbound				I-84 WB RAMPS Westbound				US 97 Northbound				I-84 WB RAMPS Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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

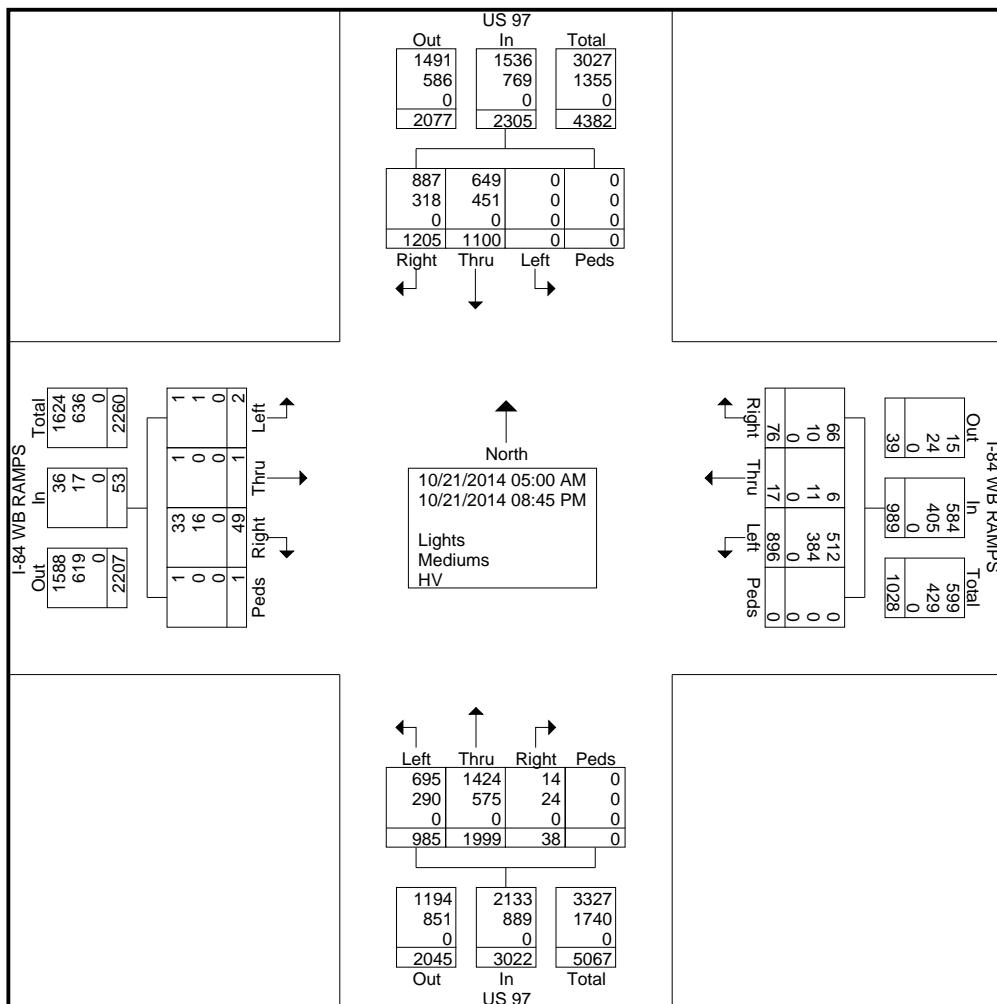


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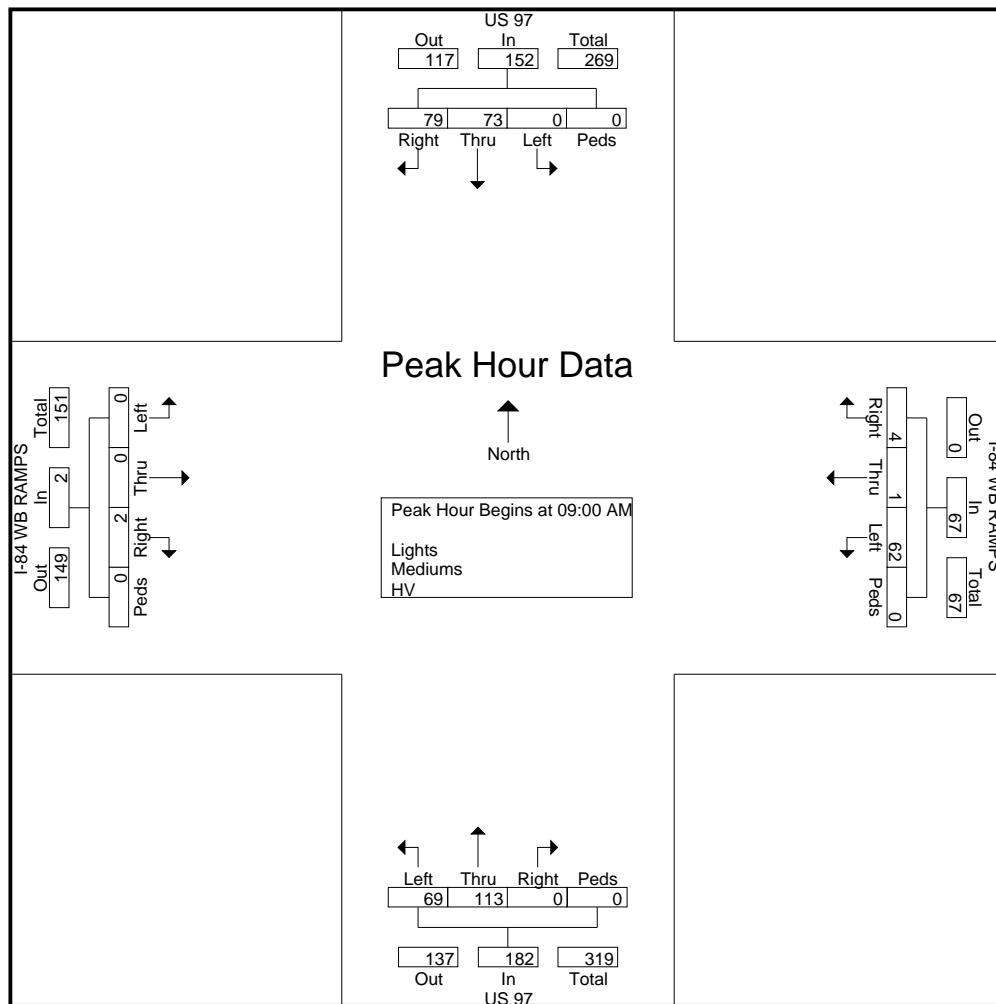
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	US 97 Southbound					I-84 WB RAMPS Westbound					US 97 Northbound					I-84 WB RAMPS Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																					
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	0	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	0	
PHF	.859	.676	.000	.000	.760	.333	.250	.816	.000	.882	.000	.743	.784	.000	.929	.250	.000	.000	.000	.250	.950

File Name : #4 US97&I84WB RAMPS  
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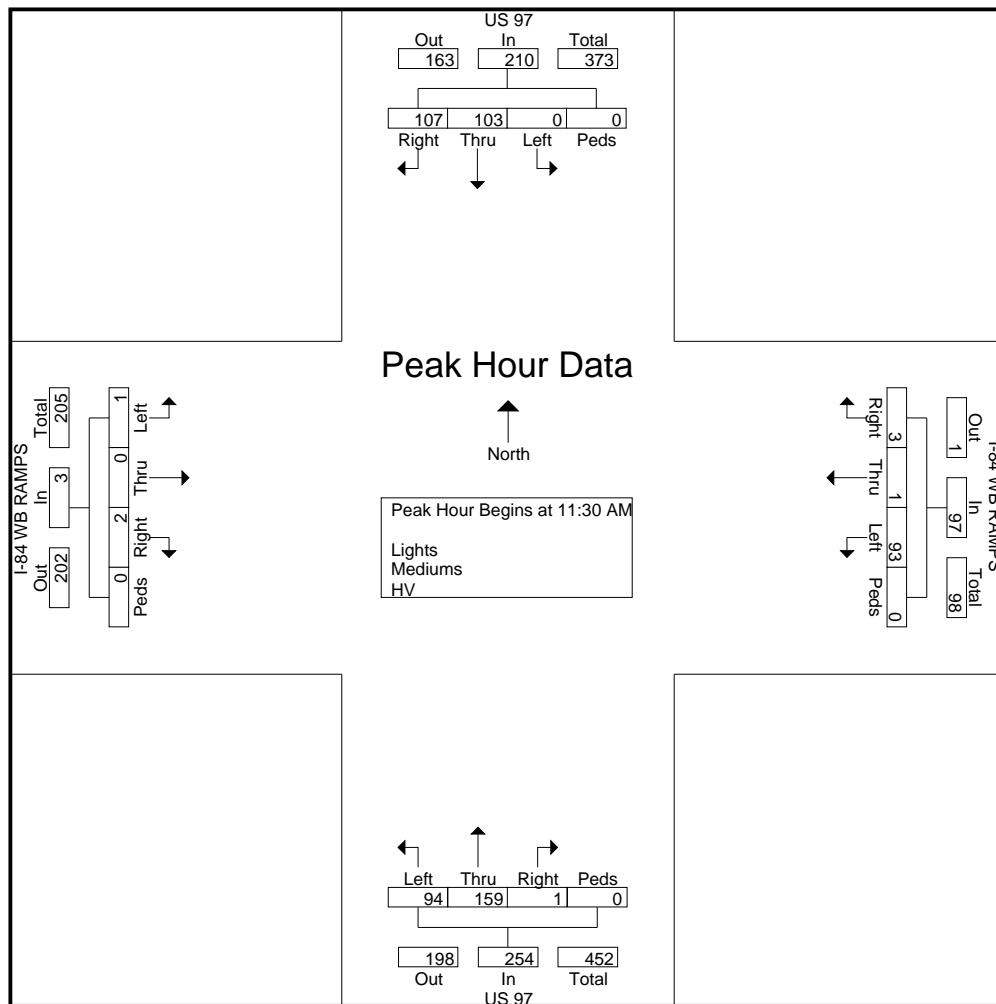


#### Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:30 AM

11:30 AM	24	<b>30</b>	0	0	<b>54</b>	0	0	28	0	28	0	37	16	0	53	0	0	0	0	0	135	
11:45 AM	<b>34</b>	20	0	0	54	0	0	17	0	18	0	<b>49</b>	<b>31</b>	0	<b>80</b>	<b>1</b>	0	0	0	0	<b>1</b>	<b>153</b>
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	<b>3</b>	0	<b>31</b>	0	<b>34</b>	<b>1</b>	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	

File Name : #4 US97&I84WB RAMPS  
 Site Code : 28012009  
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Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

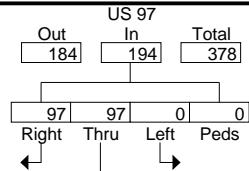
Peak Hour for Entire Intersection Begins at 02:15 PM

02:15 PM	22	25	0	0	47	3	0	20	0	23	1	<b>58</b>	25	0	84	0	0	0	0	0	<b>154</b>
02:30 PM	25	<b>32</b>	0	0	57	2	5	<b>21</b>	0	<b>28</b>	1	31	<b>28</b>	0	60	0	0	0	0	0	145
02:45 PM	<b>26</b>	17	0	0	43	1	0	15	0	16	<b>2</b>	45	18	0	65	<b>2</b>	0	1	0	<b>3</b>	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

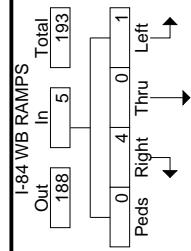
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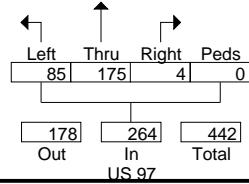
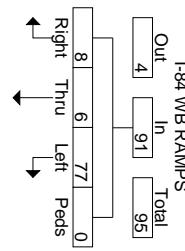
File Name : #4 US97&I84WB RAMPS  
Site Code : 28012009  
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Peak Hour Data



Peak Hour Begins at 02:15 PM  
Lights  
Mediums  
HV



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File Name : #5 US97&I84EBRAMP  
Site Code : 28022009  
Start Date : 10/21/2014  
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**Groups Printed- Lights - Mediums - HV**

Start Time	US 97 Southbound				I-84 EB RAMPS Westbound				US 97 Northbound				I-84 EB RAMPS Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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

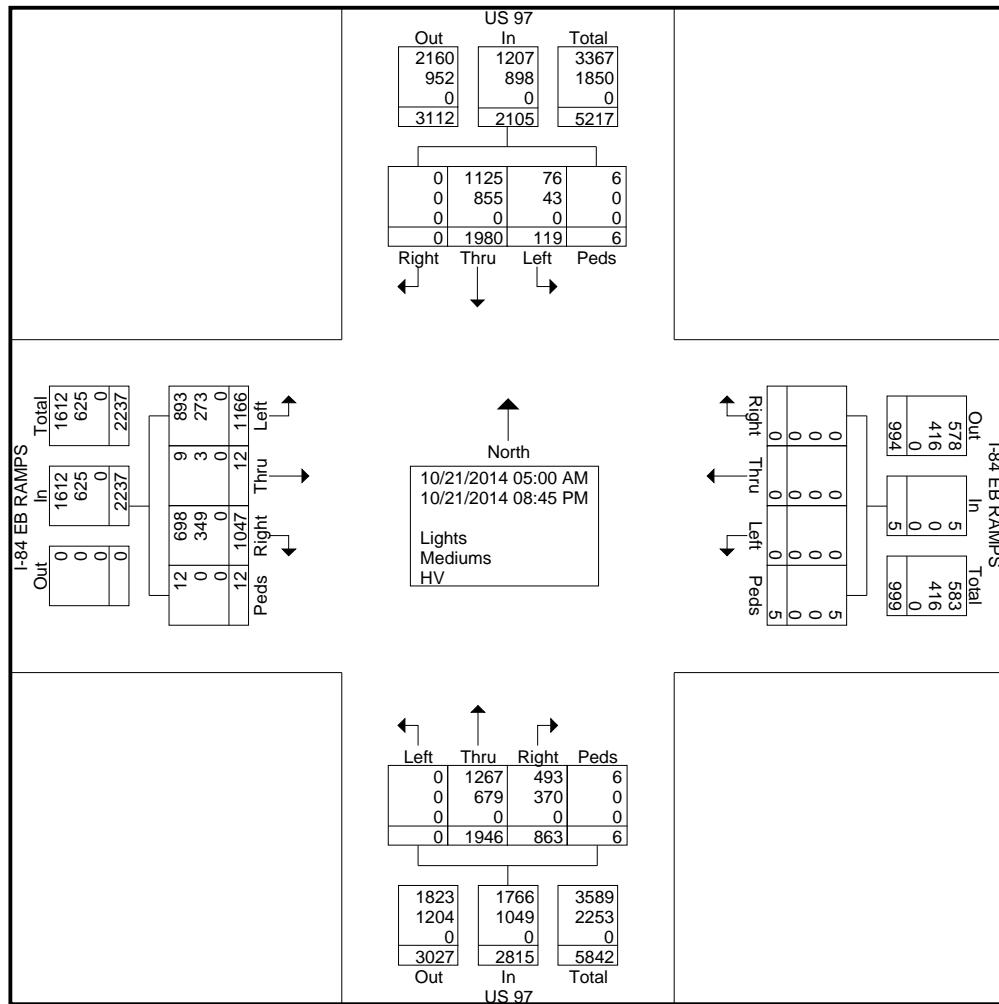


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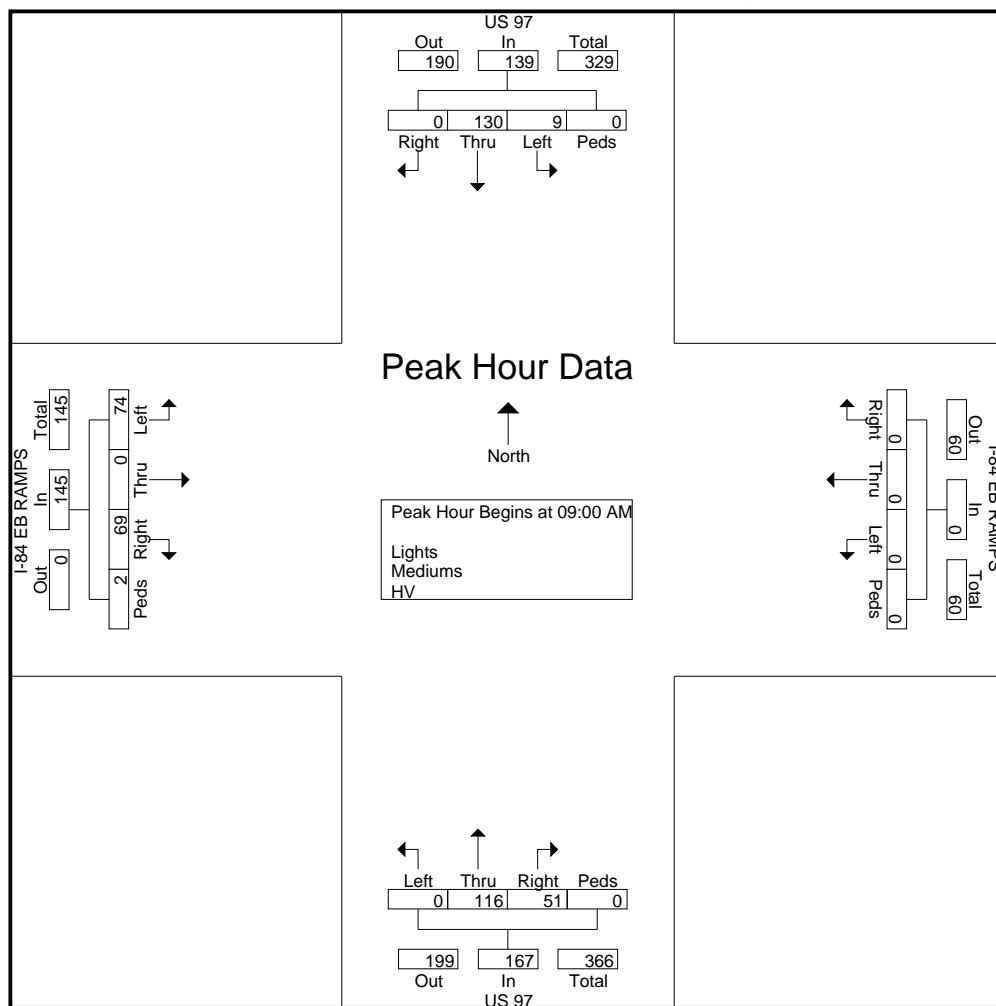
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Start Time	US 97 Southbound				I-84 EB RAMPS Westbound				US 97 Northbound				I-84 EB RAMPS Eastbound										
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total		
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																							
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	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		

File Name : #5 US97&I84EBRAMP  
 Site Code : 28022009  
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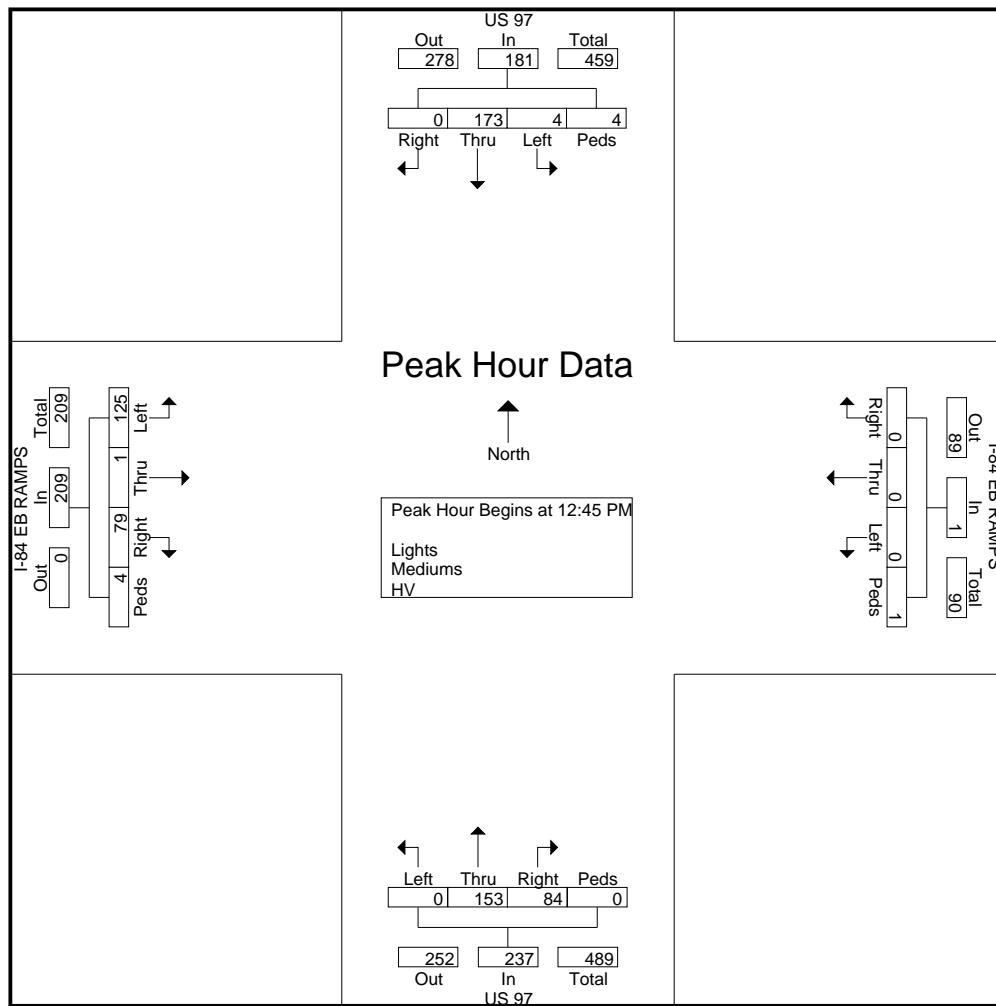


#### Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

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

File Name : #5 US97&I84EBRAMP  
 Site Code : 28022009  
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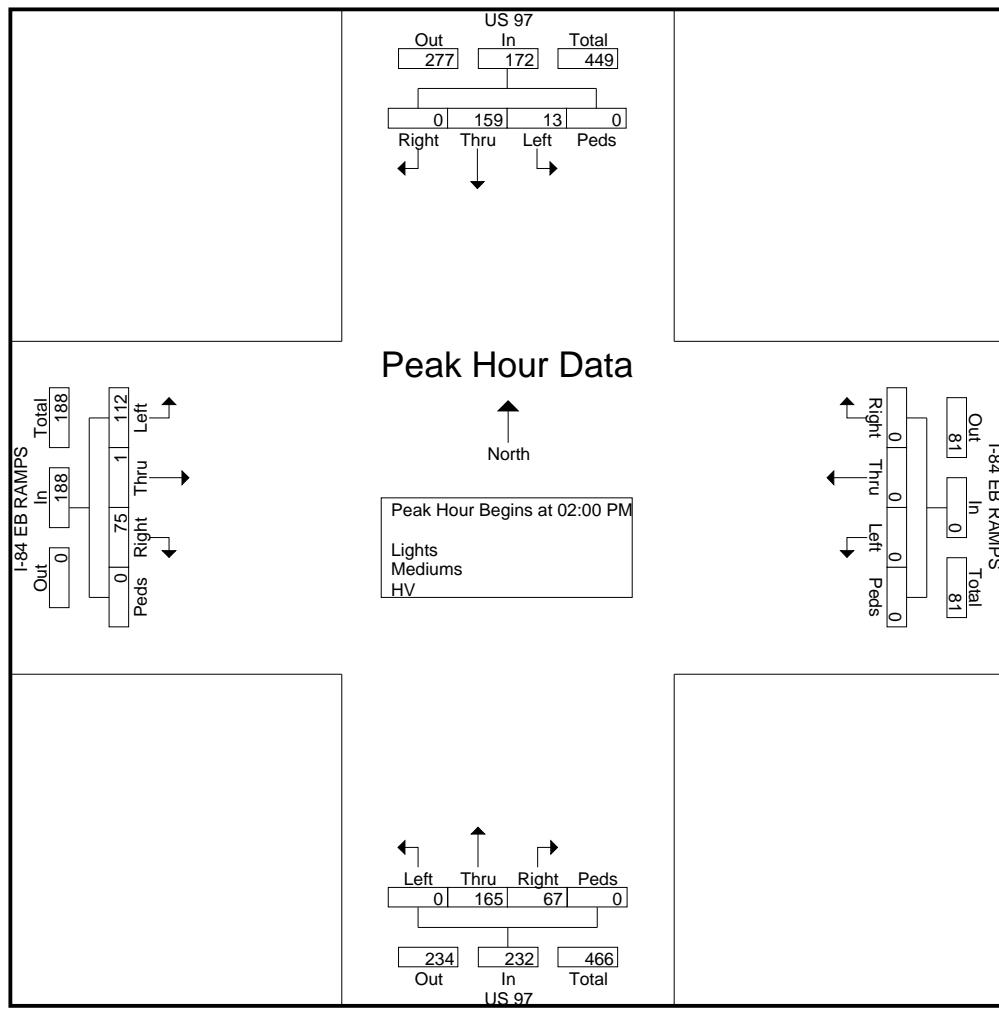


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	33	4	0	37	0	0	0	0	17	41	0	0	58	23	1	34	0	58	153
02:15 PM	0	45	3	0	48	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	14	38	0	0	52	24	0	19	0	43	145
02:45 PM	0	36	1	0	37	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	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	.798	.809	.000	.000	.879	.781	.250	.824	.000	.810	.937

File Name : #5 US97&I84EBRAMP  
Site Code : 28022009  
Start Date : 10/21/2014  
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Wheat Ridge, CO 80033

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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				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Start Time																	
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	1	0	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

All Traffic Data Services, Inc.  
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File Name : #6 US97NBRAMPS&OR206  
Site Code : 48094  
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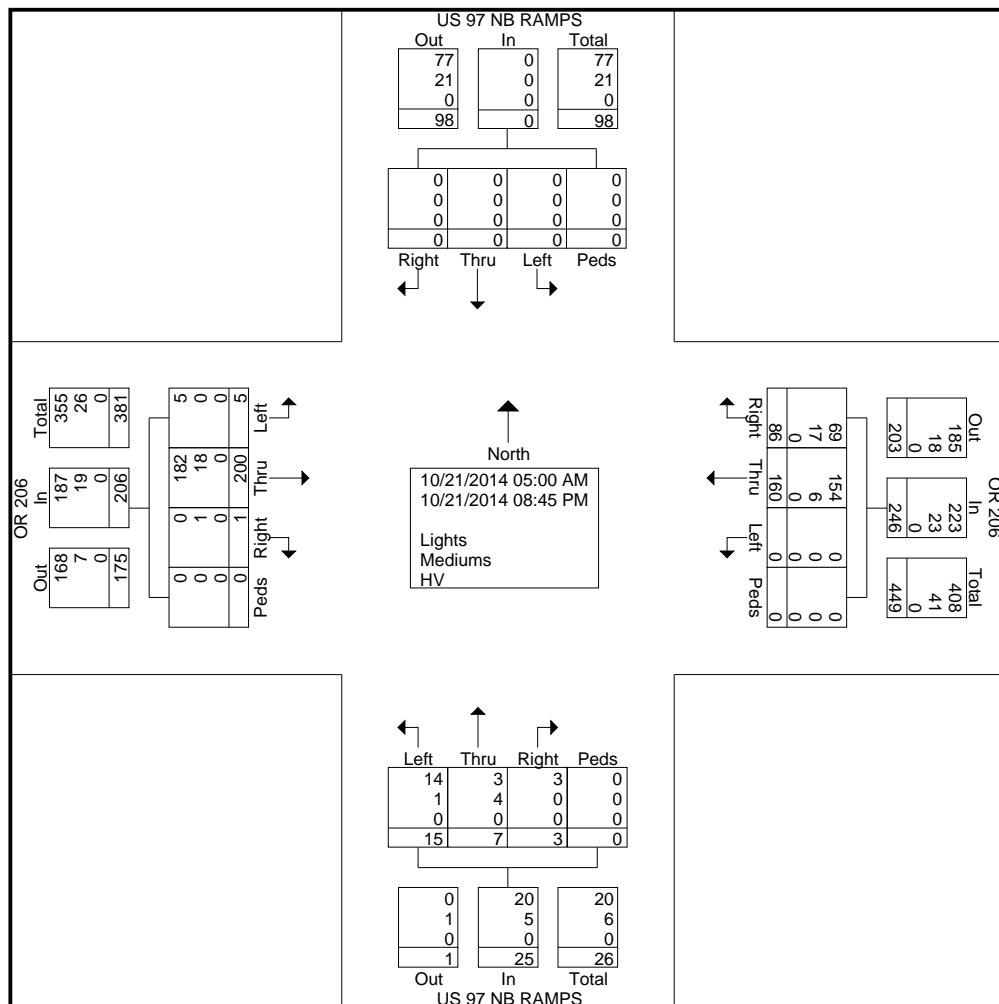
## **Groups Printed- Lights - Mediums - HV**

All Traffic Data Services, Inc.

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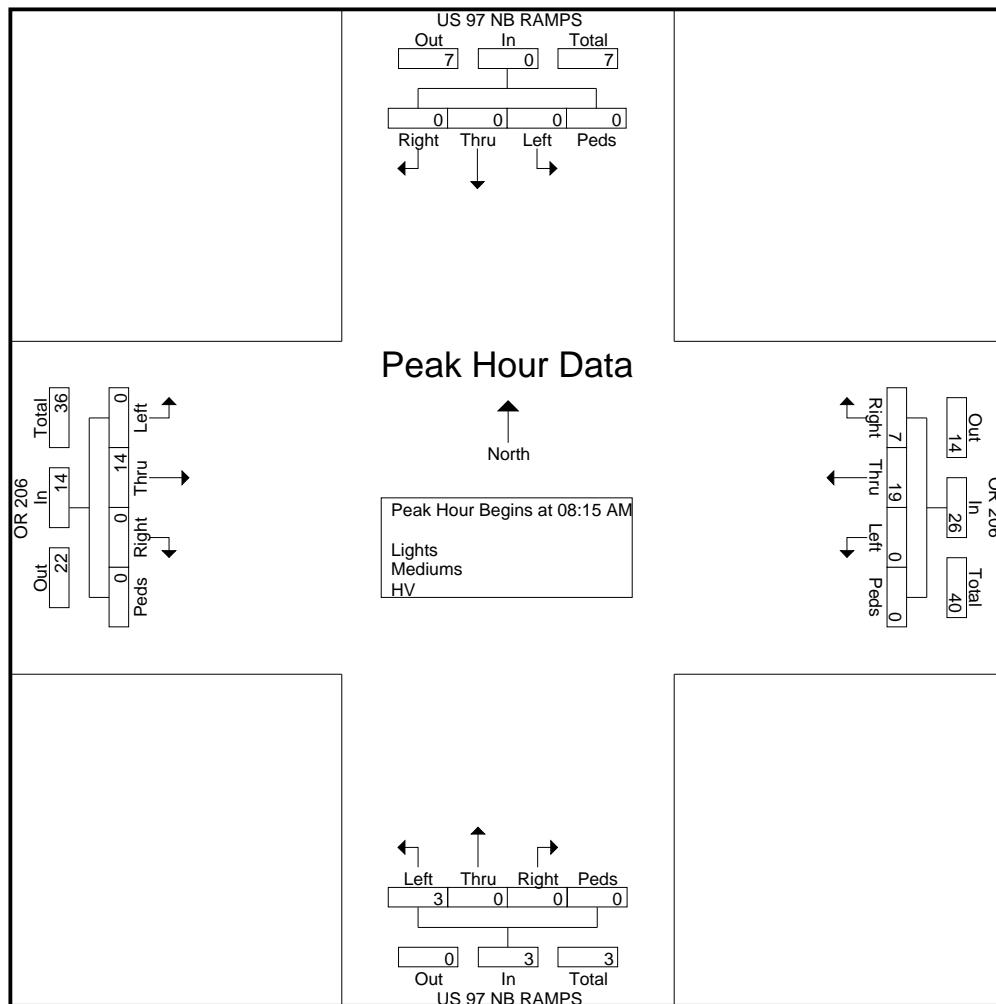
Wheat Ridge, CO 80033

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Start Time	US 97 NB RAMPS Southbound				OR 206 Westbound				US 97 NB RAMPS 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		
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																							
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	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	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	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	0	4	11	
Total Volume	0	0	0	0	0	7	19	0	0	26	0	0	3	0	3	0	14	0	0	0	14	43	
% App. Total	0	0	0	0	0	26.9	73.1	0	0	0	0	0	100	0	0	0	100	0	0	0	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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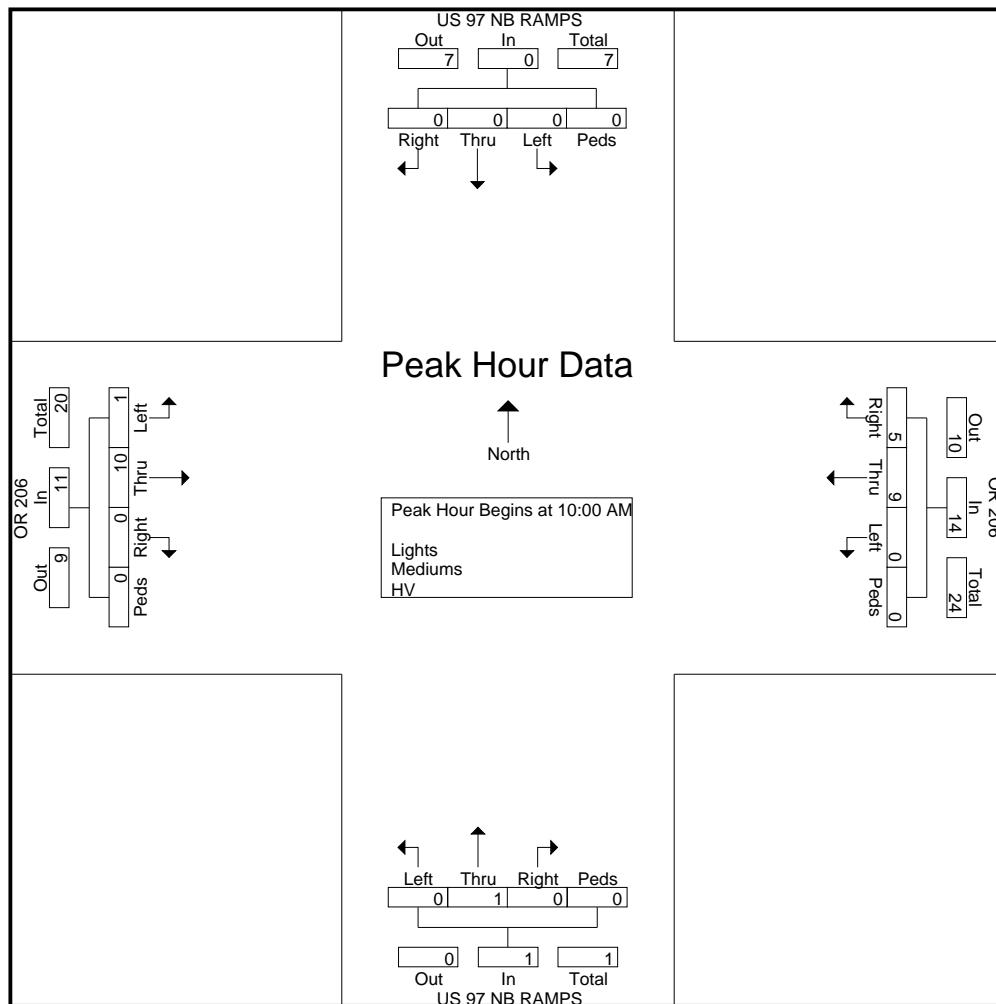


#### Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

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	1	0	0	1	5	12
10:15 AM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	5	1	0	0	6
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	3
10:45 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	2	0	0	0	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	0	0	90.9	9.1	0	0	0	
PHF	.000	.000	.000	.000	.417	.450	.000	.000	.583	.000	.250	.000	.000	.250	.000	.500	.250	.000	.458	.542	

File Name : #6 US97NBRAMPS&OR206  
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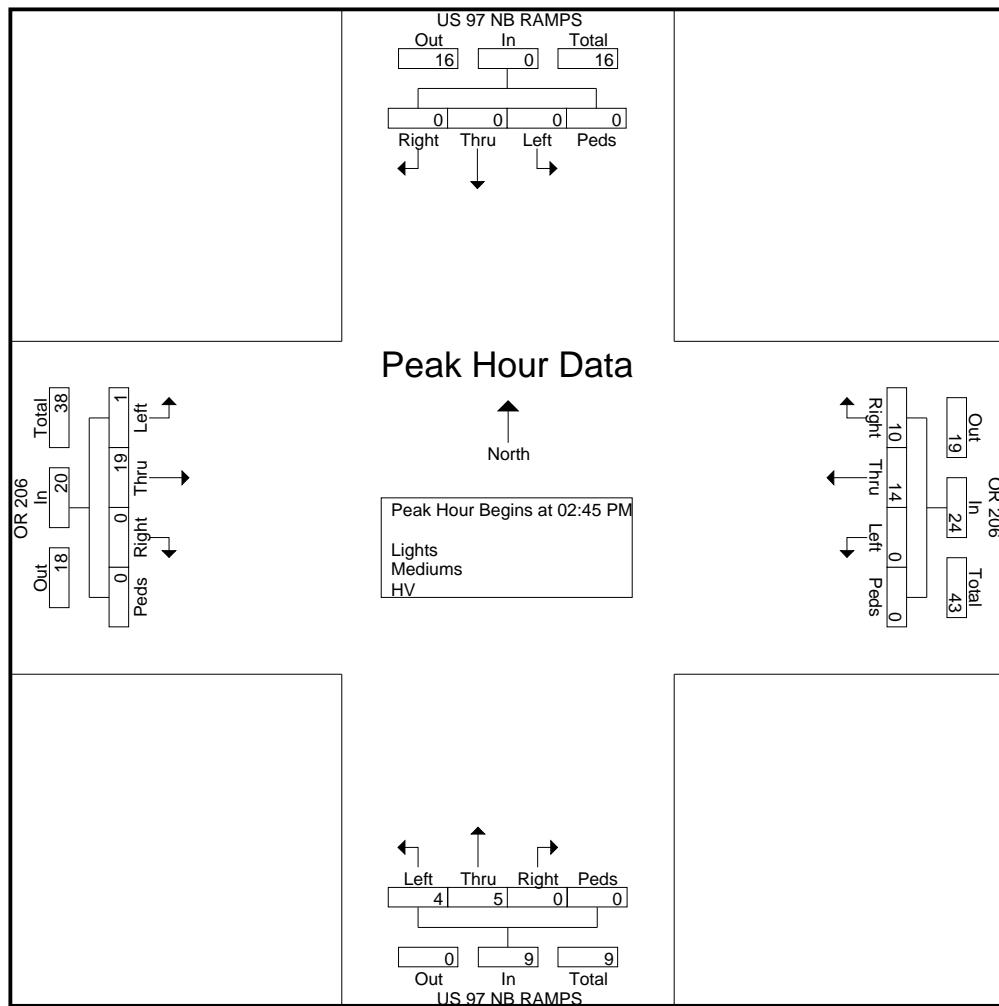


#### Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

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	0	15
03:00 PM	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	1	0	0	0	5
03:15 PM	0	0	0	0	0	1	4	0	0	5	0	3	2	0	0	5	0	6	1	0	7
03:30 PM	0	0	0	0	0	3	5	0	0	8	0	2	2	0	0	4	0	4	0	0	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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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				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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  
Site Code : 48098  
Start Date : 10/21/2014  
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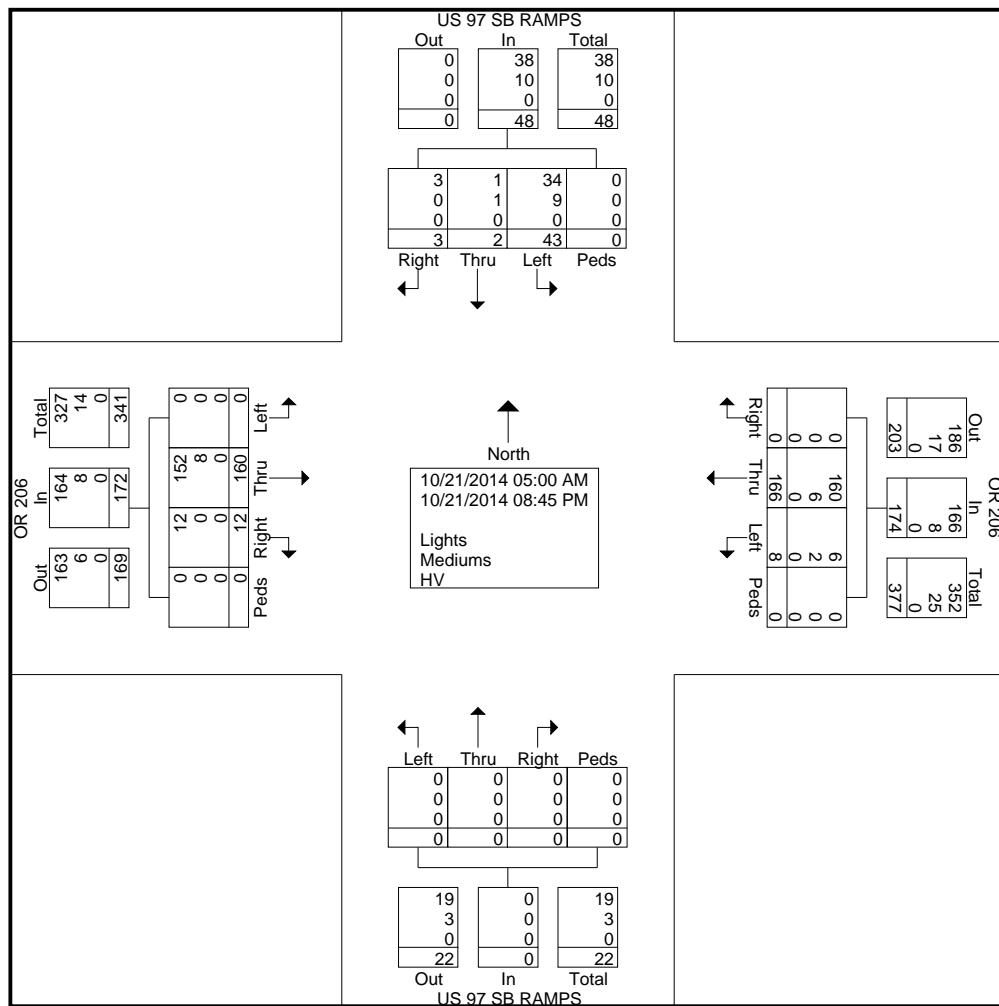
## **Groups Printed- Lights - Mediums - HV**

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Start Time	US 97 SB RAMPS Southbound				OR 206 Westbound				US 97 SB RAMPS 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		
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																							
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	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	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	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	0	9	
Total Volume	1	0	5	0	6	0	21	0	0	21	0	0	0	0	0	0	8	0	0	0	8	35	
% App. Total	16.7	0	83.3	0		0	100	0	0		0	0	0	0	0	0	100	0	0	0	100		
PHF	.250	.000	.417	.000	.500	.000	.875	.000	.000	.875	.000	.000	.000	.000	.000	.000	.400	.000	.000	.400	.000	.875	

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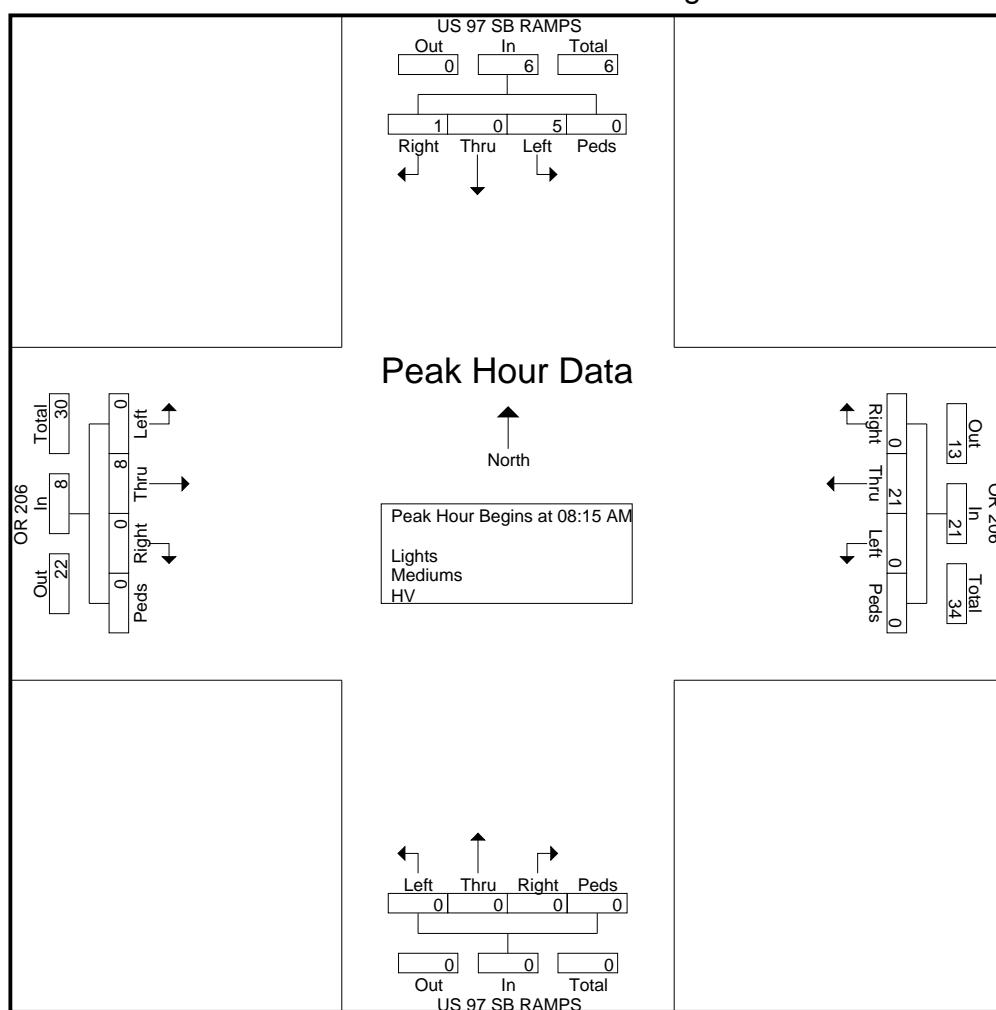
[www.alltrafficdata.net](http://www.alltrafficdata.net)

File Name : #7 US97SBRAMPS&OR206

Site Code : 48098

Start Date : 10/21/2014

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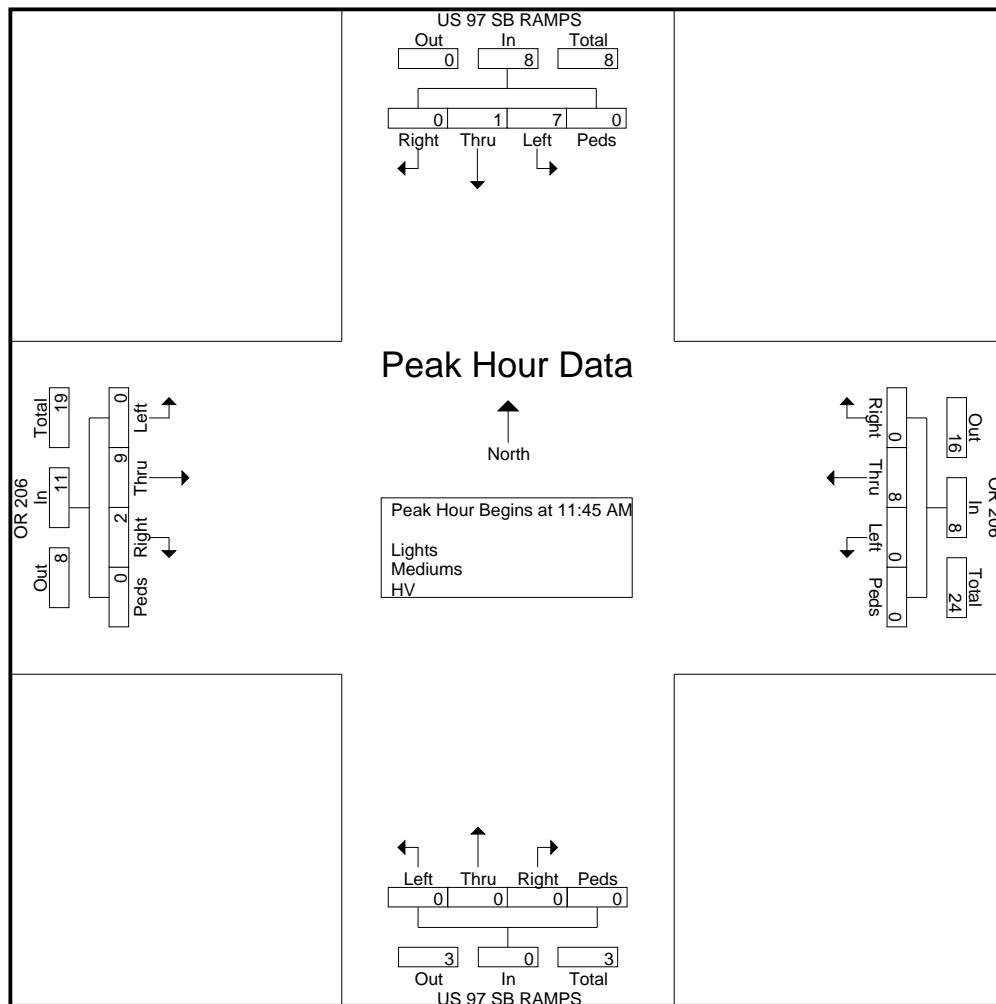


Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

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

File Name : #7 US97SBRAMPS&OR206  
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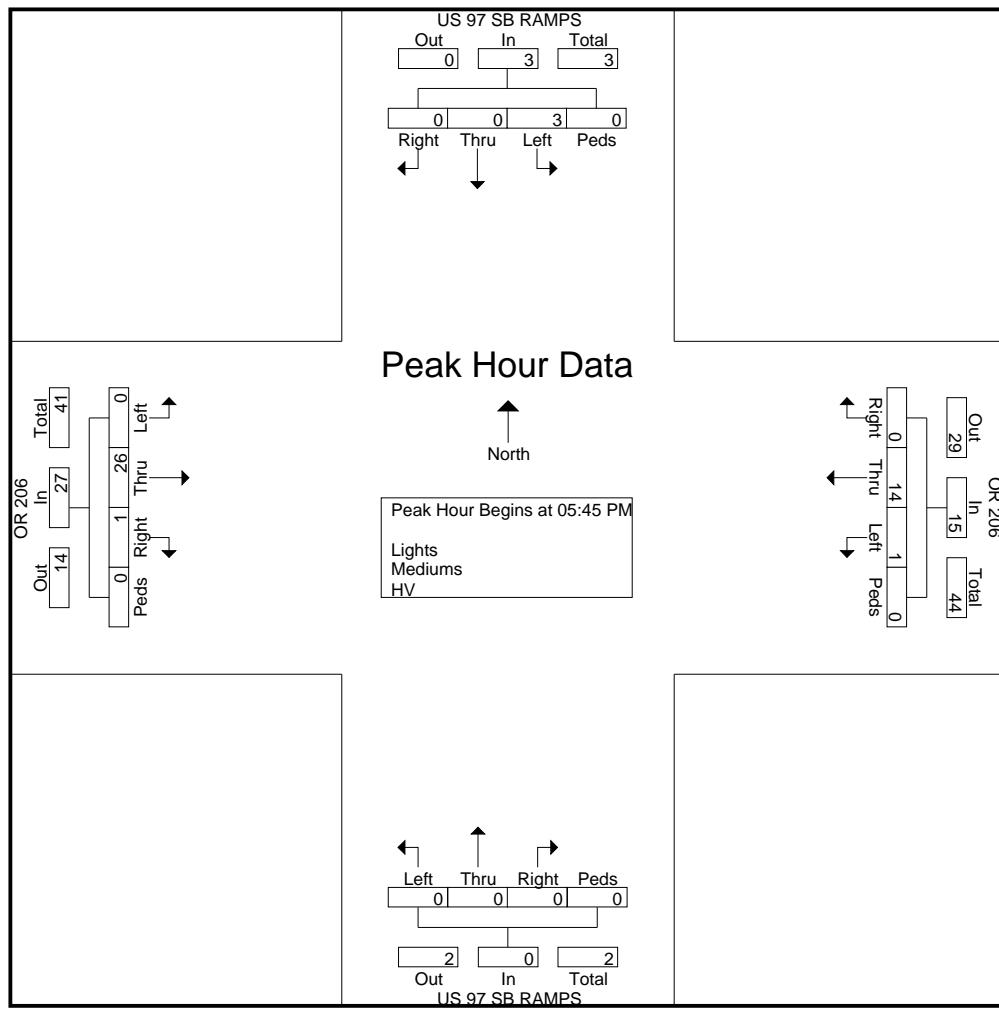


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:45 PM

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

File Name : #7 US97SBRAMPS&OR206  
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Start Date : 10/21/2014  
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File Name : #8 CLARK&OLDWASCO  
 Site Code : 48118  
 Start Date : 10/21/2014  
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**Groups Printed- Lights - Mediums - HV**

Start Time	CLARK ST Southbound				OR 206 / OLD WASCO-HEPNER Westbound				CLARK ST Northbound				OR 206 / OLD WASCO-HEPNER Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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



All Traffic Data Services, Inc.

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Wheat Ridge, CO 80033

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File Name : #8 CLARK&OLDWASCO

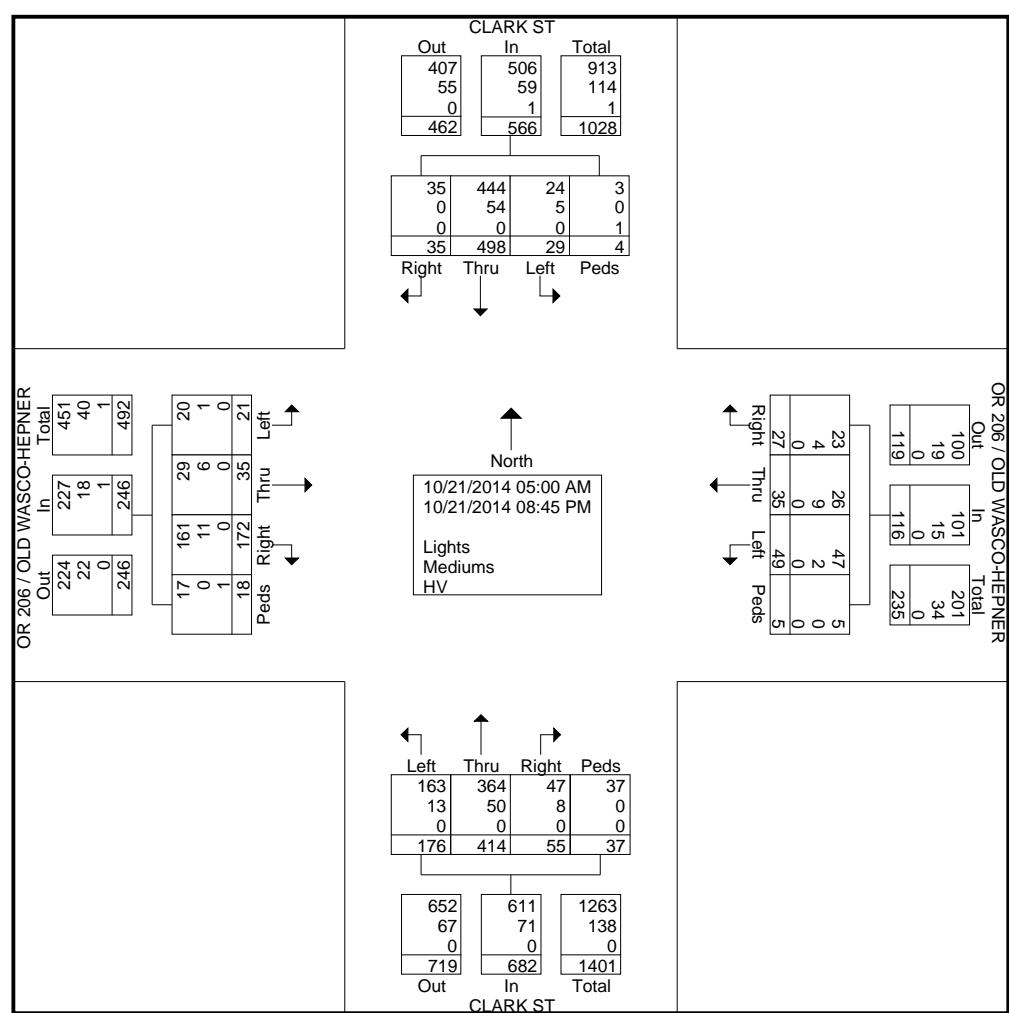
Site Code : 48118

Start Date : 10/21/2014

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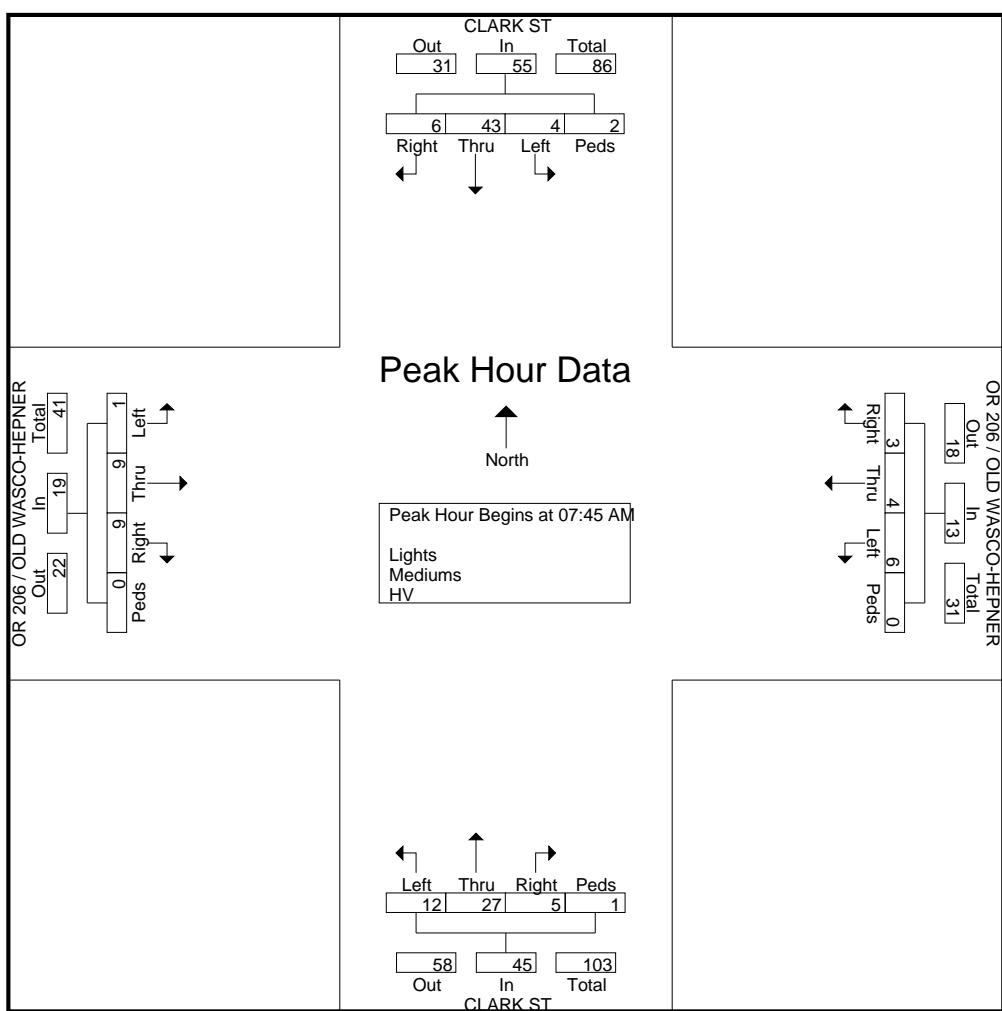
Groups Printed- Lights - Mediums - HV

	CLARK ST Southbound				OR 206 / OLD WASCO-HEPNER Westbound				CLARK ST Northbound				OR 206 / OLD WASCO-HEPNER Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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



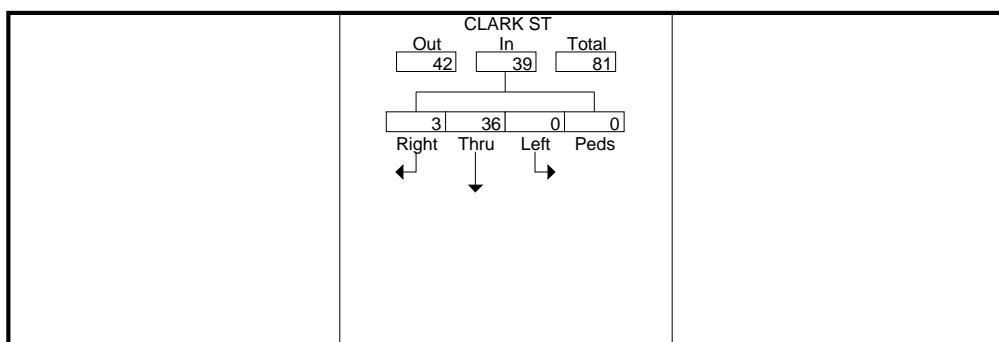
File Name : #8 CLARK&OLDWASCO  
 Site Code : 48118  
 Start Date : 10/21/2014  
 Page No : 4

	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

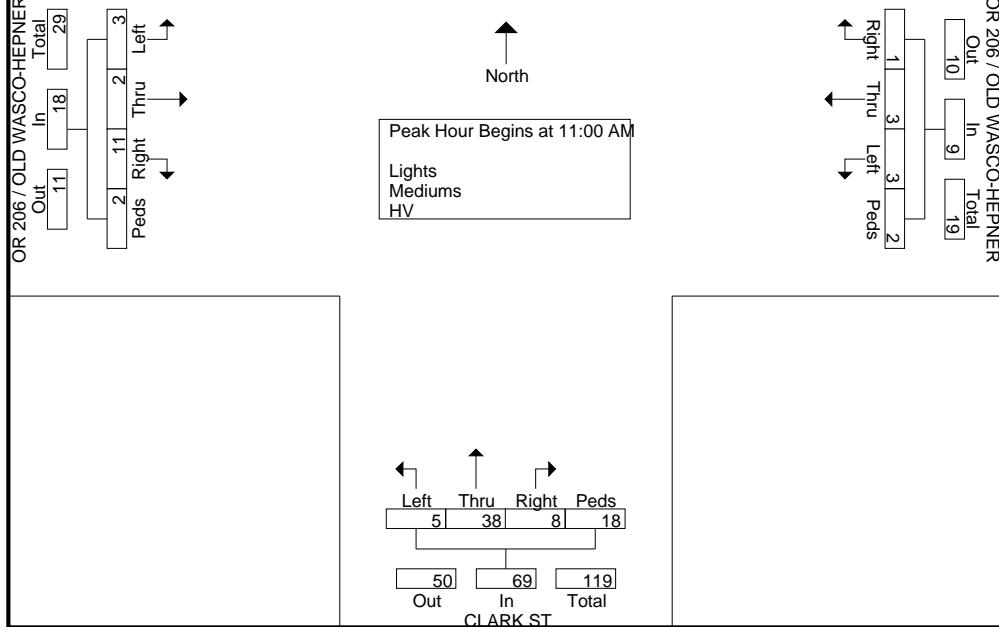


File Name : #8 CLARK&OLDWASCO  
 Site Code : 48118  
 Start Date : 10/21/2014  
 Page No : 5

	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
<b>Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1</b>																					
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	.250	.750	.333	.950	.625	.750	.750	.688	.500	.375	.250	.750	.844	

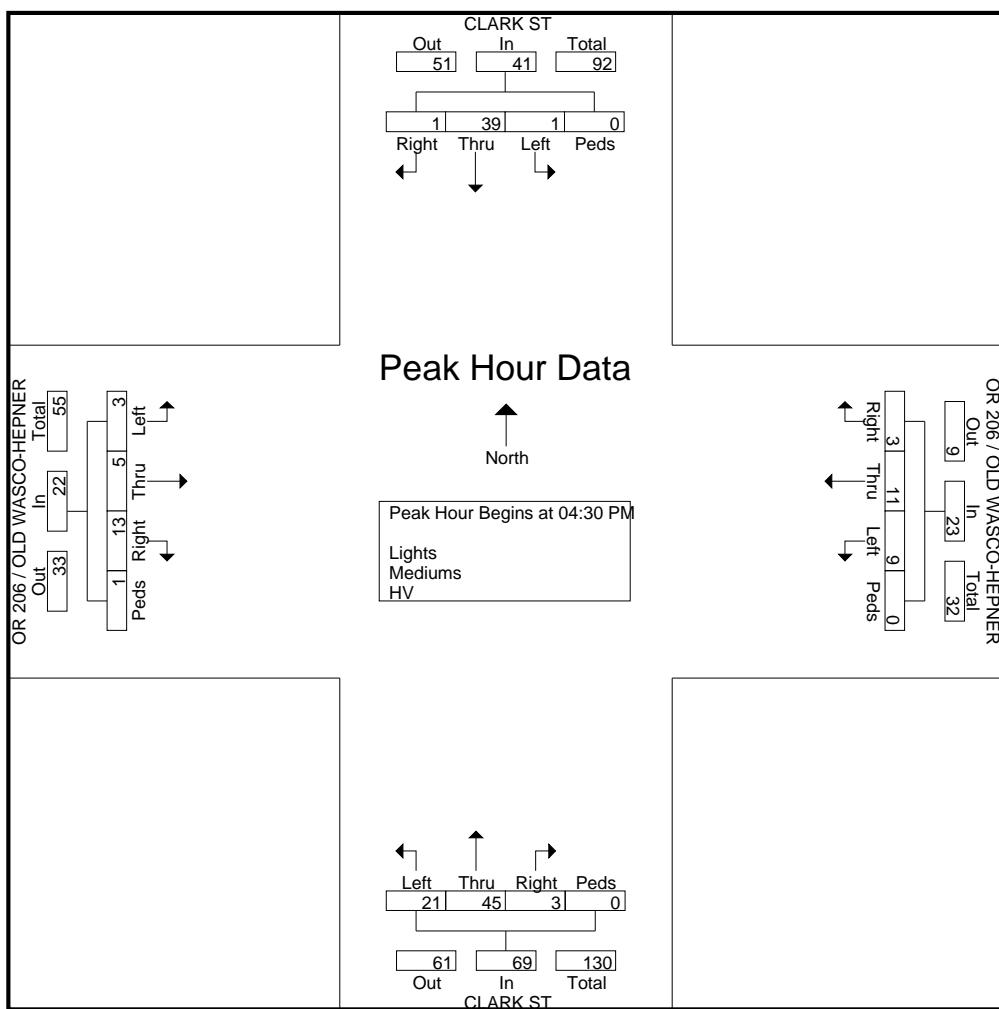


### Peak Hour Data



File Name : #8 CLARK&OLDWASCO  
 Site Code : 48118  
 Start Date : 10/21/2014  
 Page No : 6

	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
<b>Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1</b>																					
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



All Traffic Data Services, Inc.

9660 W 44th Ave

Wheat Ridge, CO 80033

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File Name : #9 CLARK&OR206

Site Code : 48121

Start Date : 10/21/2014

Page No : 1

Groups Printed- Lights - Mediums - HV

	CLARK ST Southbound				OR 206 Westbound				CLARK ST Northbound				OR 206 Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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

All Traffic Data Services, Inc.  
 9660 W 44th Ave  
 Wheat Ridge, CO 80033  
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File Name : #9 CLARK&OR206  
 Site Code : 48121  
 Start Date : 10/21/2014  
 Page No : 2

**Groups Printed- Lights - Mediums - HV**

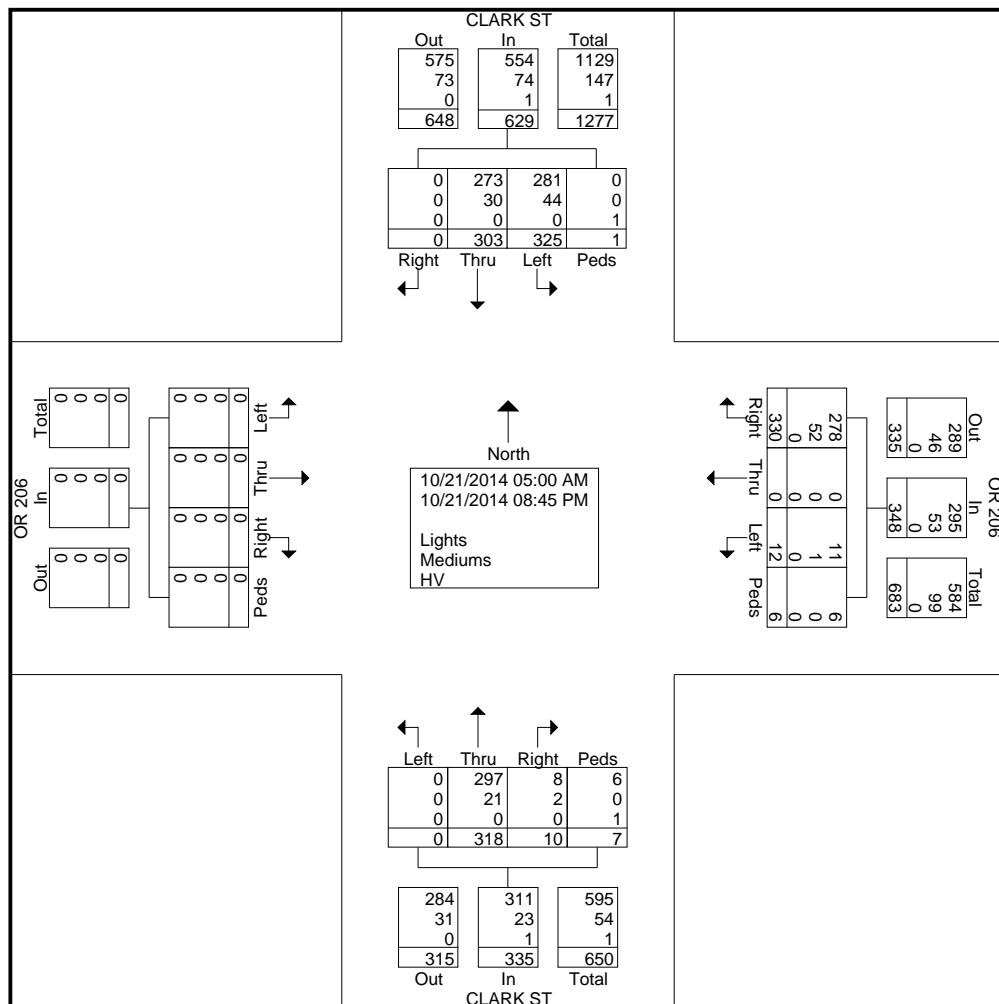
Start Time	CLARK ST Southbound				OR 206 Westbound				CLARK ST Northbound				OR 206 Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
01:15 PM	0	7	10	0	6	0	0	0	1	7	0	0	0	0	0	0	31
01:30 PM	0	1	2	0	8	0	0	0	0	3	0	0	0	0	0	0	14
01:45 PM	0	5	5	0	5	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	1	0	0	0	0	0	2
% HV	0	0	0	100	0	0	0	0	0	0	14.3	0	0	0	0	0	0.2

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9660 W 44th Ave

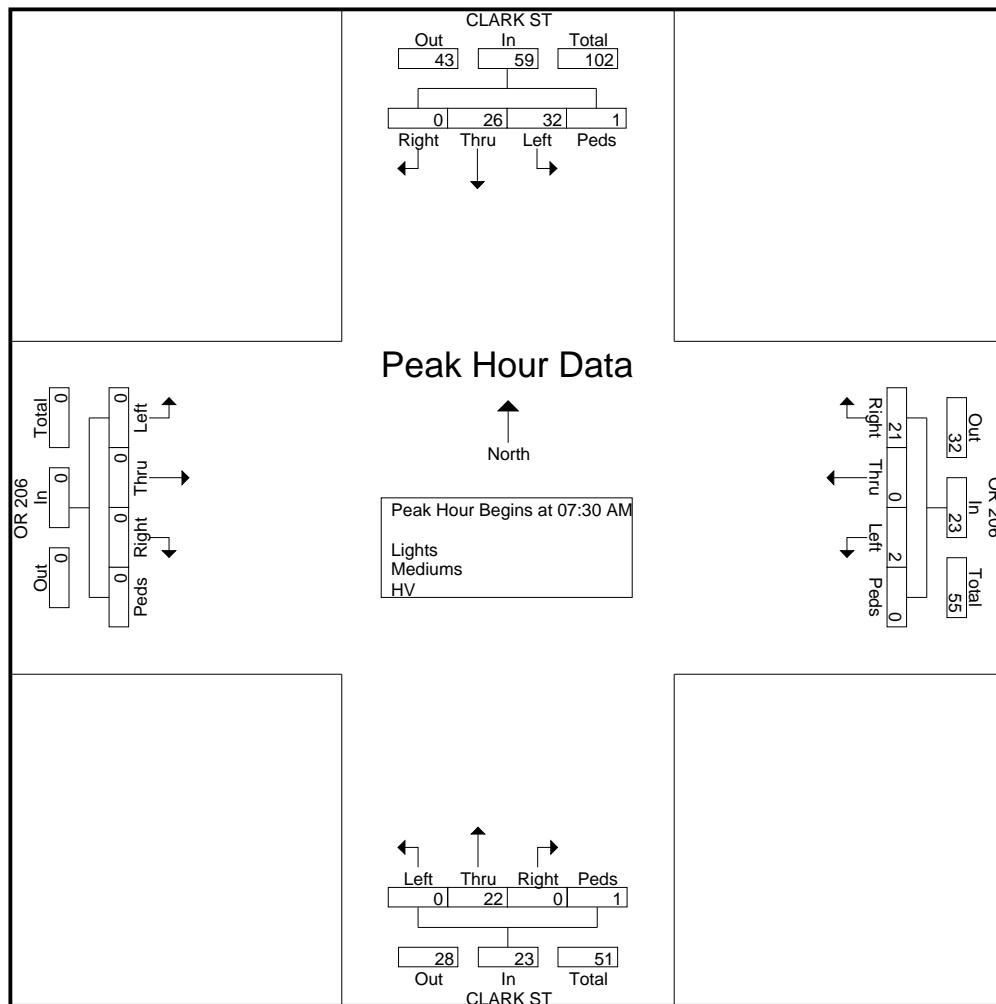
Wheat Ridge, CO 80033

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Start Time	CLARK ST Southbound				OR 206 Westbound				CLARK ST Northbound				OR 206 Eastbound				Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total		
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																		
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	27	
07:45 AM	0	4	7	0	11	3	0	1	0	4	0	4	0	1	5	0	20	
08:00 AM	0	6	7	0	13	5	0	1	0	6	0	2	0	0	2	0	21	
08:15 AM	0	7	10	1	18	8	0	0	0	8	0	11	0	0	11	0	37	
Total Volume	0	26	32	1	59	21	0	2	0	23	0	22	0	1	23	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	
PHF	.000	.722	.800	.250	.819	.656	.000	.500	.000	.719	.000	.500	.000	.250	.523	.000	.709	

File Name : #9 CLARK&OR206  
 Site Code : 48121  
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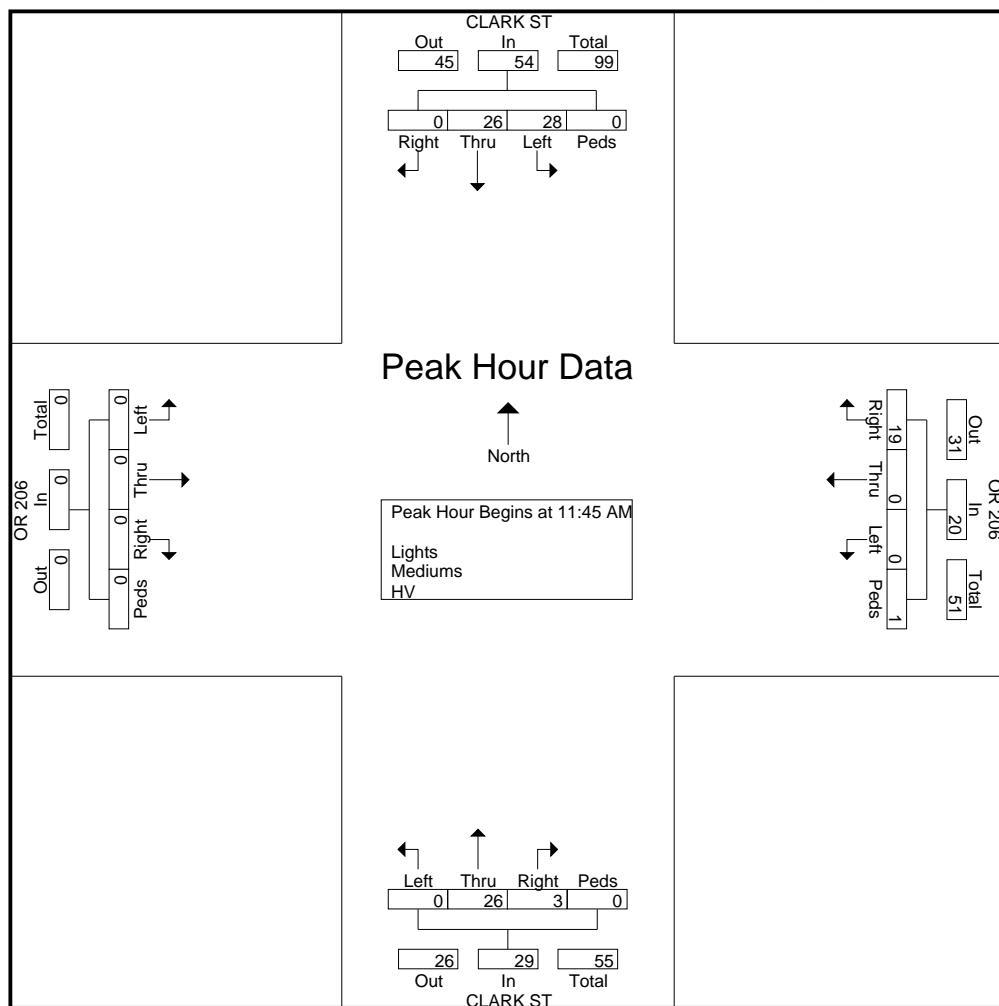
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

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	0	5	10.3	89.7	0	0	0	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	.831	

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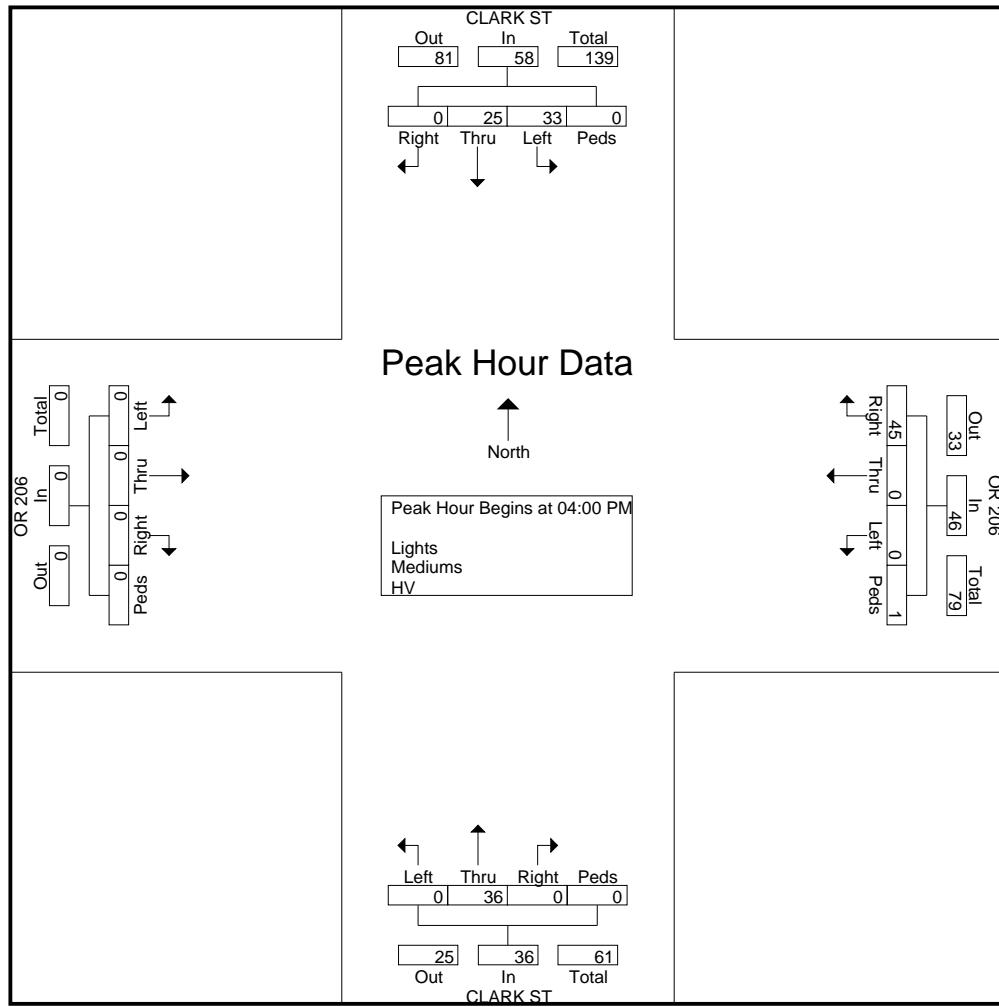
File Name : #9 CLARK&OR206  
Site Code : 48121  
Start Date : 10/21/2014  
Page No : 5



Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

File Name : #9 CLARK&OR206  
Site Code : 48121  
Start Date : 10/21/2014  
Page No : 6



File Name : #10 JOHNDAY&I84WBRAMPS  
 Site Code : 48125  
 Start Date : 10/21/2014  
 Page No : 1

**Groups Printed- Lights - Mediums - HV**

Start Time	JOHN DAY DAM RD Southbound				I-84 WB RAMPS Westbound				JOHN DAY DAM RD Northbound				I-84 WB RAMPS Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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	0	1	8	0	0	2	6	0	0	0	0	21

File Name : #10 JOHNDAY&I84WB RAMPS  
 Site Code : 48125  
 Start Date : 10/21/2014  
 Page No : 2

Groups Printed- Lights - Mediums - HV

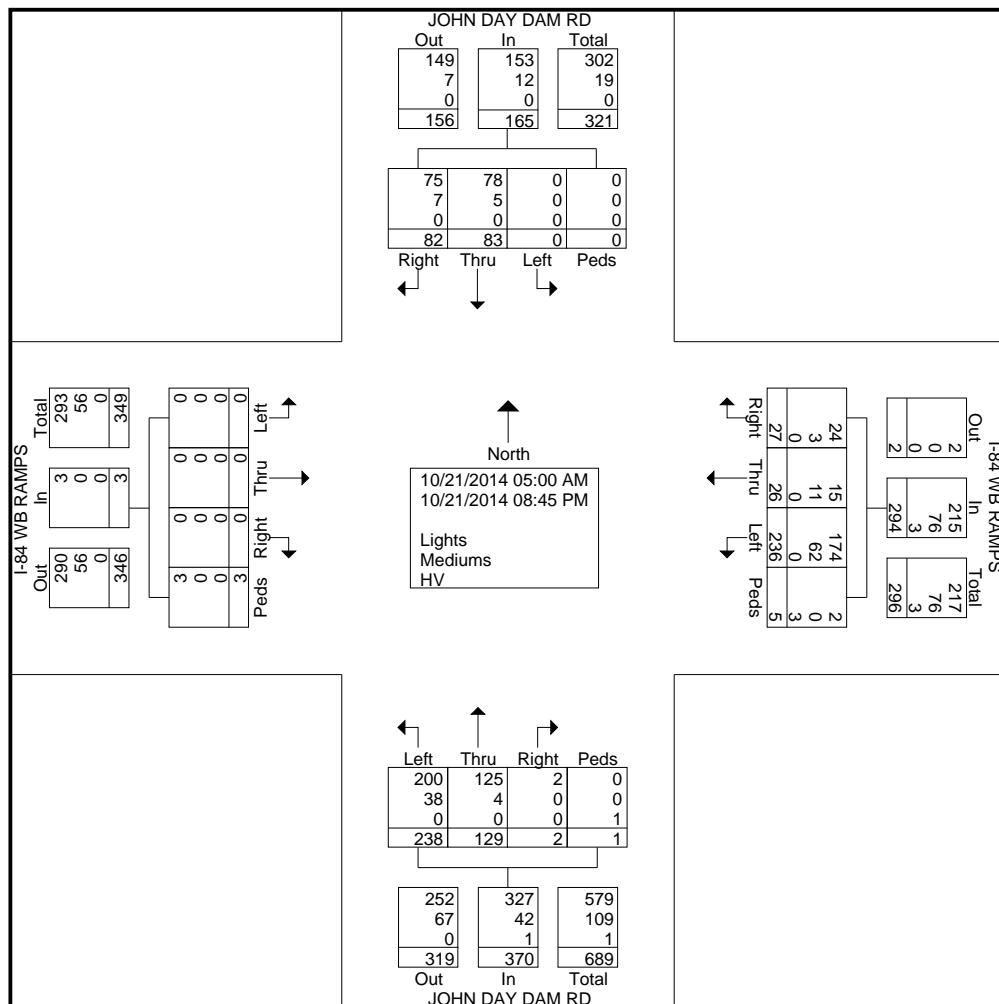
Start Time	JOHN DAY DAM RD Southbound				I-84 WB RAMPS Westbound				JOHN DAY DAM RD Northbound				I-84 WB RAMPS Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
01:15 PM	0	0	0	0	1	0	3	0	0	4	8	0	0	0	0	0	16
01:30 PM	1	4	0	0	0	1	9	1	0	5	3	0	0	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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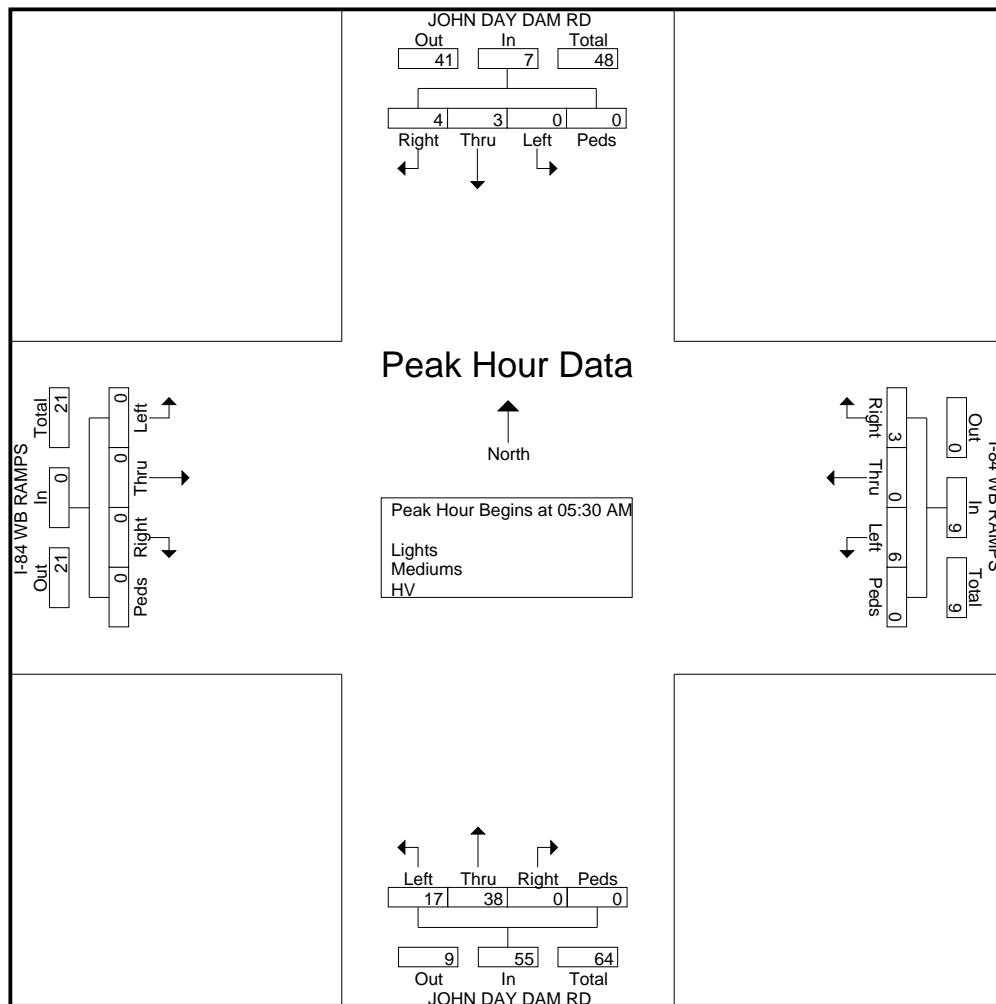
Wheat Ridge, CO 80033

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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		
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																							
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	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	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	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	0	20	
Total Volume	4	3	0	0	7	3	0	6	0	9	0	38	17	0	55	0	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	0	0		
PHF	.500	.750	.000	.000	.875	.375	.000	.500	.000	.750	.000	.528	.708	.000	.655	.000	.000	.000	.000	.000	.683		

File Name : #10 JOHNDAY&I84WB RAMP  
 Site Code : 48125  
 Start Date : 10/21/2014  
 Page No : 4

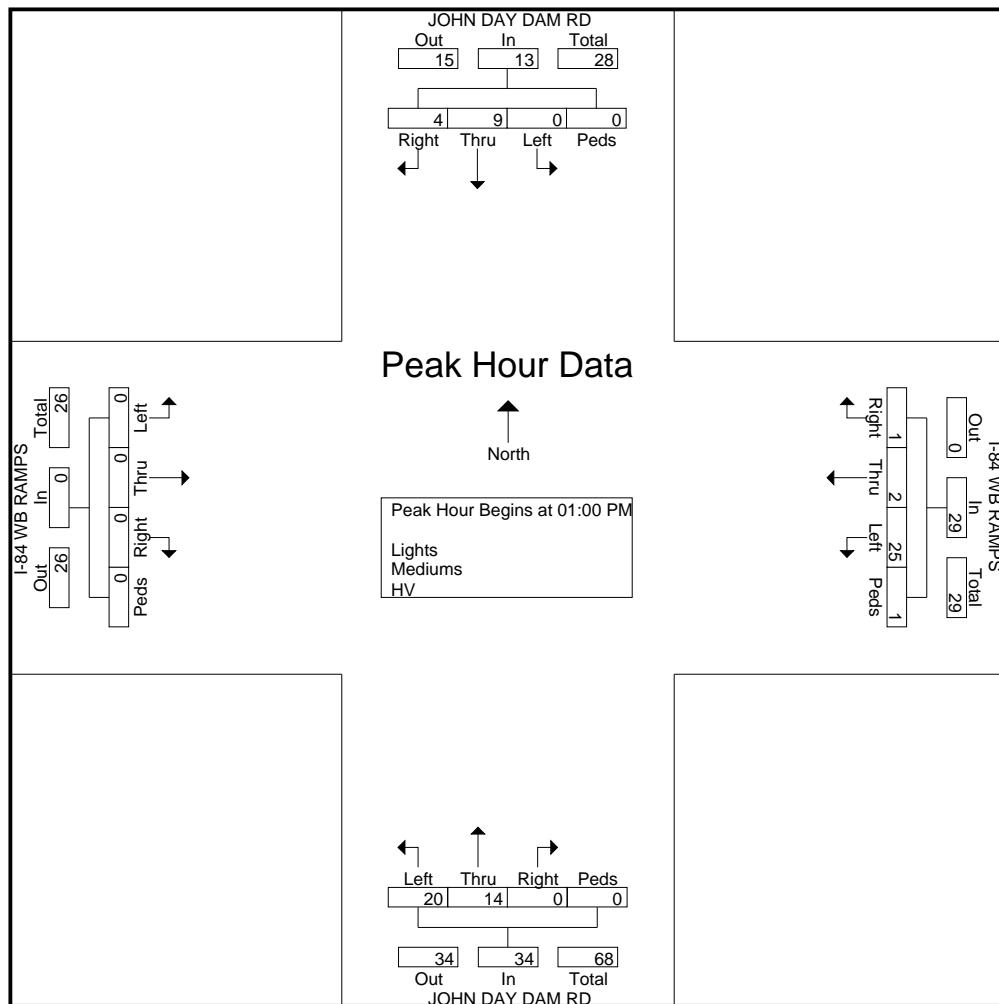


Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	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	0	
PHF	.500	.563	.000	.000	.650	.250	.500	.694	.250	.659	.000	.700	.625	.000	.708	.000	.000	.000	.000	.792	

File Name : #10 JOHNDAY&I84WB RAMP  
 Site Code : 48125  
 Start Date : 10/21/2014  
 Page No : 5

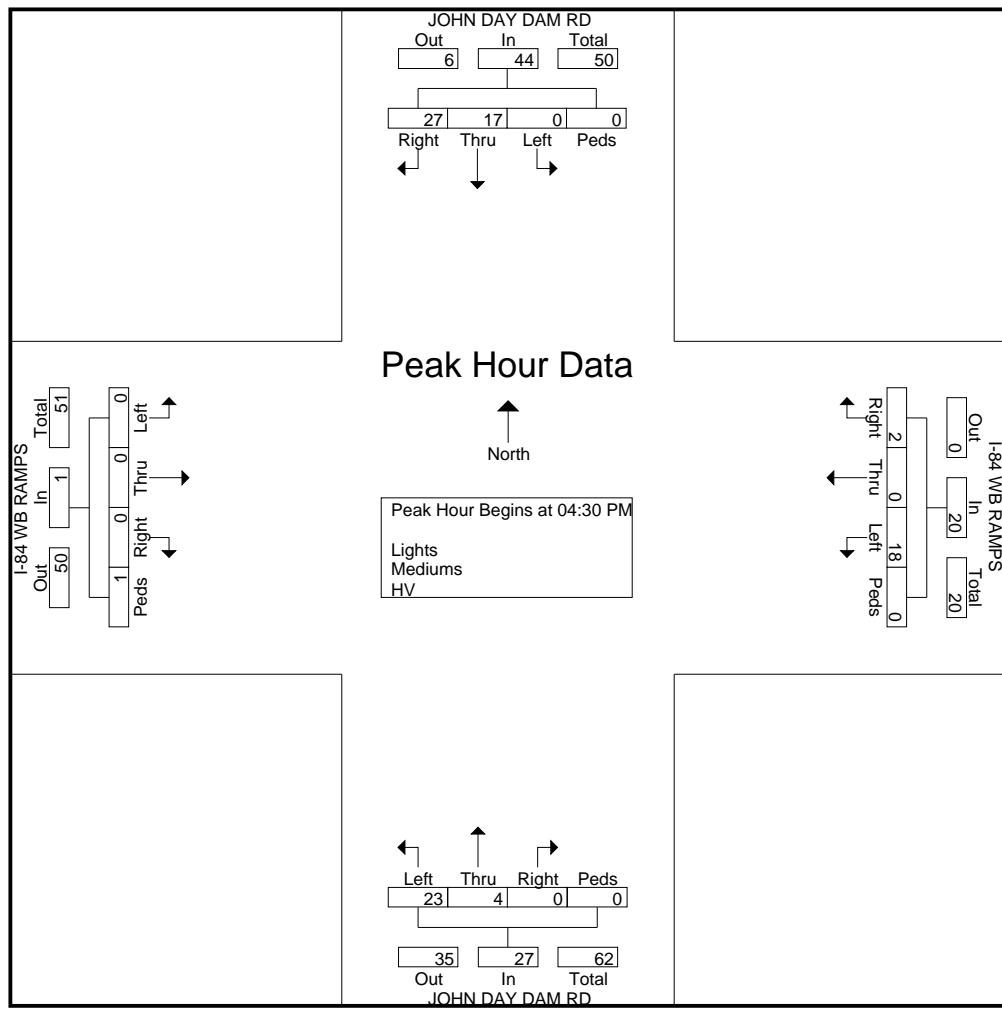


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 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	<b>21</b>	<b>13</b>	0	0	<b>34</b>	1	0	3	0	4	0	1	5	0	6	0	0	0	<b>1</b>	<b>1</b>	<b>45</b>
05:15 PM	1	4	0	0	5	0	0	<b>8</b>	0	<b>8</b>	0	<b>2</b>	<b>7</b>	0	<b>9</b>	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

File Name : #10 JOHNDAY&I84WB RAMPs  
Site Code : 48125  
Start Date : 10/21/2014  
Page No : 6



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File Name : #11 JOHNDAY&I84EBRAMP

Site Code : 48140

Start Date : 10/21/2014

Page No : 1

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				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Start Time																	
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

All Traffic Data Services, Inc.  
9660 W 44th Ave  
Wheat Ridge, CO 80033  
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File Name : #11 JOHNDAY&I84EBRAMP  
Site Code : 48140  
Start Date : 10/21/2014  
Page No : 2

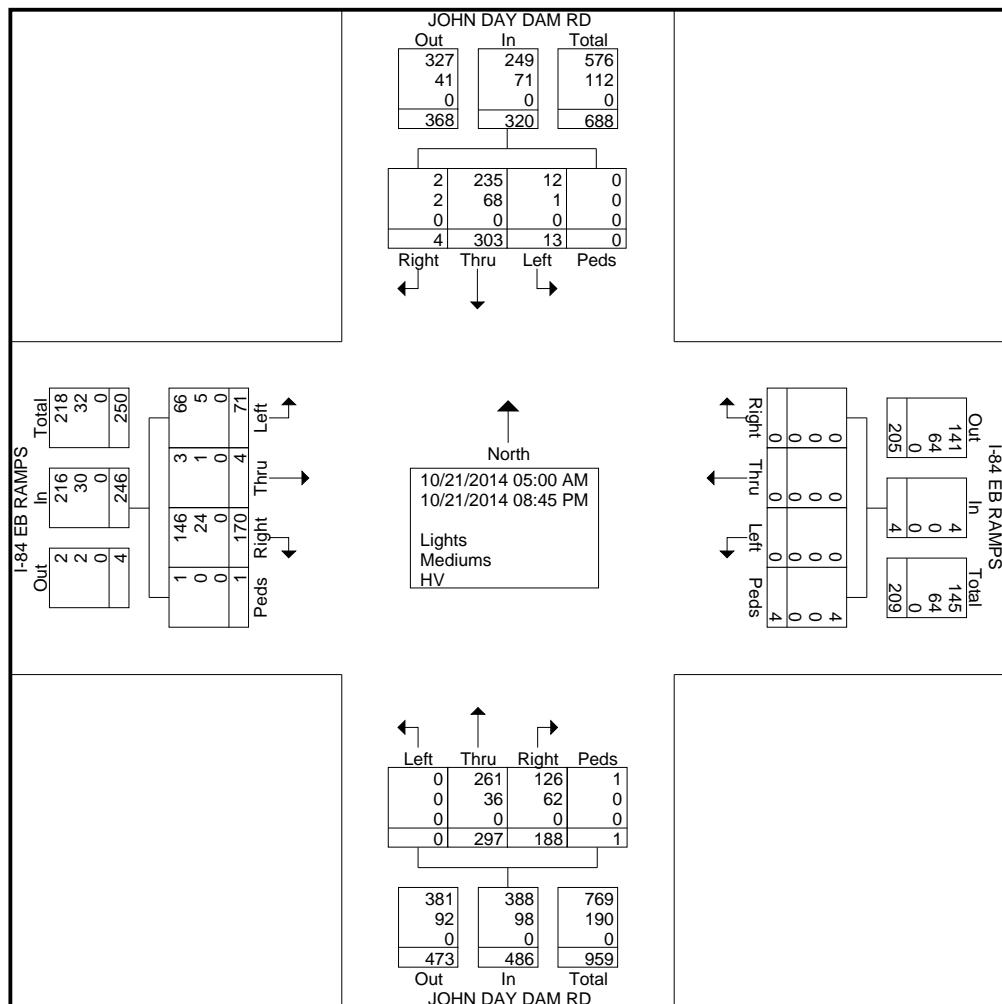
## **Groups Printed- Lights - Mediums - HV**

All Traffic Data Services, Inc.

9660 W 44th Ave

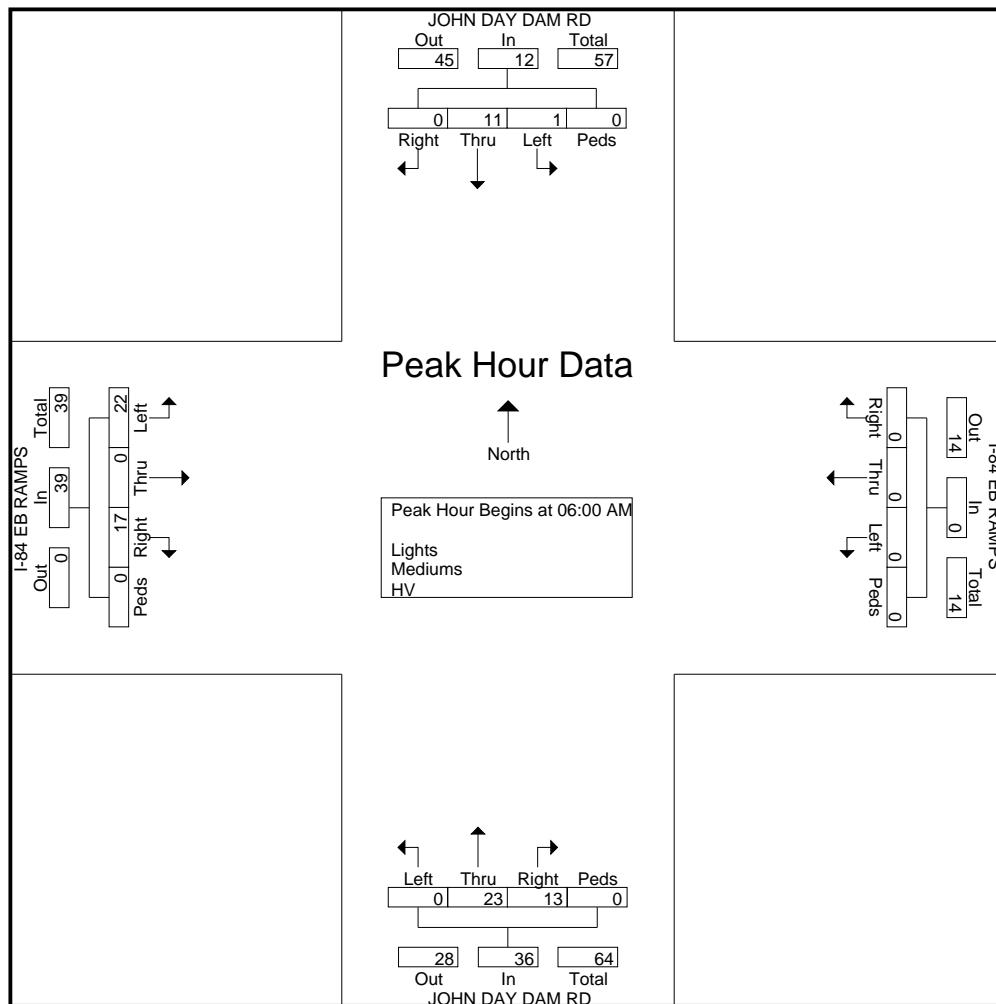
Wheat Ridge, CO 80033

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Start Time	JOHN DAY DAM RD Southbound				I-84 EB RAMPS Westbound				JOHN DAY DAM RD Northbound				I-84 EB RAMPS Eastbound			
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																
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	30
06:15 AM	0	2	0	0	2	0	0	0	0	0	3	7	0	0	10	25
06:30 AM	0	1	0	0	1	0	0	0	0	0	3	2	0	0	5	13
06:45 AM	0	4	1	0	5	0	0	0	0	0	4	4	0	0	8	19
Total Volume	0	11	1	0	12	0	0	0	0	0	13	23	0	0	36	87
% App. Total	0	91.7	8.3	0		0	0	0	0	0	36.1	63.9	0	0	43.6	0
PHF	.000	.688	.250	.000	.600	.000	.000	.000	.000	.000	.813	.575	.000	.000	.692	.725

File Name : #11 JOHNDAY&I84EBRAMP  
 Site Code : 48140  
 Start Date : 10/21/2014  
 Page No : 4

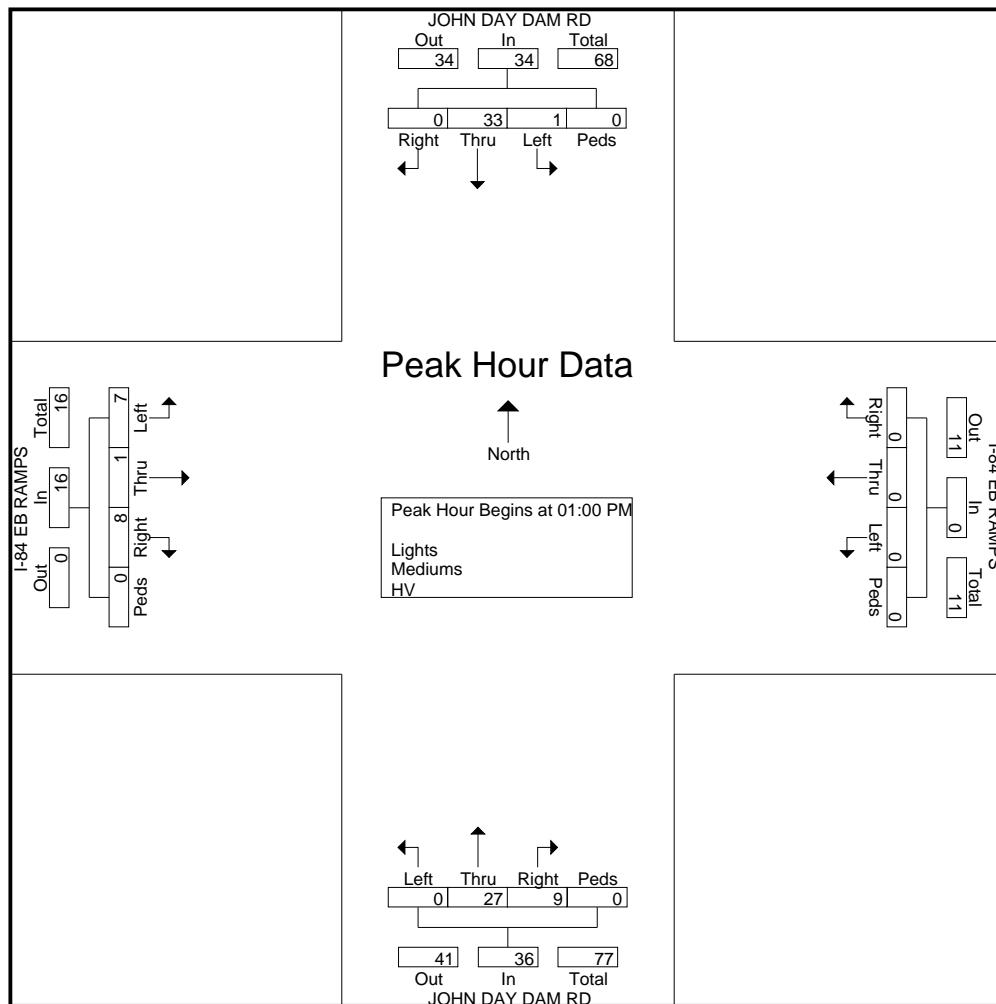


Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	0	9	0	0	9	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	4	11	0	0	15	4	0	1	0	5	24
01:30 PM	0	13	0	0	13	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	1	5	0	0	6	1	0	1	0	2	16
Total Volume	0	33	1	0	34	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	0	25	75	0	0	0	50	6.2	43.8	0	0	0
PHF	.000	.635	.250	.000	.654	.000	.000	.000	.000	.563	.614	.000	.000	.600	.500	.250	.583	.000	.800	.896

File Name : #11 JOHNDAY&I84EBRAMP  
 Site Code : 48140  
 Start Date : 10/21/2014  
 Page No : 5

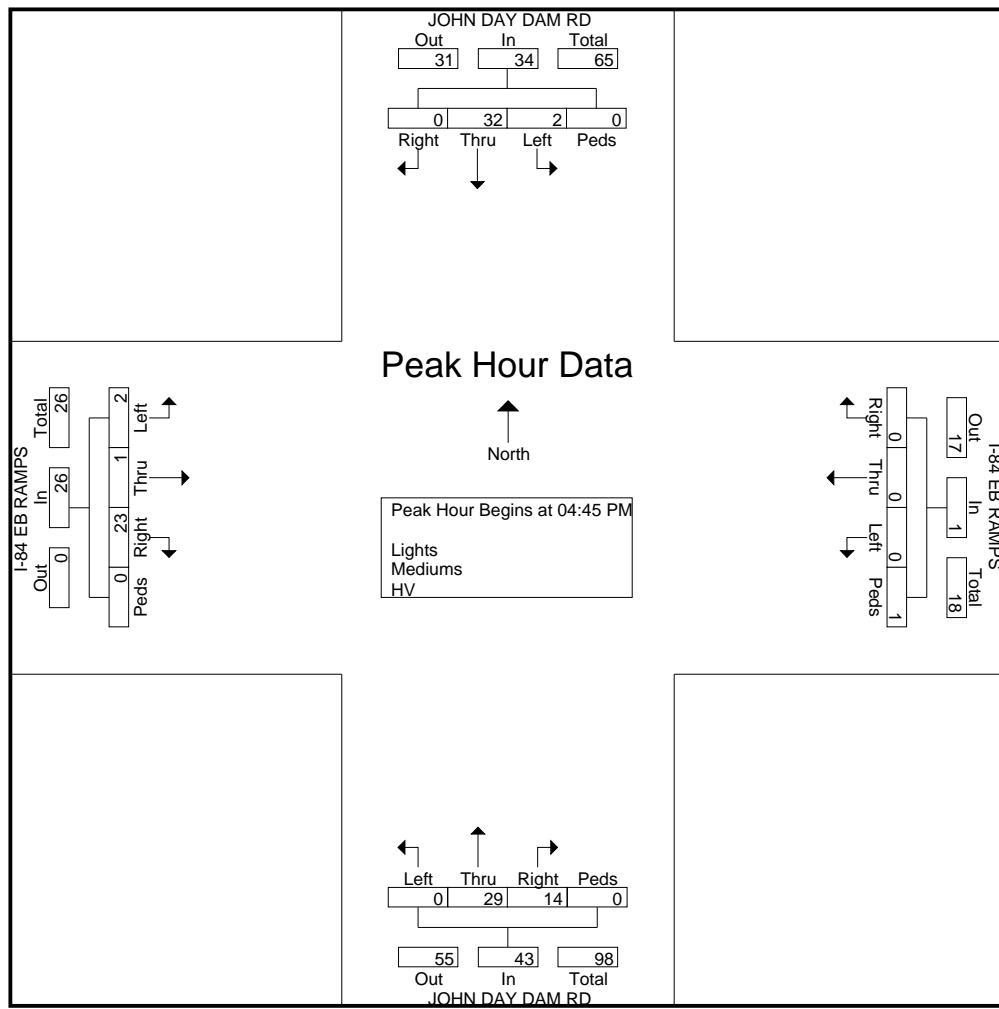


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	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	0	12	6	0	0	0	6
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	0	100	0	32.6	67.4	0	0	0	88.5	3.8	7.7	0	0	0
PHF	.000	.533	.500	.000	.531	.000	.000	.000	.250	.250	.700	.806	.000	.000	.896	.958	.250	.250	.000	.813	.788

File Name : #11 JOHNDAY&I84EBRAMP  
Site Code : 48140  
Start Date : 10/21/2014  
Page No : 6



All Traffic Data Services, Inc.  
 9660 W 44th Ave  
 Wheat Ridge, CO 80033  
 www.alltrafficdata.net

File Name : #12 US97&OR216  
 Site Code : 48189  
 Start Date : 10/21/2014  
 Page No : 1

**Groups Printed- Lights - Mediums - HV**

Start Time	US 97 / MILL ST Southbound				OR 216 / KRUSOW ST Westbound				US 97 / MILL ST Northbound				OR 216 / KRUSOW ST Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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

All Traffic Data Services, Inc.  
9660 W 44th Ave  
Wheat Ridge, CO 80033  
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File Name : #12 US97&OR216  
Site Code : 48189  
Start Date : 10/21/2014  
Page No : 2

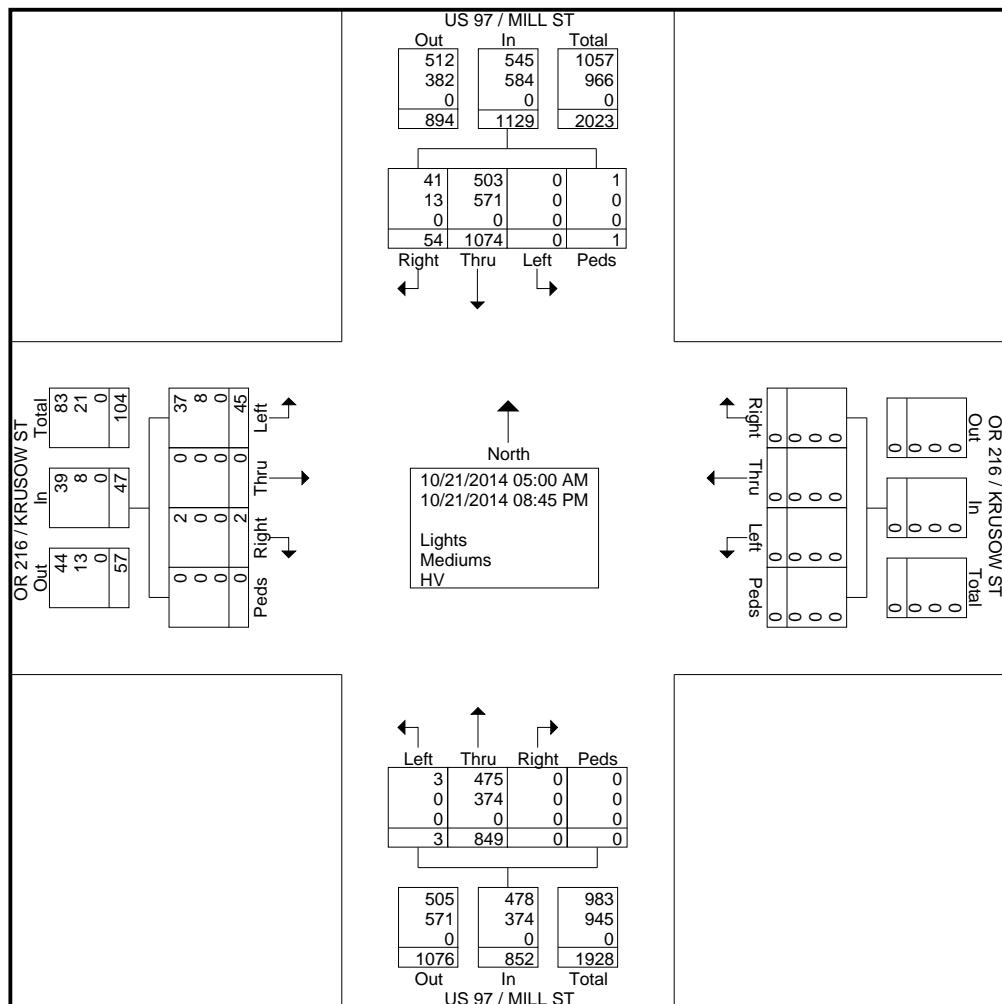
## **Groups Printed- Lights - Mediums - HV**

All Traffic Data Services, Inc.

9660 W 44th Ave

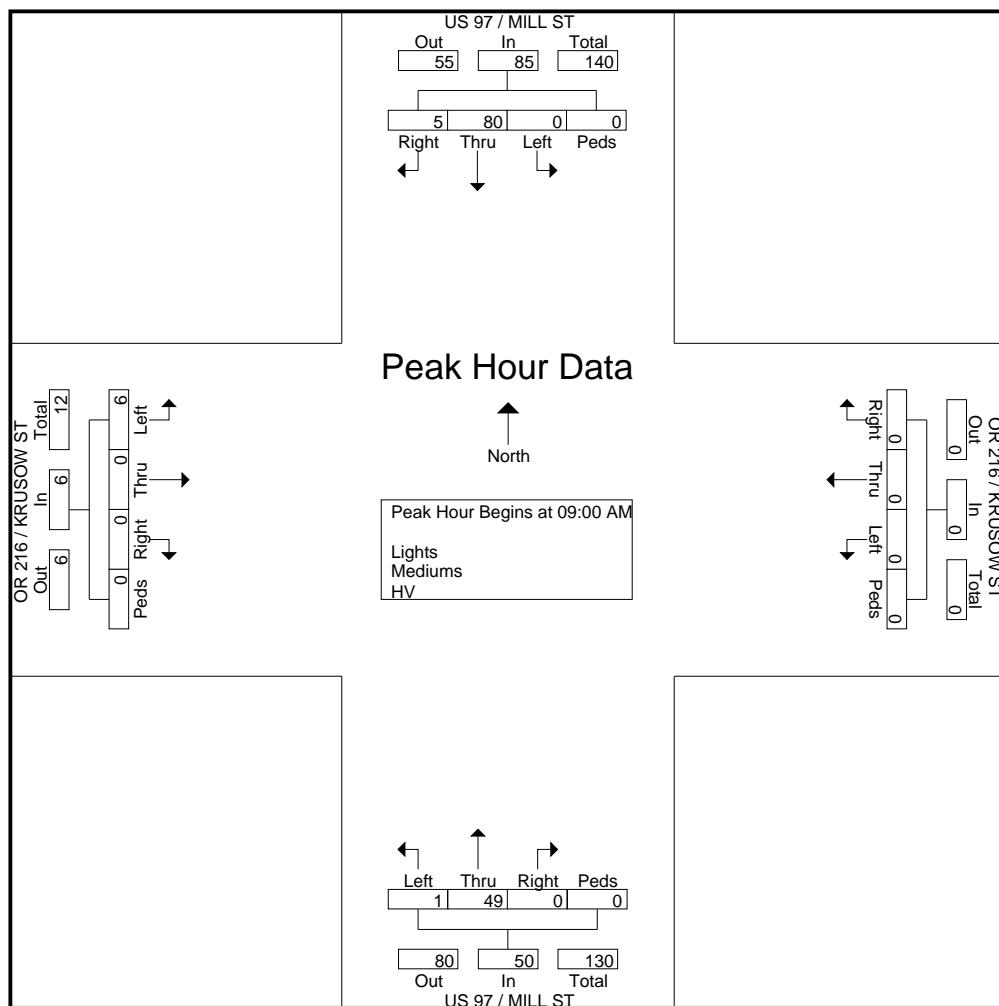
Wheat Ridge, CO 80033

[www.alltrafficdata.net](http://www.alltrafficdata.net)



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
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																					
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	0	98	2	0	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  
 Site Code : 48189  
 Start Date : 10/21/2014  
 Page No : 4

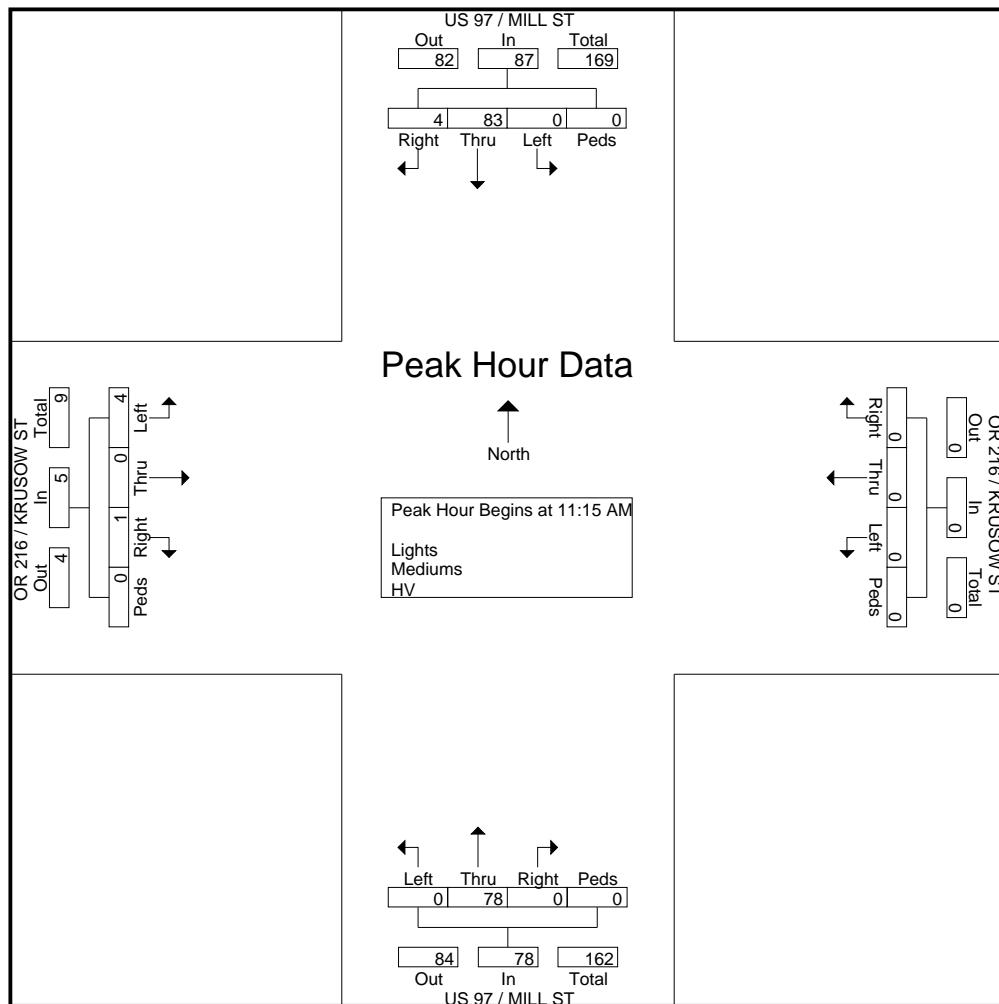


#### Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:15 AM

11:15 AM	1	16	0	0	17	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	19	0	0	19	0	0	1	0	1	43
11:45 AM	2	23	0	0	25	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	16	0	0	16	1	0	2	0	3	41
Total Volume	4	83	0	0	87	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	0	20	0	80	0		
PHF	.500	.902	.000	.000	.870	.000	.000	.000	.000	.000	.629	.000	.000	.629	.250	.000	.500	.000	.417	.885

File Name : #12 US97&OR216  
 Site Code : 48189  
 Start Date : 10/21/2014  
 Page No : 5

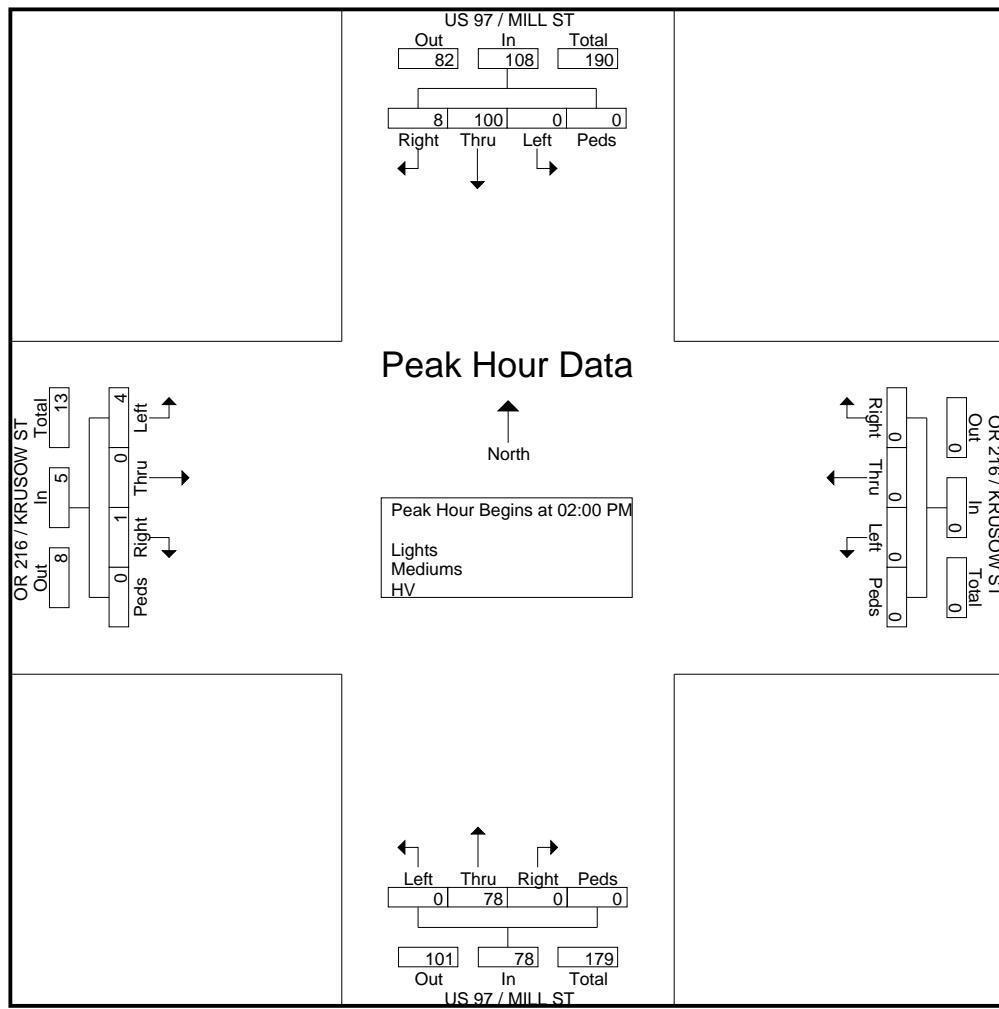


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	3	24	0	0	27	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	29	0	0	29	0	0	1	0	1	58
02:30 PM	3	25	0	0	28	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	20	0	0	20	0	0	1	0	1	46
Total Volume	8	100	0	0	108	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	100	20	0	80	0		
PHF	.667	.926	.000	.000	.964	.000	.000	.000	.000	.000	.672	.000	.000	.672	.250	.000	1.00	.000	.625	.823

File Name : #12 US97&OR216  
Site Code : 48189  
Start Date : 10/21/2014  
Page No : 6



File Name : #13 US97&1ST  
 Site Code : 48221  
 Start Date : 10/21/2014  
 Page No : 1

**Groups Printed- Lights - Mediums - HV**

Start Time	US 97 / MAIN ST Southbound				LONE ROCK RD / 1ST ST Westbound				US 97 / MAIN ST Northbound				LONE ROCK RD / 1ST ST Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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	0	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

## All Traffic Data Services, Inc.

9660 W 44th Ave

Wheat Ridge, CO 80033

www.alltrafficdata.net

File Name : #13 US97&amp;1ST

Site Code : 48221

Start Date : 10/21/2014

Page No : 2

## Groups Printed- Lights - Mediums - HV

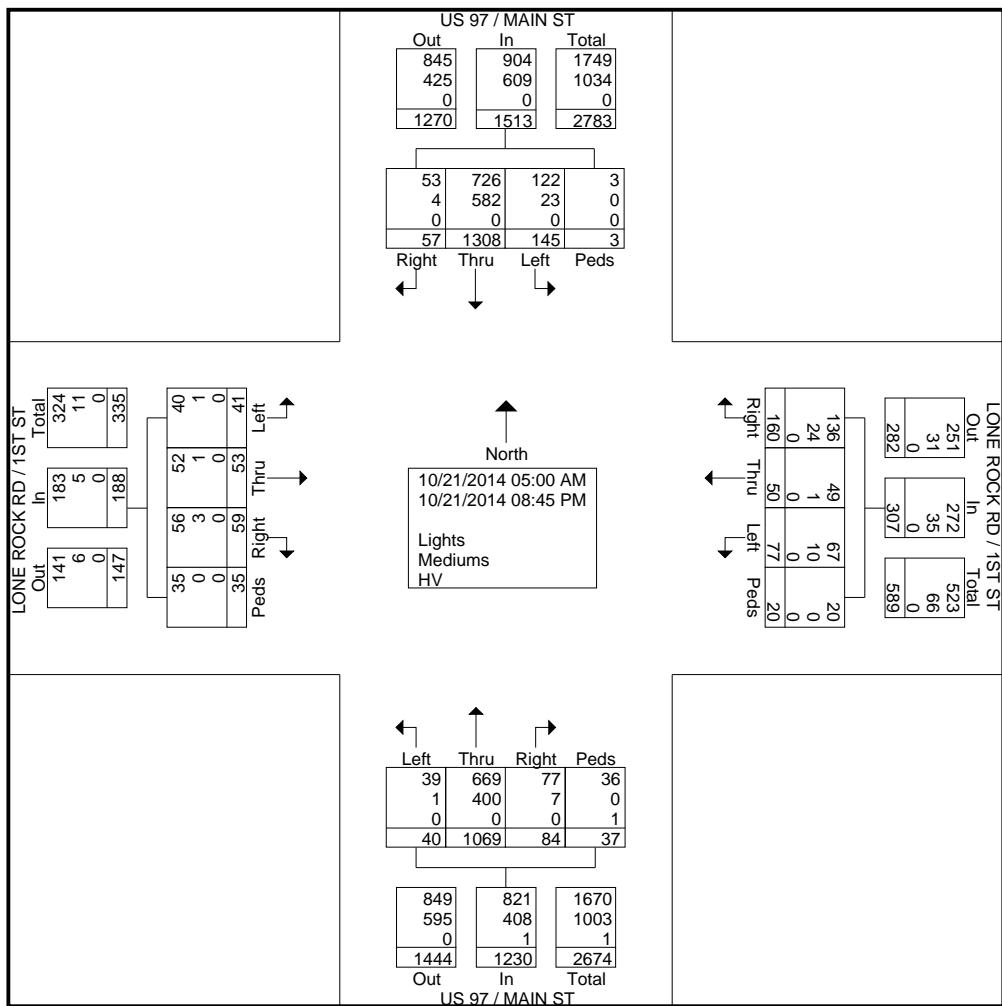
Start Time	US 97 / MAIN ST Southbound				LONE ROCK RD / 1ST ST Westbound				US 97 / MAIN ST Northbound				LONE ROCK RD / 1ST ST Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
01:15 PM	0	26	4	0	1	0	0	3	2	21	0	0	1	2	1	2	63
01:30 PM	3	32	2	0	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

All Traffic Data Services, Inc.

9660 W 44th Ave

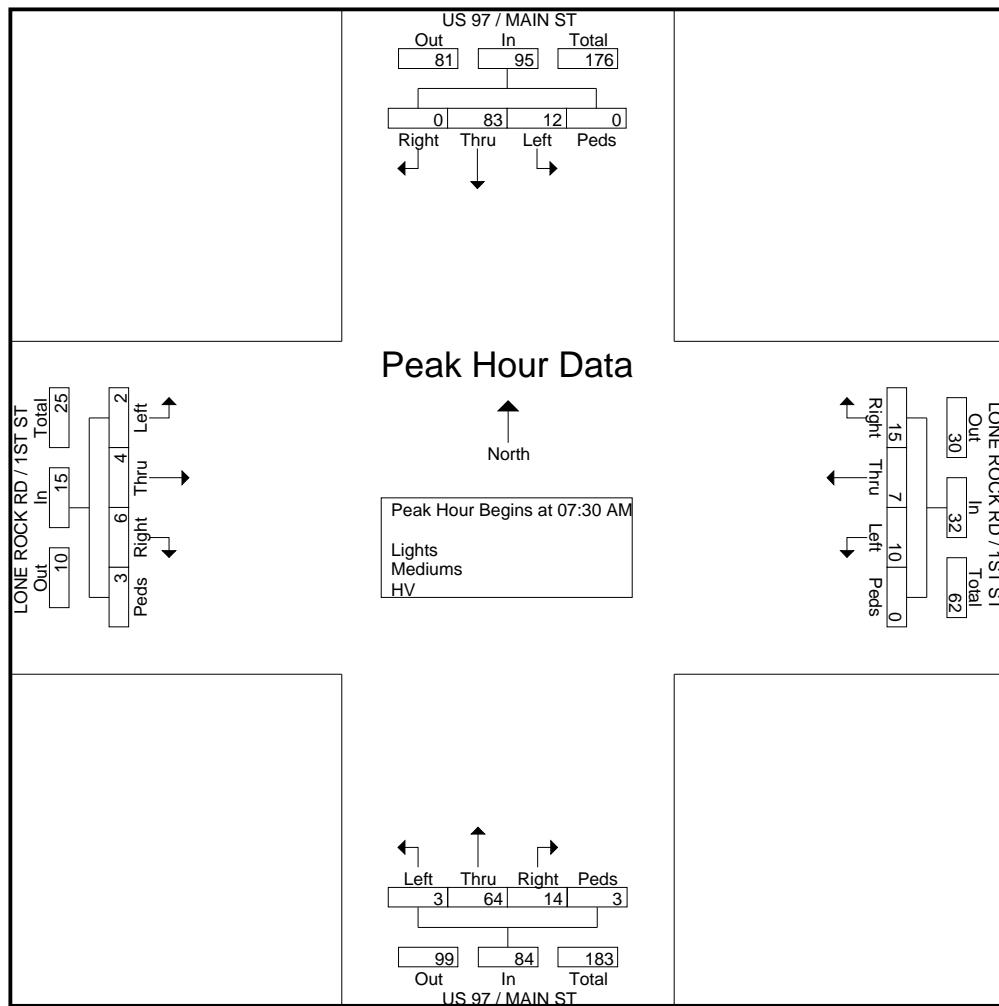
Wheat Ridge, CO 80033

[www.alltrafficdata.net](http://www.alltrafficdata.net)



	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
<b>Peak Hour Analysis From 05:00 AM to 09:45 AM - Peak 1 of 1</b>																					
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

File Name : #13 US97&1ST  
 Site Code : 48221  
 Start Date : 10/21/2014  
 Page No : 4



Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:30 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

All Traffic Data Services, Inc.

9660 W 44th Ave

Wheat Ridge, CO 80033

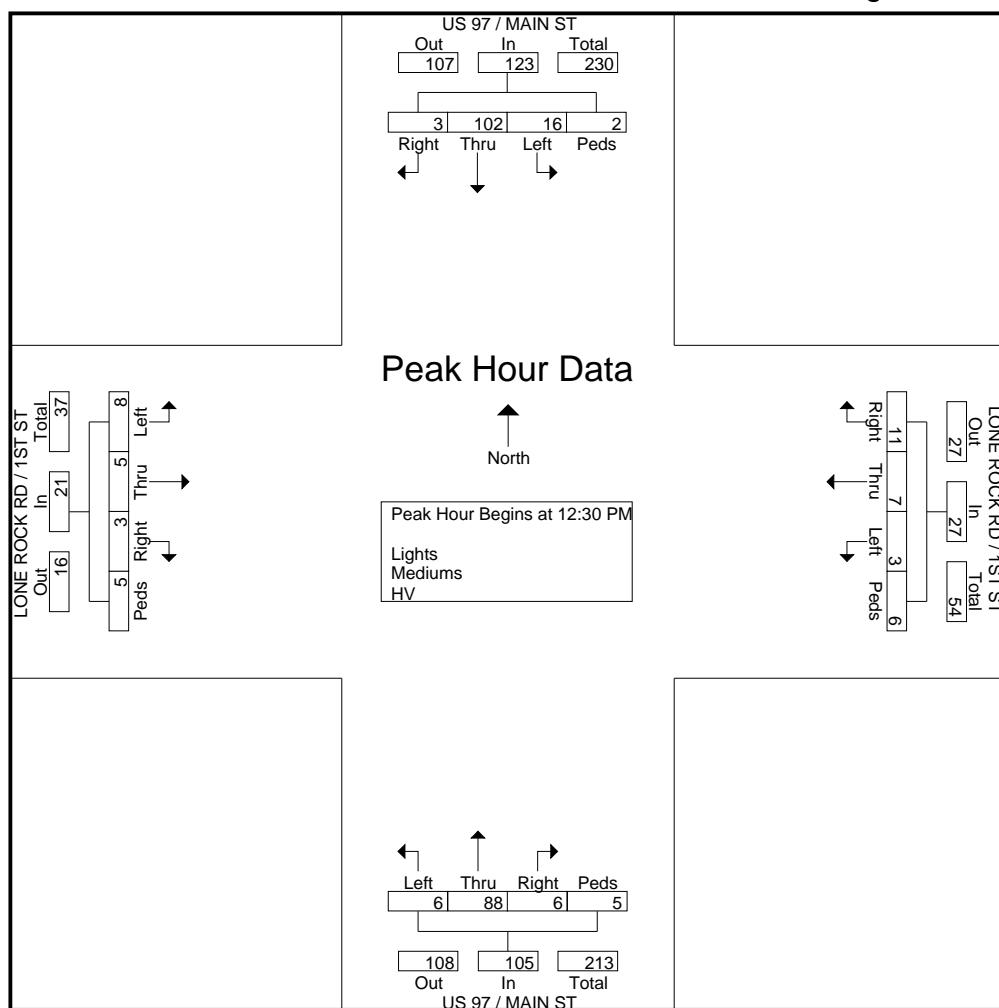
[www.alltrafficdata.net](http://www.alltrafficdata.net)

File Name : #13 US97&1ST

Site Code : 48221

Start Date : 10/21/2014

Page No : 5

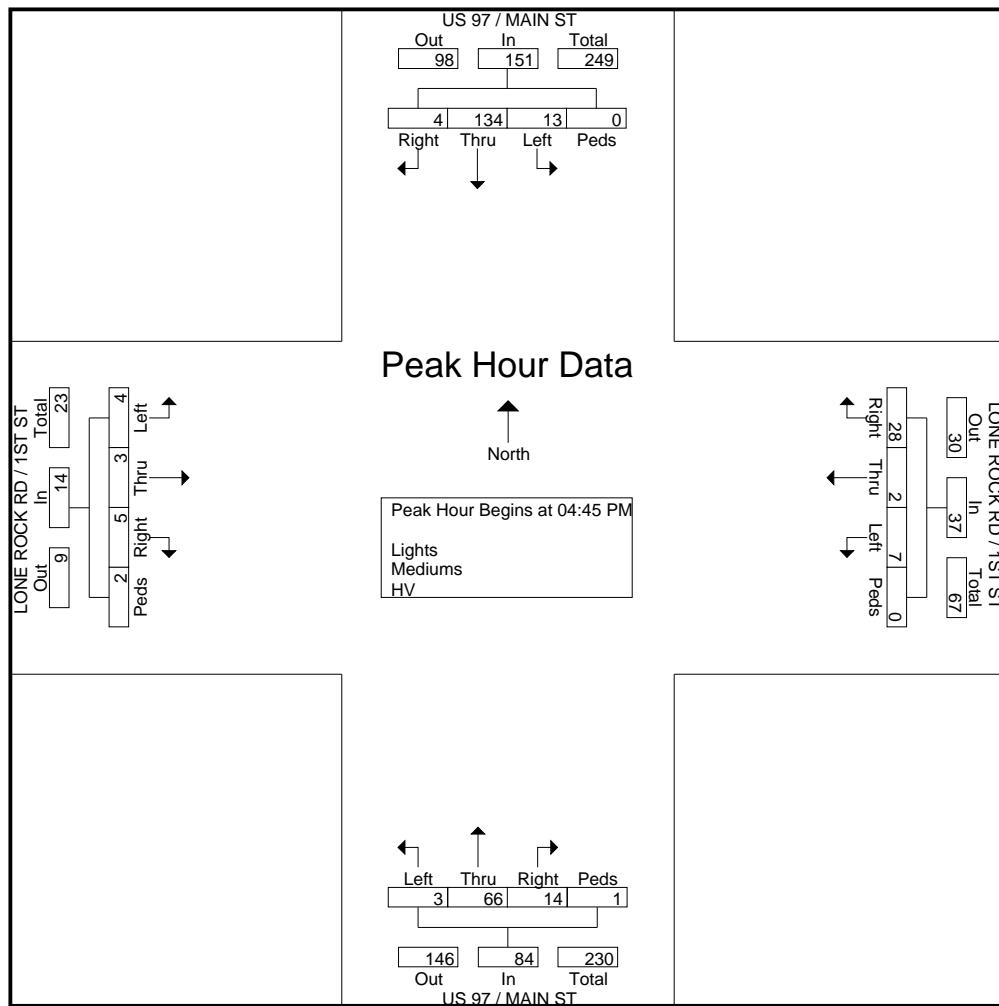


Peak Hour Analysis From 02:00 PM to 08:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	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	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	

File Name : #13 US97&1ST  
Site Code : 48221  
Start Date : 10/21/2014  
Page No : 6



## 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
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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
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10/21/2014	01:45 PM	1	3
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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
10/21/2014	05:15 PM	8	5
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10/21/2014	07:30 PM	0	1
10/21/2014	07:45 PM	2	2
10/21/2014	08:00 PM	1	1
10/21/2014	08:15 PM	0	0
10/21/2014	08:30 PM	2	3
10/21/2014	08:45 PM	0	0
10/21/2014	09:00 PM	1	1
10/21/2014	09:15 PM	0	0
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10/22/2014	01:30 AM	0	0
10/22/2014	01:45 AM	0	0
10/22/2014	02:00 AM	1	0

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10/22/2014	02:30 AM	0	0
10/22/2014	02:45 AM	0	0
10/22/2014	03:00 AM	0	0
10/22/2014	03:15 AM	0	0
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10/22/2014	08:00 AM	0	3
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10/22/2014	08:45 AM	5	0
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10/22/2014	09:15 AM	1	1
10/22/2014	09:30 AM	1	0
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10/22/2014	02:45 PM	3	1
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10/22/2014	03:15 PM	5	0
10/22/2014	03:30 PM	6	3
10/22/2014	03:45 PM	3	3
10/22/2014	04:00 PM	12	1

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10/23/2014	05:30 AM	2	4
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10/23/2014	09:45 AM	2	0
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10/23/2014	10:30 AM	2	3
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10/23/2014	11:45 AM	3	5
10/23/2014	12:00 PM	3	5
10/23/2014	12:15 PM	1	4
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10/23/2014	12:45 PM	1	3
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10/23/2014	10:45 PM	0	0
10/23/2014	11:00 PM	0	1
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10/23/2014	11:30 PM	1	0
10/23/2014	11:45 PM	0	0

Volume

Start Date: 10/21/2014

Start Time: 12:00:00 AM

Site Code: 2

Location 1: HERIN E-O SCOTT CANYON

Date	Time	EB	WB
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10/21/2014	12:45 AM	0	0
10/21/2014	01:00 AM	0	0
10/21/2014	01:15 AM	0	0
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10/21/2014	06:45 AM	3	0
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10/21/2014	08:30 AM	0	0
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10/21/2014	02:30 PM	0	0
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10/21/2014	03:00 PM	1	2
10/21/2014	03:15 PM	1	2
10/21/2014	03:30 PM	0	1
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10/21/2014	04:30 PM	0	2
10/21/2014	04:45 PM	2	3
10/21/2014	05:00 PM	0	7
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10/21/2014	05:45 PM	2	0
10/21/2014	06:00 PM	1	1
10/21/2014	06:15 PM	0	0
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10/22/2014	01:30 AM	0	0
10/22/2014	01:45 AM	0	0
10/22/2014	02:00 AM	0	0

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10/22/2014	02:45 AM	0	0
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10/22/2014	02:45 PM	1	0
10/22/2014	03:00 PM	0	3
10/22/2014	03:15 PM	1	0
10/22/2014	03:30 PM	0	0
10/22/2014	03:45 PM	0	7
10/22/2014	04:00 PM	1	5

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10/22/2014	04:30 PM	0	2
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10/23/2014	05:30 AM	0	0
10/23/2014	05:45 AM	4	0
10/23/2014	06:00 AM	4	0

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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

Location 1: SCOTT CANYON S-O HERIN LN

Date	Time	NB	SB
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10/21/2014	12:45 AM	0	0
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10/21/2014	05:45 AM	1	2
10/21/2014	06:00 AM	0	4
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
10/21/2014	07:45 AM	0	3
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10/21/2014	08:15 AM	7	5
10/21/2014	08:30 AM	0	1
10/21/2014	08:45 AM	3	2
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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	03:30 PM	1	2
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10/22/2014	04:00 PM	2	3

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10/22/2014	06:15 PM	3	4
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10/22/2014	08:00 PM	1	2
10/22/2014	08:15 PM	3	2
10/22/2014	08:30 PM	1	1
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10/23/2014	06:00 AM	1	0

10/23/2014	06:15 AM	0	3
10/23/2014	06:30 AM	0	1
10/23/2014	06:45 AM	1	4
10/23/2014	07:00 AM	1	0
10/23/2014	07:15 AM	1	7
10/23/2014	07:30 AM	1	3
10/23/2014	07:45 AM	2	1
10/23/2014	08:00 AM	2	2
10/23/2014	08:15 AM	4	5
10/23/2014	08:30 AM	8	0
10/23/2014	08:45 AM	1	0
10/23/2014	09:00 AM	1	0
10/23/2014	09:15 AM	5	6
10/23/2014	09:30 AM	0	1
10/23/2014	09:45 AM	1	1
10/23/2014	10:00 AM	2	0
10/23/2014	10:15 AM	1	3
10/23/2014	10:30 AM	2	2
10/23/2014	10:45 AM	1	3
10/23/2014	11:00 AM	3	1
10/23/2014	11:15 AM	1	3
10/23/2014	11:30 AM	1	4
10/23/2014	11:45 AM	3	6
10/23/2014	12:00 PM	2	5
10/23/2014	12:15 PM	1	2
10/23/2014	12:30 PM	2	1
10/23/2014	12:45 PM	1	2
10/23/2014	01:00 PM	2	4
10/23/2014	01:15 PM	2	7
10/23/2014	01:30 PM	4	0
10/23/2014	01:45 PM	4	2
10/23/2014	02:00 PM	1	1
10/23/2014	02:15 PM	3	7
10/23/2014	02:30 PM	3	3
10/23/2014	02:45 PM	1	2
10/23/2014	03:00 PM	2	2
10/23/2014	03:15 PM	1	0
10/23/2014	03:30 PM	1	4
10/23/2014	03:45 PM	4	9
10/23/2014	04:00 PM	3	7
10/23/2014	04:15 PM	4	12
10/23/2014	04:30 PM	1	3
10/23/2014	04:45 PM	2	9
10/23/2014	05:00 PM	5	5
10/23/2014	05:15 PM	5	3
10/23/2014	05:30 PM	4	1
10/23/2014	05:45 PM	4	7
10/23/2014	06:00 PM	1	0
10/23/2014	06:15 PM	2	3
10/23/2014	06:30 PM	1	3
10/23/2014	06:45 PM	3	0
10/23/2014	07:00 PM	0	1
10/23/2014	07:15 PM	0	0
10/23/2014	07:30 PM	0	2
10/23/2014	07:45 PM	0	0
10/23/2014	08:00 PM	1	2

10/23/2014	08:15 PM	2	1
10/23/2014	08:30 PM	1	5
10/23/2014	08:45 PM	0	1
10/23/2014	09:00 PM	3	1
10/23/2014	09:15 PM	2	0
10/23/2014	09:30 PM	1	1
10/23/2014	09:45 PM	1	0
10/23/2014	10:00 PM	0	0
10/23/2014	10:15 PM	1	0
10/23/2014	10:30 PM	0	0
10/23/2014	10:45 PM	0	0
10/23/2014	11:00 PM	0	1
10/23/2014	11:15 PM	1	0
10/23/2014	11:30 PM	1	0
10/23/2014	11:45 PM	0	0

## Volume

Start Date: 10/21/2014

Start Time: 12:00:00 AM

Site Code: 4

Location 1: MAIN ST N-O 1ST ST

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	1	0
10/21/2014	12:45 AM	0	0
10/21/2014	01:00 AM	0	0
10/21/2014	01:15 AM	0	0
10/21/2014	01:30 AM	0	0
10/21/2014	01:45 AM	0	0
10/21/2014	02:00 AM	0	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
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10/21/2014	03:30 AM	0	0
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10/21/2014	06:15 AM	1	4
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10/21/2014	06:45 AM	1	0
10/21/2014	07:00 AM	0	0
10/21/2014	07:15 AM	0	3
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10/21/2014	07:45 AM	1	0
10/21/2014	08:00 AM	1	1
10/21/2014	08:15 AM	0	0
10/21/2014	08:30 AM	0	0
10/21/2014	08:45 AM	0	0
10/21/2014	09:00 AM	1	0
10/21/2014	09:15 AM	1	0
10/21/2014	09:30 AM	0	0
10/21/2014	09:45 AM	1	0
10/21/2014	10:00 AM	0	0
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10/21/2014	10:30 AM	2	0
10/21/2014	10:45 AM	0	0
10/21/2014	11:00 AM	0	0
10/21/2014	11:15 AM	1	0
10/21/2014	11:30 AM	1	0
10/21/2014	11:45 AM	0	0
10/21/2014	12:00 PM	0	0

10/21/2014	12:15 PM	0	0
10/21/2014	12:30 PM	0	0
10/21/2014	12:45 PM	0	0
10/21/2014	01:00 PM	2	0
10/21/2014	01:15 PM	0	0
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10/22/2014	01:00 AM	0	0
10/22/2014	01:15 AM	1	0
10/22/2014	01:30 AM	0	0
10/22/2014	01:45 AM	0	0
10/22/2014	02:00 AM	0	0

10/22/2014	02:15 AM	0	0
10/22/2014	02:30 AM	0	0
10/22/2014	02:45 AM	0	0
10/22/2014	03:00 AM	0	0
10/22/2014	03:15 AM	0	0
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10/22/2014	12:45 PM	0	0
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10/22/2014	02:45 PM	0	0
10/22/2014	03:00 PM	0	0
10/22/2014	03:15 PM	0	0
10/22/2014	03:30 PM	1	0
10/22/2014	03:45 PM	0	0
10/22/2014	04:00 PM	0	0

10/22/2014	04:15 PM	0	0
10/22/2014	04:30 PM	0	1
10/22/2014	04:45 PM	2	0
10/22/2014	05:00 PM	1	0
10/22/2014	05:15 PM	0	0
10/22/2014	05:30 PM	1	2
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10/23/2014	02:30 AM	0	0
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10/23/2014	05:00 AM	0	0
10/23/2014	05:15 AM	1	0
10/23/2014	05:30 AM	0	0
10/23/2014	05:45 AM	2	0
10/23/2014	06:00 AM	4	0

10/23/2014	06:15 AM	0	1
10/23/2014	06:30 AM	0	0
10/23/2014	06:45 AM	1	0
10/23/2014	07:00 AM	1	0
10/23/2014	07:15 AM	0	2
10/23/2014	07:30 AM	0	0
10/23/2014	07:45 AM	0	0
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10/23/2014	08:15 AM	0	0
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10/23/2014	10:00 AM	0	2
10/23/2014	10:15 AM	1	2
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10/23/2014	10:45 AM	0	0
10/23/2014	11:00 AM	0	0
10/23/2014	11:15 AM	0	0
10/23/2014	11:30 AM	0	0
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10/23/2014	12:30 PM	0	0
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10/23/2014	01:45 PM	0	0
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10/23/2014	02:15 PM	1	0
10/23/2014	02:30 PM	1	0
10/23/2014	02:45 PM	1	0
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10/23/2014	07:00 PM	1	1
10/23/2014	07:15 PM	0	0
10/23/2014	07:30 PM	1	0
10/23/2014	07:45 PM	0	0
10/23/2014	08:00 PM	2	2

10/23/2014	08:15 PM	0	0
10/23/2014	08:30 PM	0	0
10/23/2014	08:45 PM	1	0
10/23/2014	09:00 PM	0	0
10/23/2014	09:15 PM	0	0
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10/23/2014	10:45 PM	0	0
10/23/2014	11:00 PM	2	0
10/23/2014	11:15 PM	0	1
10/23/2014	11:30 PM	0	0
10/23/2014	11:45 PM	0	0

## Volume

Start Date: 10/21/2014

Start Time: 12:00:00 AM

Site Code: 5

Location 1: 1ST ST E-O MAIN ST

Date	Time	EB	WB
10/21/2014	12:00 AM	0	1
10/21/2014	12:15 AM	1	0
10/21/2014	12:30 AM	0	0
10/21/2014	12:45 AM	0	1
10/21/2014	01:00 AM	0	1
10/21/2014	01:15 AM	0	0
10/21/2014	01:30 AM	0	0
10/21/2014	01:45 AM	2	0
10/21/2014	02:00 AM	0	0
10/21/2014	02:15 AM	1	0
10/21/2014	02:30 AM	0	0
10/21/2014	02:45 AM	0	0
10/21/2014	03:00 AM	2	0
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10/21/2014	03:45 AM	1	0
10/21/2014	04:00 AM	1	0
10/21/2014	04:15 AM	3	1
10/21/2014	04:30 AM	5	0
10/21/2014	04:45 AM	2	0
10/21/2014	05:00 AM	2	0
10/21/2014	05:15 AM	10	3
10/21/2014	05:30 AM	4	5
10/21/2014	05:45 AM	7	5
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10/21/2014	06:15 AM	9	2
10/21/2014	06:30 AM	5	6
10/21/2014	06:45 AM	5	3
10/21/2014	07:00 AM	6	4
10/21/2014	07:15 AM	5	5
10/21/2014	07:30 AM	3	7
10/21/2014	07:45 AM	4	7
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10/21/2014	09:15 AM	16	4
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10/21/2014	11:30 AM	6	7
10/21/2014	11:45 AM	8	8
10/21/2014	12:00 PM	4	4

10/21/2014	12:15 PM	7	9
10/21/2014	12:30 PM	4	3
10/21/2014	12:45 PM	5	4
10/21/2014	01:00 PM	6	9
10/21/2014	01:15 PM	13	9
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10/21/2014	03:30 PM	8	5
10/21/2014	03:45 PM	14	9
10/21/2014	04:00 PM	11	8
10/21/2014	04:15 PM	8	15
10/21/2014	04:30 PM	9	7
10/21/2014	04:45 PM	6	6
10/21/2014	05:00 PM	9	18
10/21/2014	05:15 PM	4	7
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10/21/2014	07:00 PM	5	4
10/21/2014	07:15 PM	4	10
10/21/2014	07:30 PM	8	7
10/21/2014	07:45 PM	8	0
10/21/2014	08:00 PM	2	2
10/21/2014	08:15 PM	3	1
10/21/2014	08:30 PM	0	0
10/21/2014	08:45 PM	2	0
10/21/2014	09:00 PM	0	2
10/21/2014	09:15 PM	1	1
10/21/2014	09:30 PM	2	0
10/21/2014	09:45 PM	2	4
10/21/2014	10:00 PM	3	4
10/21/2014	10:15 PM	0	0
10/21/2014	10:30 PM	0	0
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10/22/2014	01:00 AM	0	2
10/22/2014	01:15 AM	0	0
10/22/2014	01:30 AM	0	1
10/22/2014	01:45 AM	0	0
10/22/2014	02:00 AM	1	0

10/22/2014	02:15 AM	1	0
10/22/2014	02:30 AM	0	0
10/22/2014	02:45 AM	0	0
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10/22/2014	09:45 AM	7	2
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10/22/2014	11:15 AM	6	7
10/22/2014	11:30 AM	9	17
10/22/2014	11:45 AM	3	1
10/22/2014	12:00 PM	7	10
10/22/2014	12:15 PM	7	9
10/22/2014	12:30 PM	11	7
10/22/2014	12:45 PM	3	7
10/22/2014	01:00 PM	4	14
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10/22/2014	03:00 PM	6	12
10/22/2014	03:15 PM	16	5
10/22/2014	03:30 PM	5	2
10/22/2014	03:45 PM	9	5
10/22/2014	04:00 PM	11	11

10/22/2014	04:15 PM	4	4
10/22/2014	04:30 PM	8	4
10/22/2014	04:45 PM	5	13
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10/22/2014	09:15 PM	2	3
10/22/2014	09:30 PM	3	3
10/22/2014	09:45 PM	1	1
10/22/2014	10:00 PM	1	0
10/22/2014	10:15 PM	0	0
10/22/2014	10:30 PM	1	1
10/22/2014	10:45 PM	0	3
10/22/2014	11:00 PM	2	5
10/22/2014	11:15 PM	1	0
10/22/2014	11:30 PM	1	0
10/22/2014	11:45 PM	4	2
10/23/2014	12:00 AM	0	0
10/23/2014	12:15 AM	1	6
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10/23/2014	04:30 AM	2	2
10/23/2014	04:45 AM	0	2
10/23/2014	05:00 AM	4	0
10/23/2014	05:15 AM	8	0
10/23/2014	05:30 AM	6	6
10/23/2014	05:45 AM	7	2
10/23/2014	06:00 AM	11	6

10/23/2014	06:15 AM	7	4
10/23/2014	06:30 AM	2	0
10/23/2014	06:45 AM	4	4
10/23/2014	07:00 AM	6	3
10/23/2014	07:15 AM	4	7
10/23/2014	07:30 AM	4	4
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10/23/2014	07:30 PM	3	4
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10/23/2014	08:00 PM	4	3

10/23/2014	08:15 PM	1	1
10/23/2014	08:30 PM	0	7
10/23/2014	08:45 PM	1	3
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10/23/2014	09:15 PM	2	1
10/23/2014	09:30 PM	3	1
10/23/2014	09:45 PM	1	1
10/23/2014	10:00 PM	0	0
10/23/2014	10:15 PM	1	2
10/23/2014	10:30 PM	0	0
10/23/2014	10:45 PM	0	1
10/23/2014	11:00 PM	0	3
10/23/2014	11:15 PM	0	0
10/23/2014	11:30 PM	1	0
10/23/2014	11:45 PM	1	1

## Volume

Start Date: 10/21/2014

Start Time: 12:00:00 AM

Site Code: 6

Location 1: MAIN ST S-O 1ST ST

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

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10/21/2014	08:30 PM	2	4
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10/21/2014	09:00 PM	1	2
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10/22/2014	01:30 AM	0	0
10/22/2014	01:45 AM	0	0
10/22/2014	02:00 AM	1	0

10/22/2014	02:15 AM	0	0
10/22/2014	02:30 AM	0	0
10/22/2014	02:45 AM	0	0
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10/22/2014	10:15 AM	1	2
10/22/2014	10:30 AM	5	3
10/22/2014	10:45 AM	0	3
10/22/2014	11:00 AM	5	0
10/22/2014	11:15 AM	9	1
10/22/2014	11:30 AM	1	4
10/22/2014	11:45 AM	3	5
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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

10/22/2014	04:15 PM	8	4
10/22/2014	04:30 PM	4	4
10/22/2014	04:45 PM	6	3
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10/22/2014	11:00 PM	0	1
10/22/2014	11:15 PM	0	1
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10/22/2014	11:45 PM	1	0
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10/23/2014	12:15 AM	0	0
10/23/2014	12:30 AM	0	0
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10/23/2014	04:30 AM	2	2
10/23/2014	04:45 AM	2	2
10/23/2014	05:00 AM	2	3
10/23/2014	05:15 AM	3	0
10/23/2014	05:30 AM	5	6
10/23/2014	05:45 AM	1	6
10/23/2014	06:00 AM	9	4

10/23/2014	06:15 AM	2	4
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10/23/2014	10:45 PM	0	0
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	12:45 AM	1	0
10/21/2014	01:00 AM	0	0
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10/21/2014	08:00 AM	1	4
10/21/2014	08:15 AM	4	3
10/21/2014	08:30 AM	2	2
10/21/2014	08:45 AM	2	0
10/21/2014	09:00 AM	2	6
10/21/2014	09:15 AM	6	8
10/21/2014	09:30 AM	6	14
10/21/2014	09:45 AM	5	8
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10/21/2014	12:45 PM	4	2
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10/21/2014	05:30 PM	6	4
10/21/2014	05:45 PM	7	5
10/21/2014	06:00 PM	8	7
10/21/2014	06:15 PM	6	5
10/21/2014	06:30 PM	5	4
10/21/2014	06:45 PM	3	3
10/21/2014	07:00 PM	5	5
10/21/2014	07:15 PM	6	3
10/21/2014	07:30 PM	3	4
10/21/2014	07:45 PM	3	7
10/21/2014	08:00 PM	0	1
10/21/2014	08:15 PM	2	2
10/21/2014	08:30 PM	1	2
10/21/2014	08:45 PM	2	1
10/21/2014	09:00 PM	1	0
10/21/2014	09:15 PM	1	1
10/21/2014	09:30 PM	1	0
10/21/2014	09:45 PM	1	4
10/21/2014	10:00 PM	2	2
10/21/2014	10:15 PM	1	1
10/21/2014	10:30 PM	0	0
10/21/2014	10:45 PM	1	0
10/21/2014	11:00 PM	1	6
10/21/2014	11:15 PM	0	2
10/21/2014	11:30 PM	3	0
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10/22/2014	01:45 AM	1	0
10/22/2014	02:00 AM	0	0

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10/23/2014	11:45 PM	0	1

## Appendix C   Methodology Memorandum

## Methodology Memorandum

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

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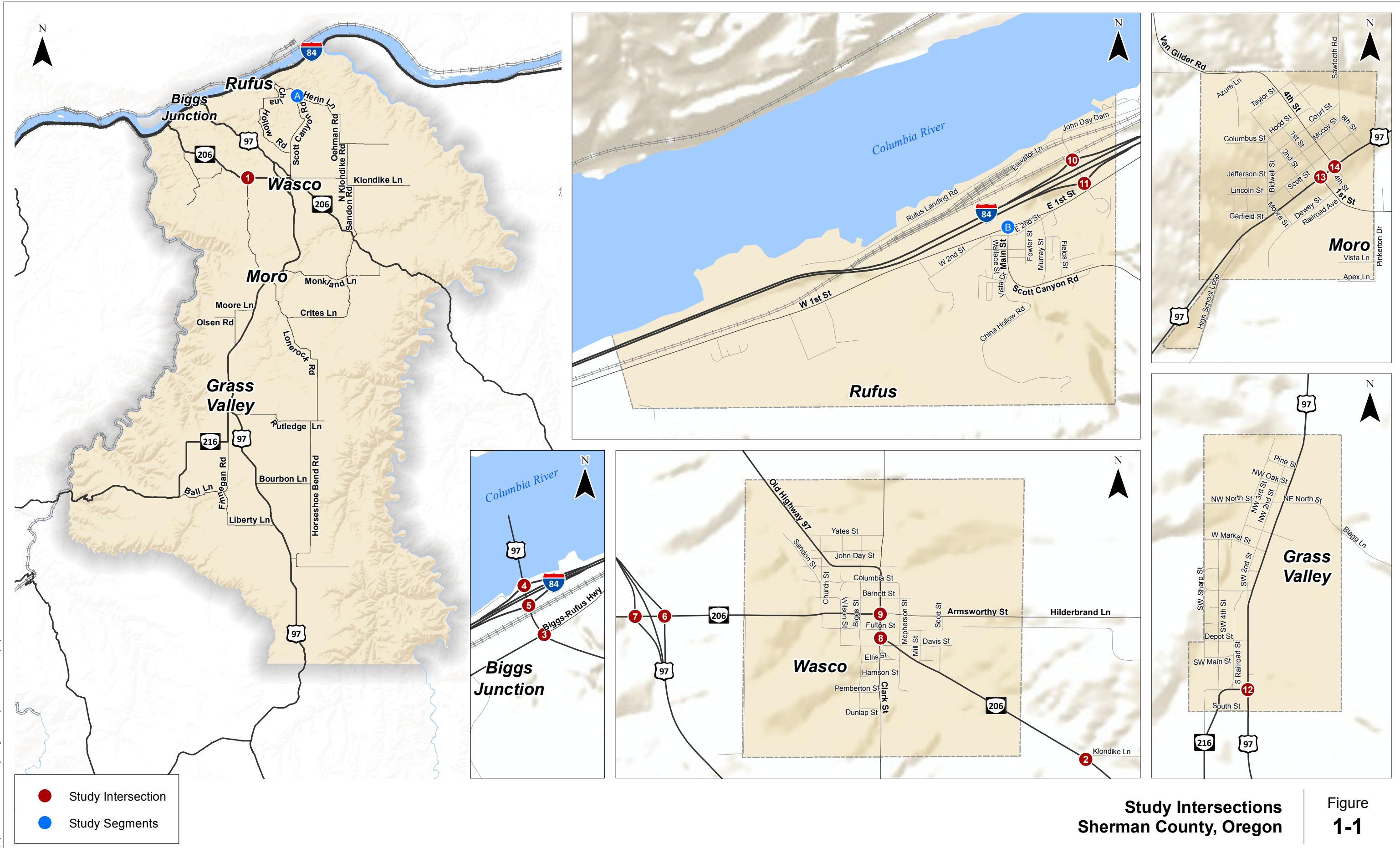
This memorandum documents the methodology and key assumptions to be used in preparation of the existing and future conditions analyses for the Sherman County Transportation System Plan (TSP) Update. The methodologies included in this memorandum are based on guidance provided in the Oregon Department 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 <sup>th</sup> St.	US 97



## 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;
- 95<sup>th</sup> 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

30<sup>th</sup> 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 1<sup>st</sup> 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 summarizes 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 1 <sup>st</sup> 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<sup>th</sup> 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<sup>th</sup> 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 90<sup>th</sup> 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						Project Area	RSQ > 0.75?	Calculated Growth Rate
			2010 <sup>1</sup>	2011	2012	2013	2033	RSQ*			
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*

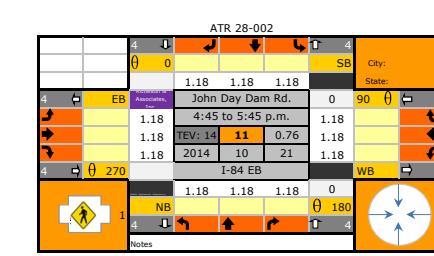
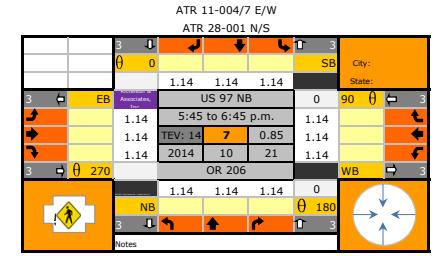
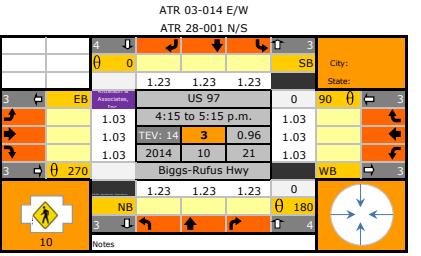
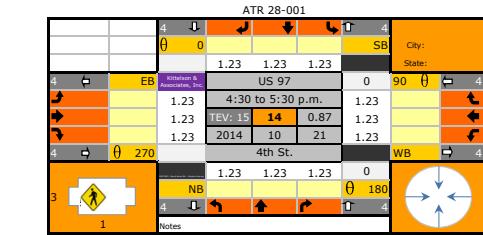
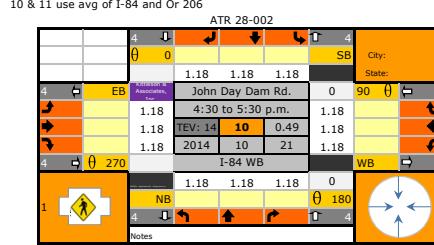
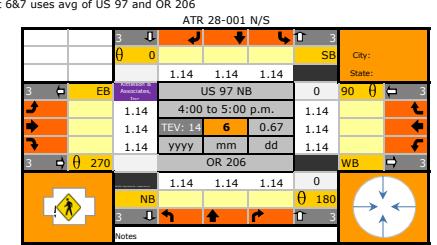
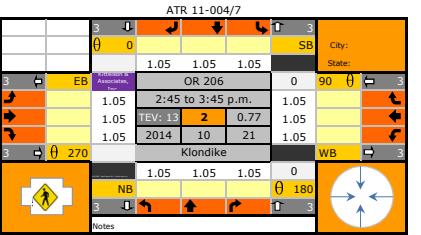
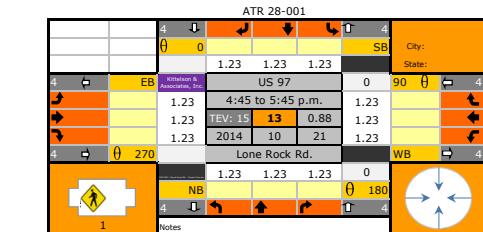
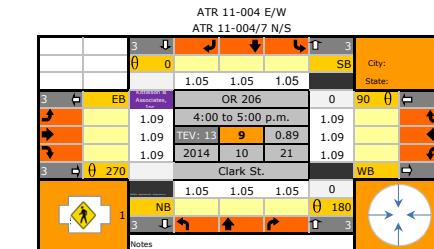
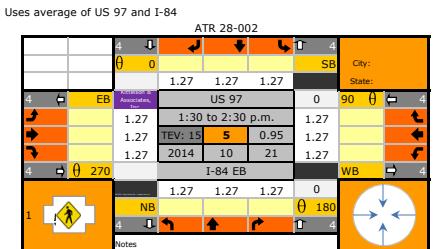
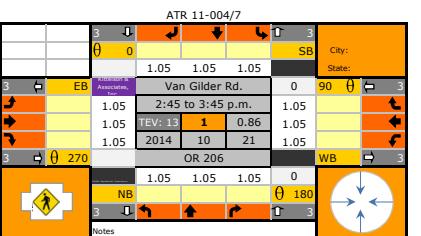
<b>US 97</b>			
Intersections 13 and 14			
US 97 legs of 12			
ATR 28-001			
		daily	wkdy
2013	August	126	123
2012	August	129	126
2011	August	129	125
2010	August	129	125
2009	August	131	128
	<b>avg</b>	<b>129</b>	<b>125.3</b>
Count Month			
2013	October	100	101
2012	October	99	102
2011	October	100	103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

<b>I-84</b>			
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
	<b>avg</b>	<b>131.7</b>	<b>122.3</b>
Count Month			
2013	October	100	92
2012	October	101	94
2011	October	99	92
2010	October	100	93
2009	October	104	99
	<b>avg</b>	<b>100.3</b>	<b>93</b>
		1.31	1.32

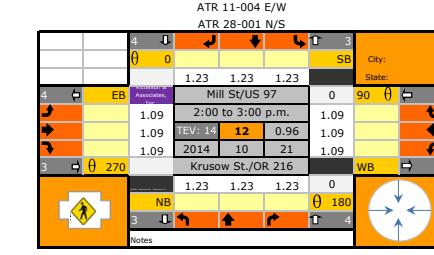
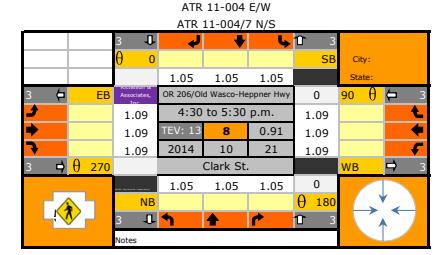
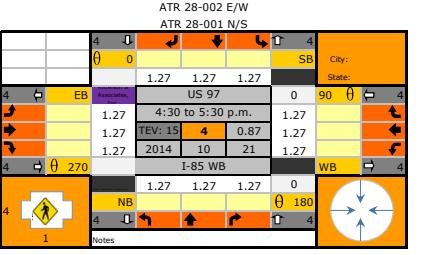
exclude the highest and lowest			
<b>OR 206</b>			
Clark Street			
OR 216			
ATR 11-004			ATR 11-007
		daily	wkdy
2013	August	-	121
2012	August	-	137
2011	August	-	126
2010	August	-	128
2009	August	-	131
	<b>avg</b>	<b>-</b>	<b>128.3</b>
Count Month			
2013	October	-	119
2012	October	-	122
2011	October	-	115
2010	October	-	120
2009	October	-	111
	<b>avg</b>	<b>-</b>	<b>118</b>
		1.09	1.01
			avg 1.05

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

*Appendix 2 Seasonal Adjustment Factors  
by Intersection*



<b>US 97</b>	Intersections 13 and 14
	US 97 legs of 12
<b>ATR 28-001</b>	ATR 28-002
daily	wkdy
2013 August 126	123
2012 August 129	126
2011 August 129	125
2010 August 129	125
2009 August 131	128
<b>avg</b>	<b>129 125.33</b>
Count Month	
2013 October 100	101
2012 October 99	102
2011 October 100	103
2010 October 102	102
2009 October 94	94
<b>avg</b>	<b>99.667 101.67</b>
seasonal adjustment	
	1.29 1.23
	1.31 1.32

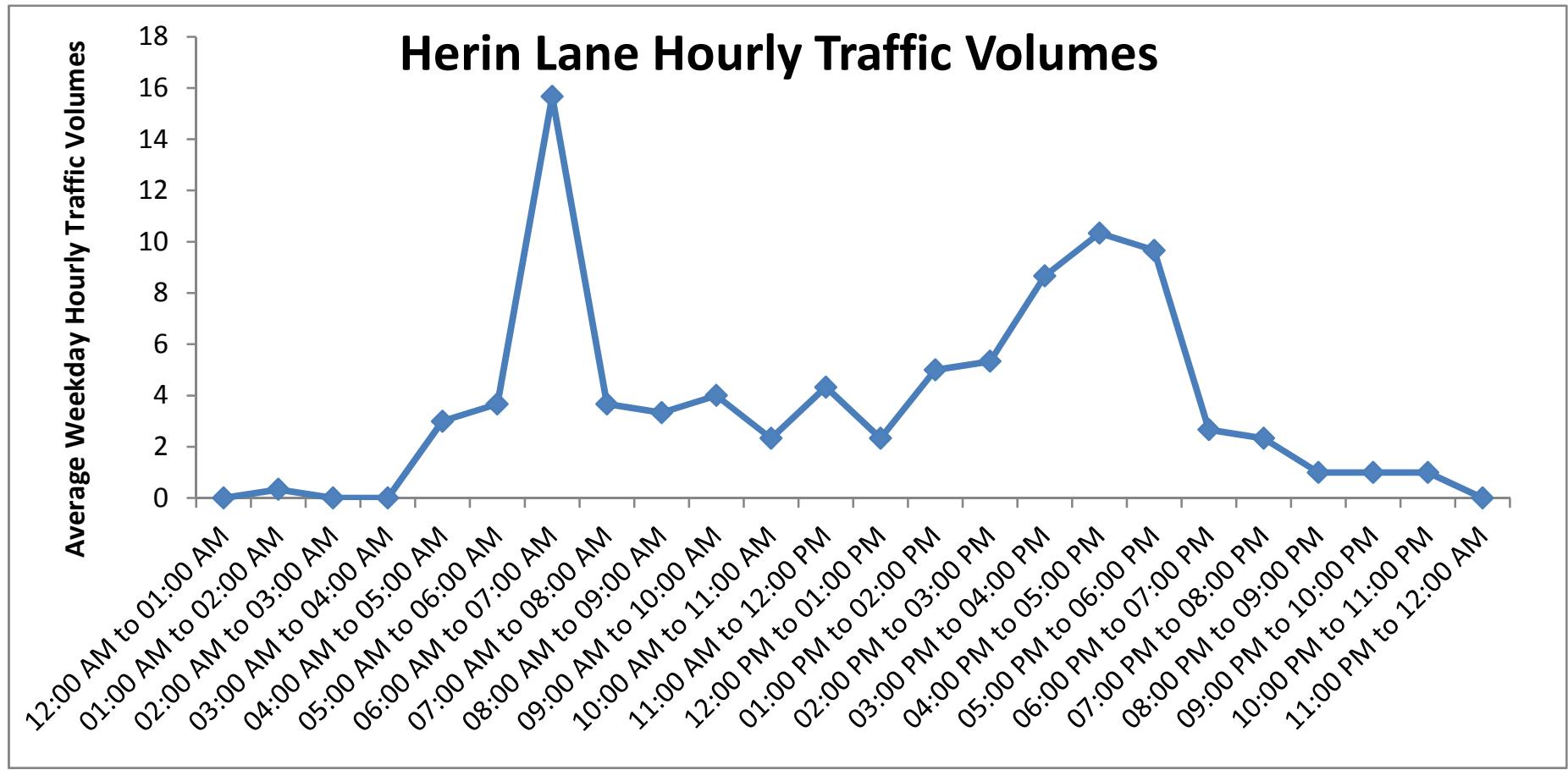


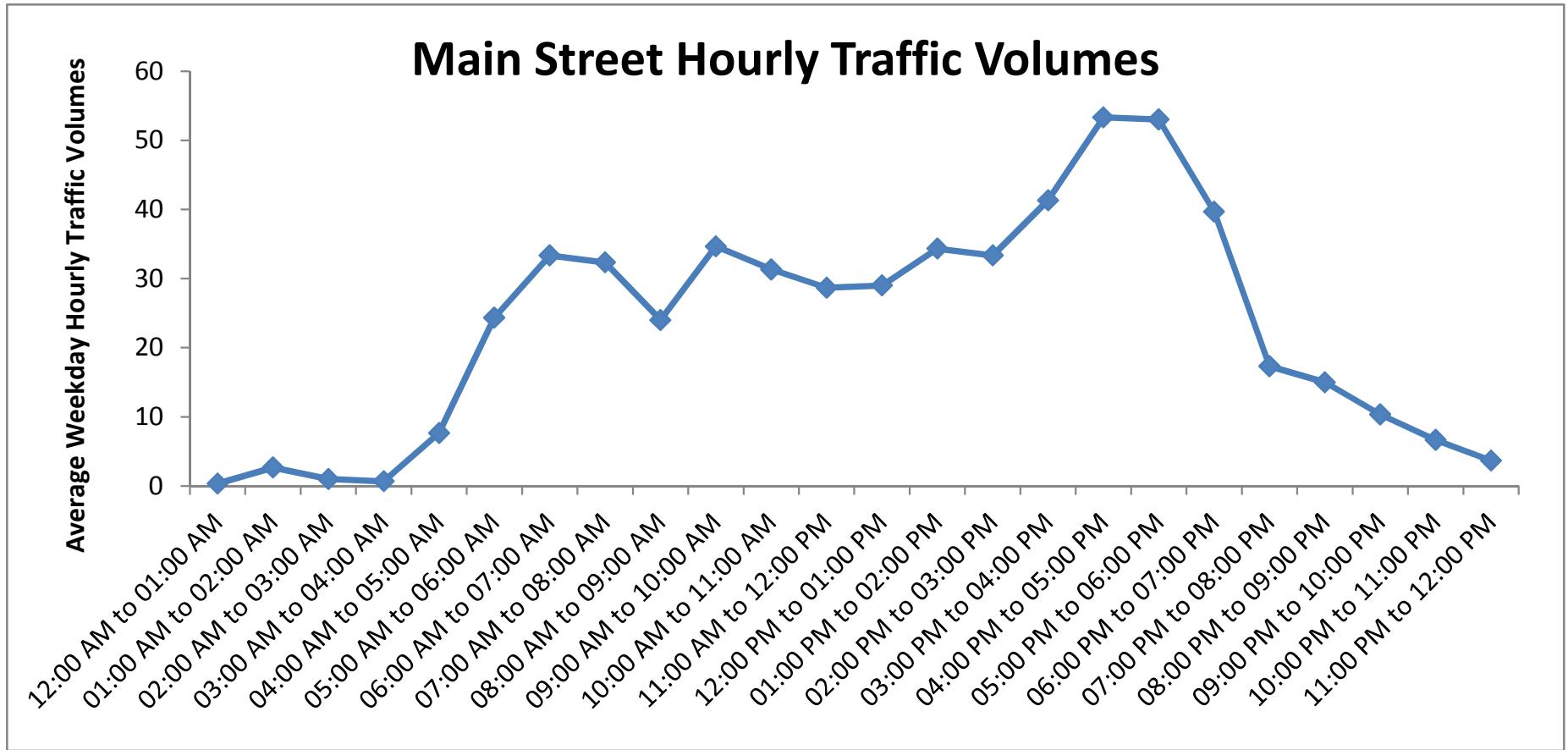
<b>Biggs-Rufus Hwy</b>	
ATR 03-014	
daily	wkdy
2013 September -	110
2012 September -	119
2011 September -	111
2010 September -	107
2009 September -	108
<b>avg</b>	<b>- 108.67</b>
Count Month	
2013 October -	104
2012 October -	111
2011 October -	107
2010 October -	107
2009 October -	101
<b>avg</b>	<b>- 106</b>
seasonal adjustment	
	1.03

<b>OR 206</b>	<b>OR 216</b>	<b>ATR 11-007</b>
Clark Street		
OR 216		
ATR 11-004	daily wkdy	daily wkdy
2013 August -	121	127
2012 August -	137	135
2011 August -	126	131
2010 August -	128	149
2009 August -	131	136
<b>avg</b>	<b>- 128.3</b>	<b>avg</b> - <b>134</b>
Count Month		
2013 October -	100	92
2012 October -	99	102
2011 October -	99	92
2010 October -	100	93
2009 October -	104	99
<b>avg</b>	<b>100.33</b>	<b>93</b>
seasonal adjustment		
	1.03	1.01
	avg	1.05

<--two other ATR stations excluded

## Appendix D Roadway Segment Traffic Volume Profiles





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

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

**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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 16.2  
 Level Of Service: C  
 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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3  
 Level Of Service: A  
 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
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
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
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
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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3  
 Level Of Service: A  
 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
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
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
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
d_A, Approach Delay [s/veh]		8.83			0.00			0.78			0.00
Approach LOS		A			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	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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 10.8  
 Level Of Service: B  
 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
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
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
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
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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 11.6  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.002

**Intersection Setup**

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	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

**Intersection Level Of Service Report**

#14: 4th Street / US 97

Control Type: Two-way stop  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 11.7  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.000

**Intersection Setup**

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	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										
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	Right	Thru	Right	Left	Thru	Right	Left	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	Right	Left	Thru	Right	Left	
5	I-84 EB / US 97	195	78	10	213	104	1	104	705	0	2

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

ID	Intersection Name	Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	Left	Thru	
7	OR 206 / US 97 SB	2	0	0	18	0	2	19	41	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	Right	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										
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										
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  
Report File: H:\...\Existing Conditions Report - Final.pdf

Scenario: Base Scenario  
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
		<b>Future Total</b>	<b>15</b>	<b>0</b>	<b>16</b>	<b>12</b>	<b>0</b>	<b>17</b>	<b>60</b>

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
		<b>Future Total</b>	<b>0</b>	<b>2</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>31</b>

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
		<b>Future Total</b>	<b>95</b>	<b>19</b>	<b>33</b>	<b>7</b>	<b>12</b>	<b>58</b>	<b>12</b>	<b>70</b>	<b>16</b>	<b>62</b>	<b>107</b>	<b>144</b>	<b>635</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Westbound			Northeastbound			Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	Right	Left	Thru	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	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
		<b>Future Total</b>	<b>94</b>	<b>191</b>	<b>135</b>	<b>136</b>	<b>90</b>	<b>1</b>	<b>22</b>	<b>0</b>	<b>2</b>	<b>671</b>			

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
		<b>Future Total</b>	<b>35</b>	<b>0</b>	<b>25</b>	<b>37</b>	<b>1</b>	<b>38</b>	<b>136</b>

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
		<b>Future Total</b>	<b>18</b>	<b>0</b>	<b>1</b>	<b>28</b>	<b>8</b>	<b>21</b>	<b>31</b>	<b>107</b>

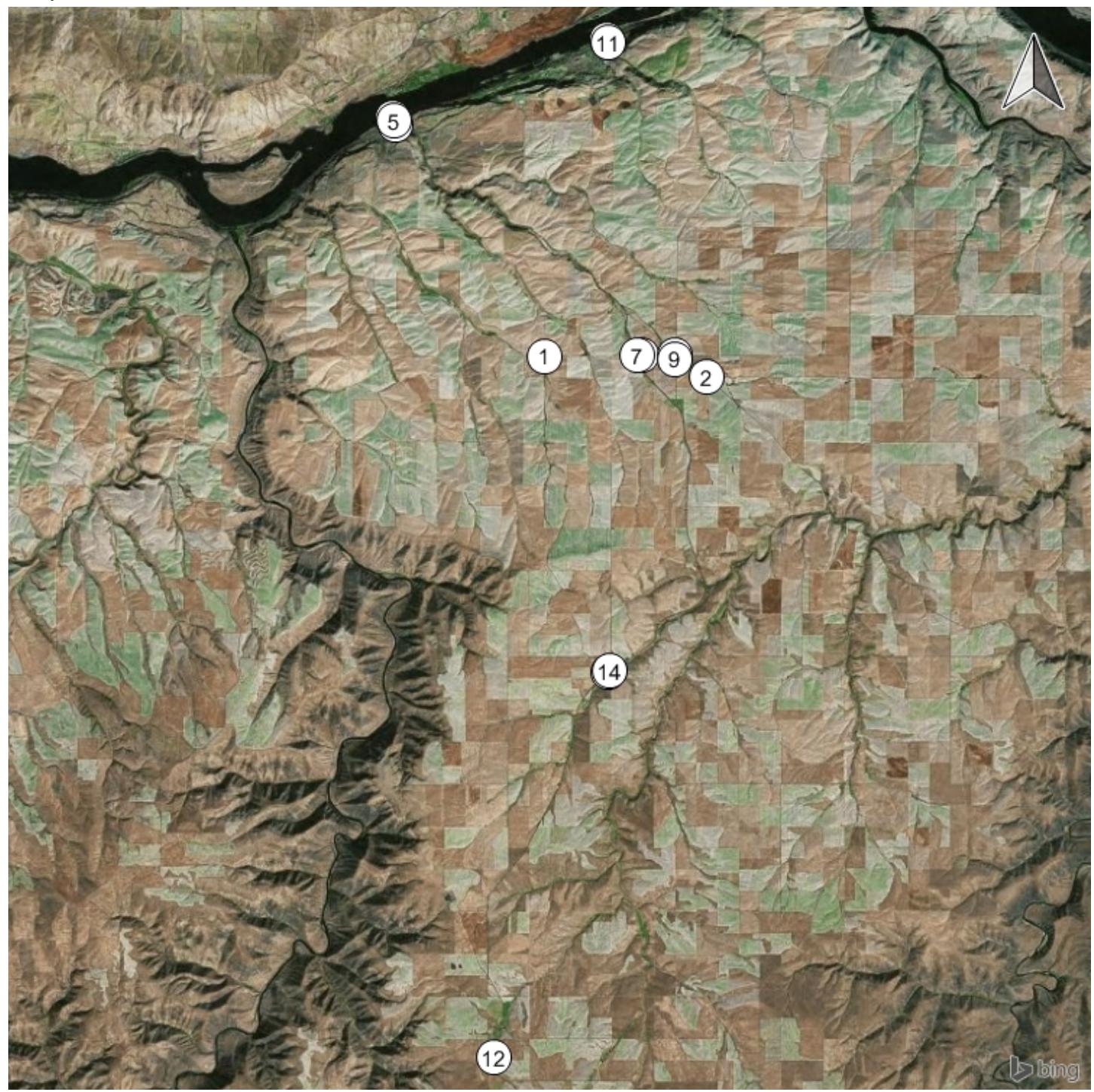
ID	Intersection Name	Volume Type	Eastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
11	I-84 EB / John Day Dam Road	Final Base	2	1	27	34	17	2	38	121
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0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

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
		<b>Future Total</b>	<b>0</b>	<b>97</b>	<b>129</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>238</b>

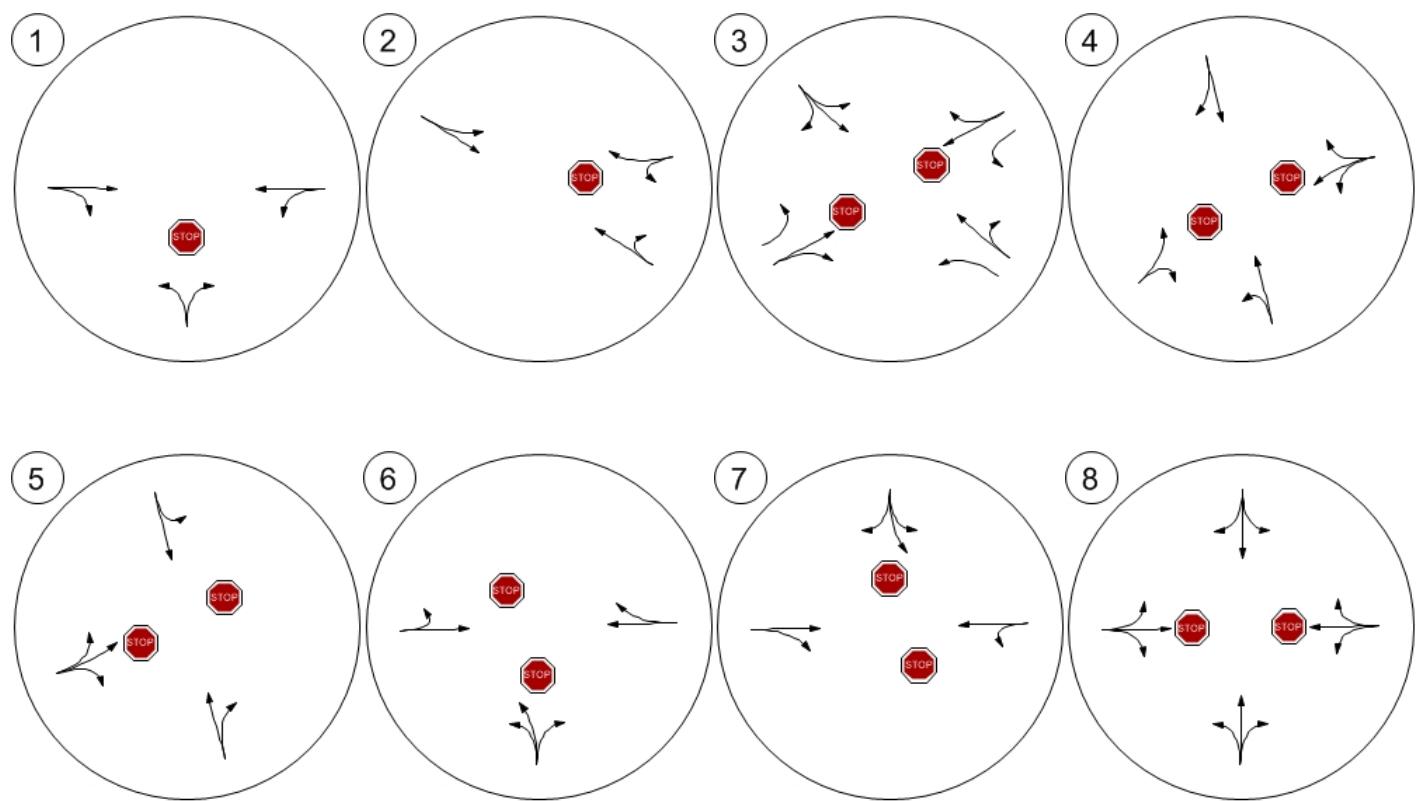
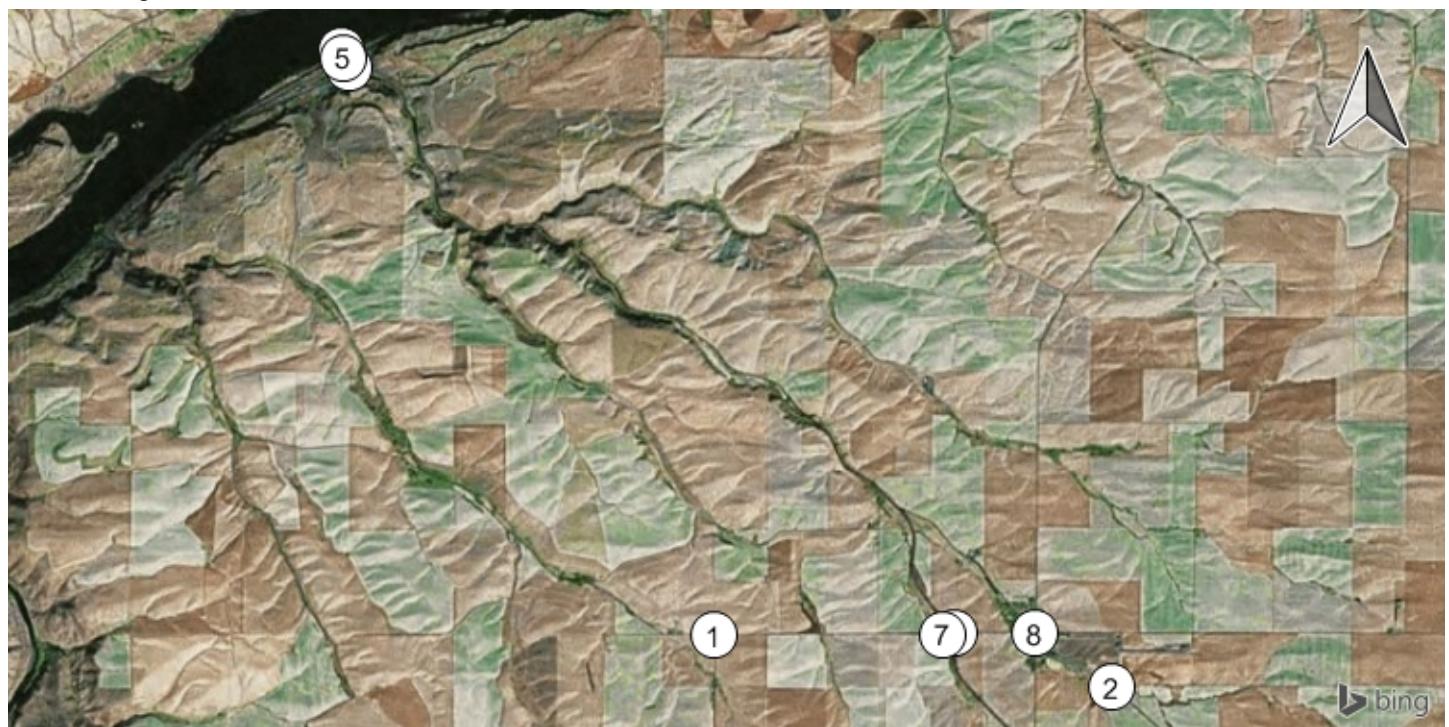
ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
13	Lone Rock Road / US 97	Final Base	4	88	12	16	158	5	14	1	33	4	4	4	343
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process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

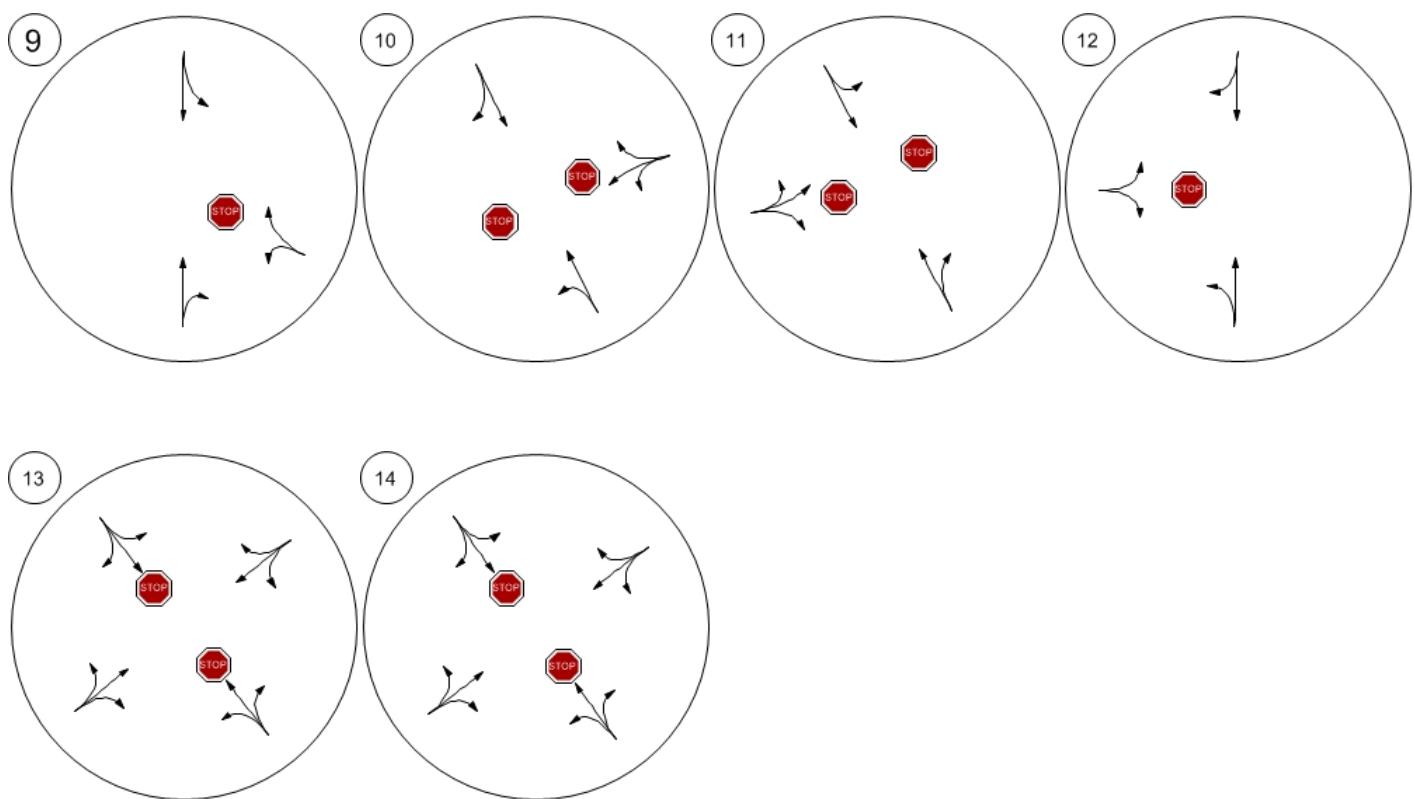
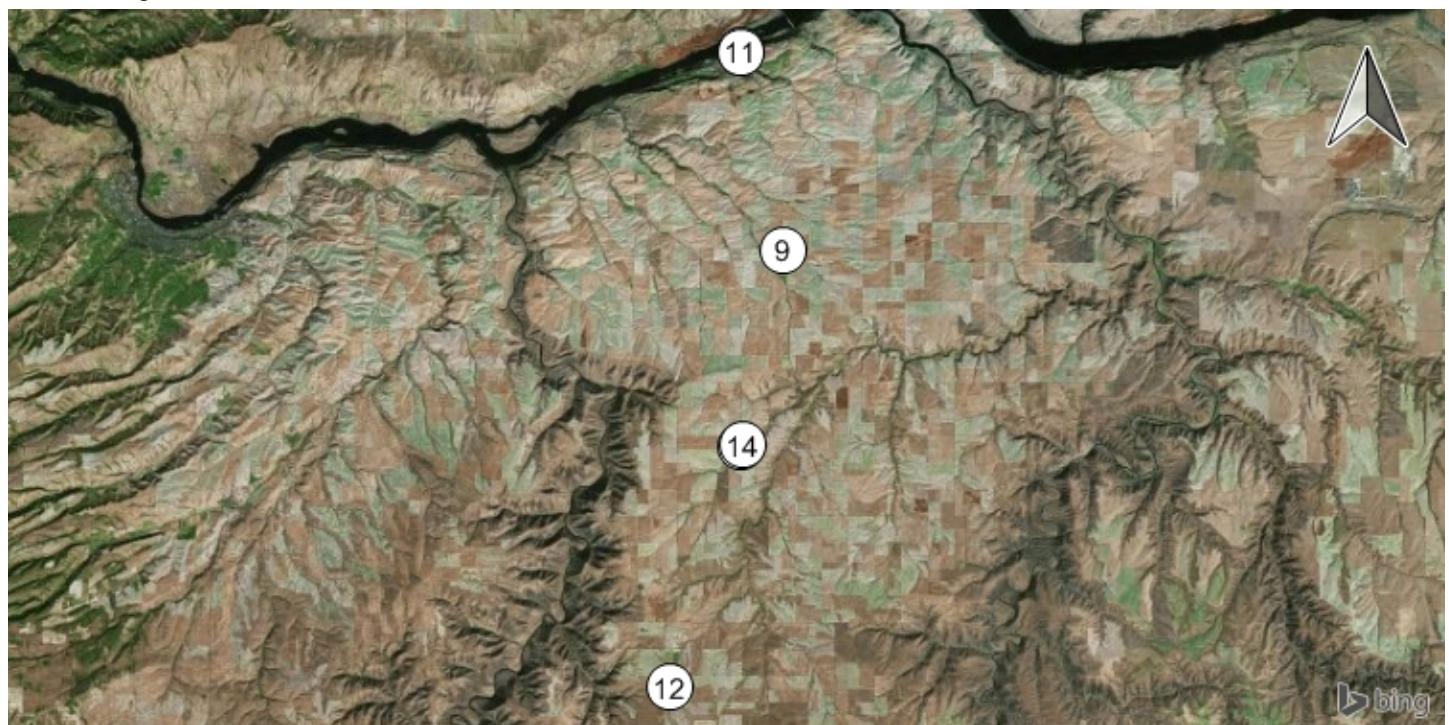
## Study Intersections



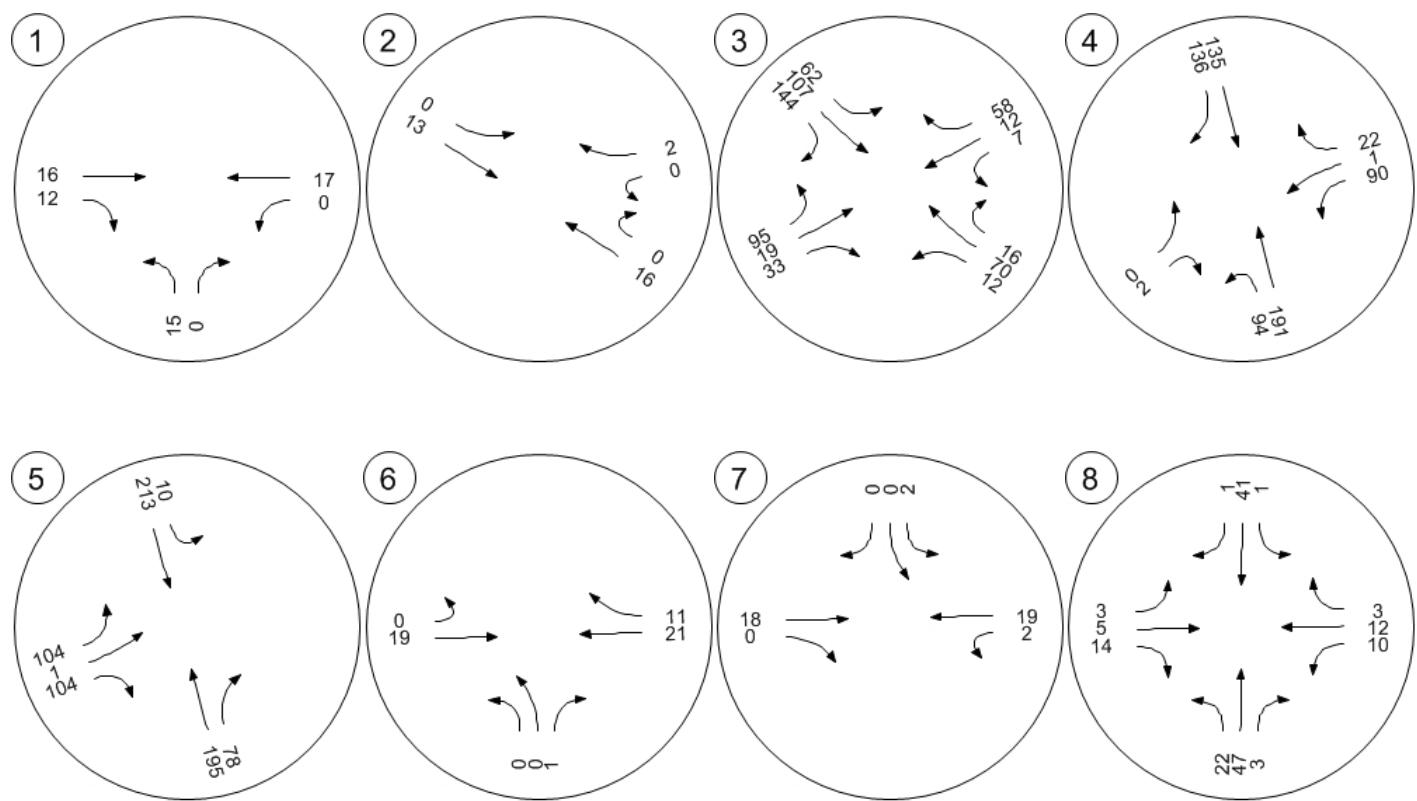
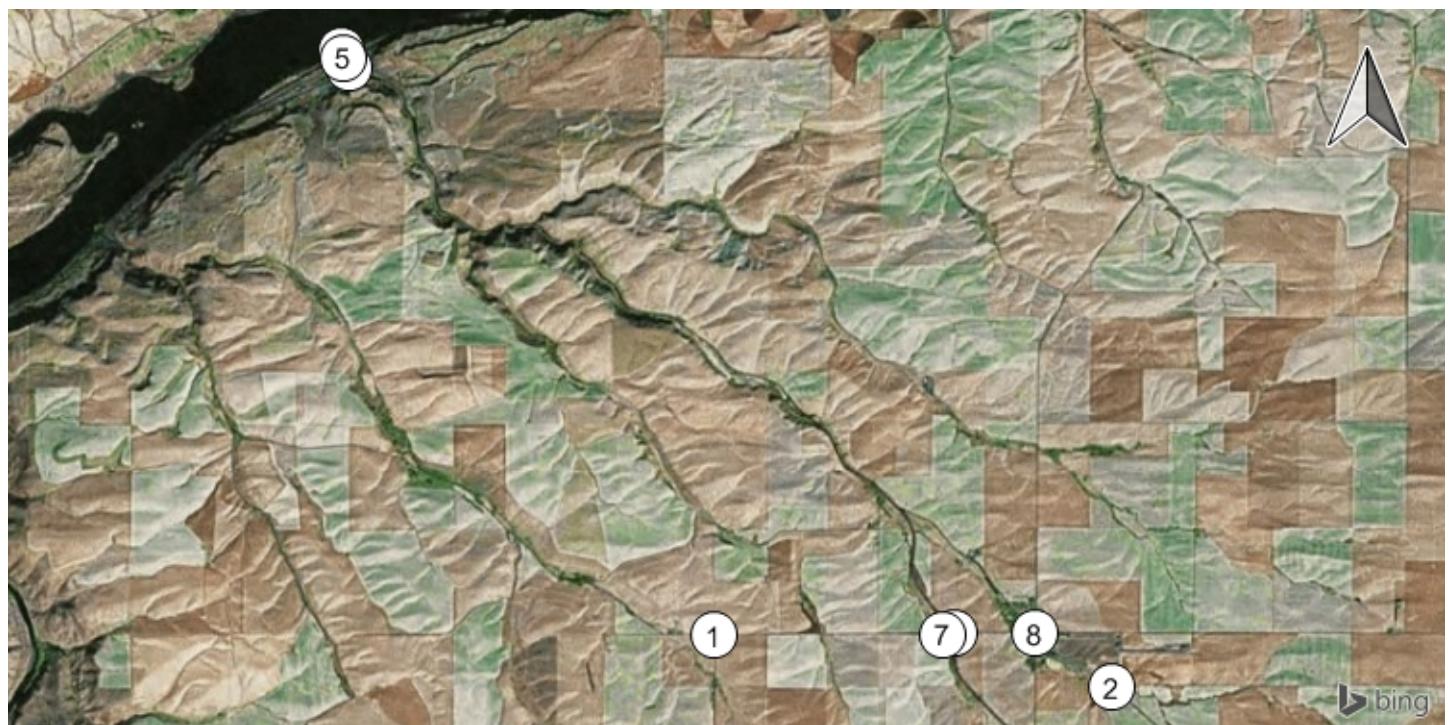
## Lane Configuration and Traffic Control



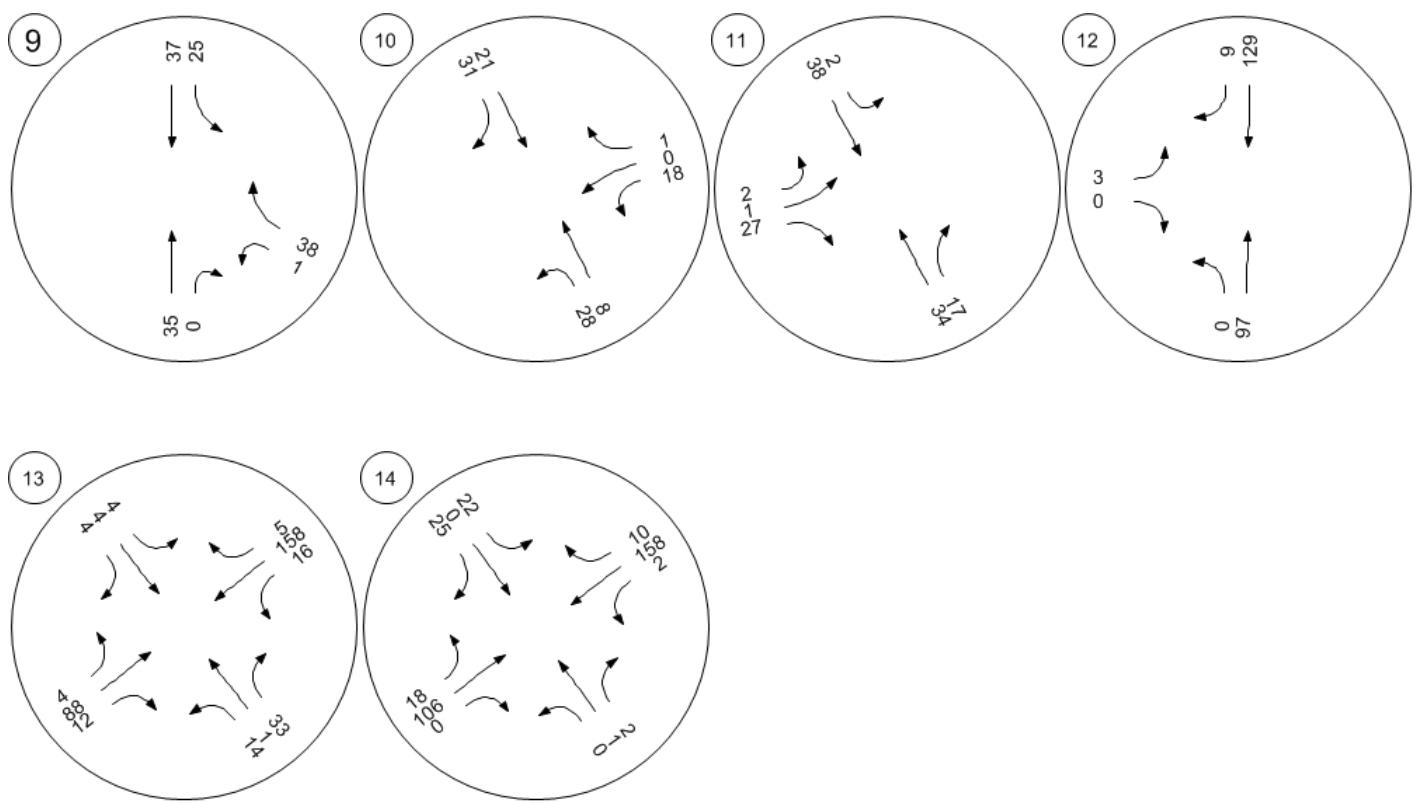
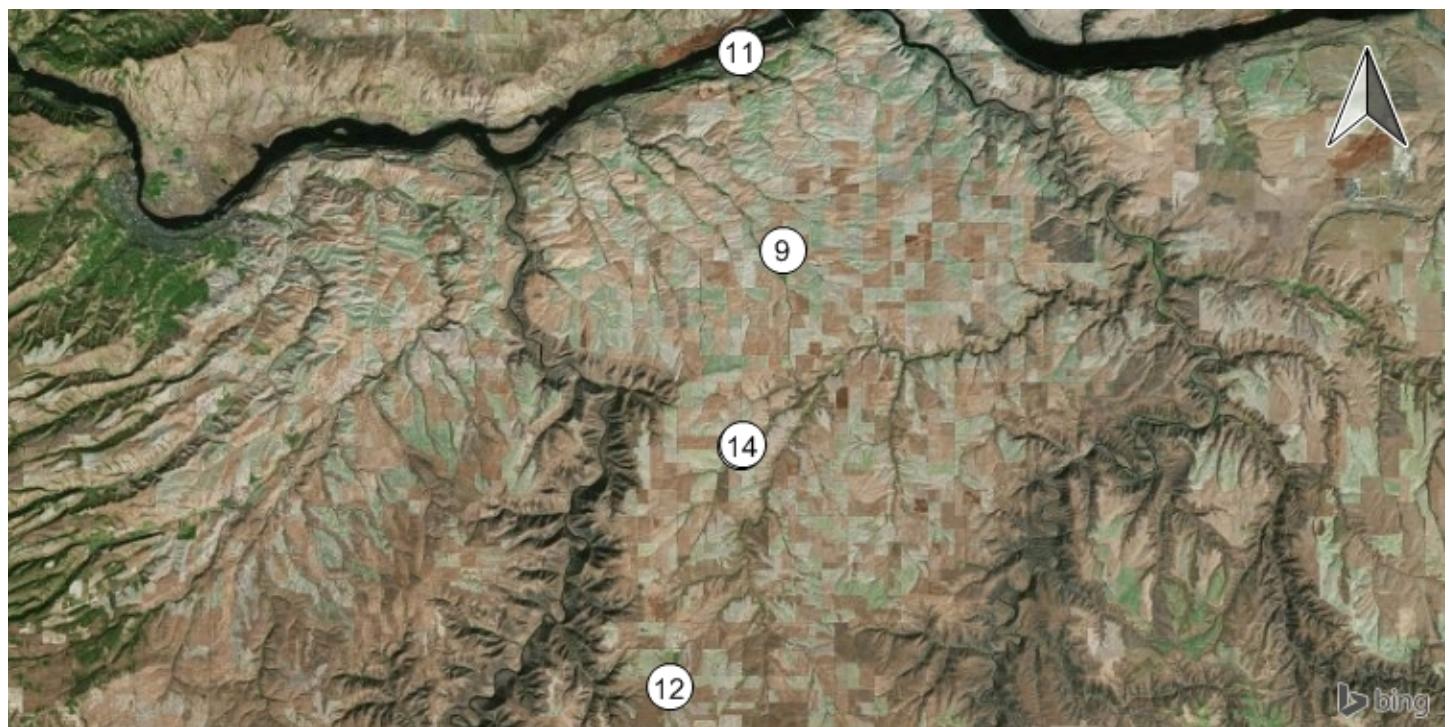
## Lane Configuration and Traffic Control



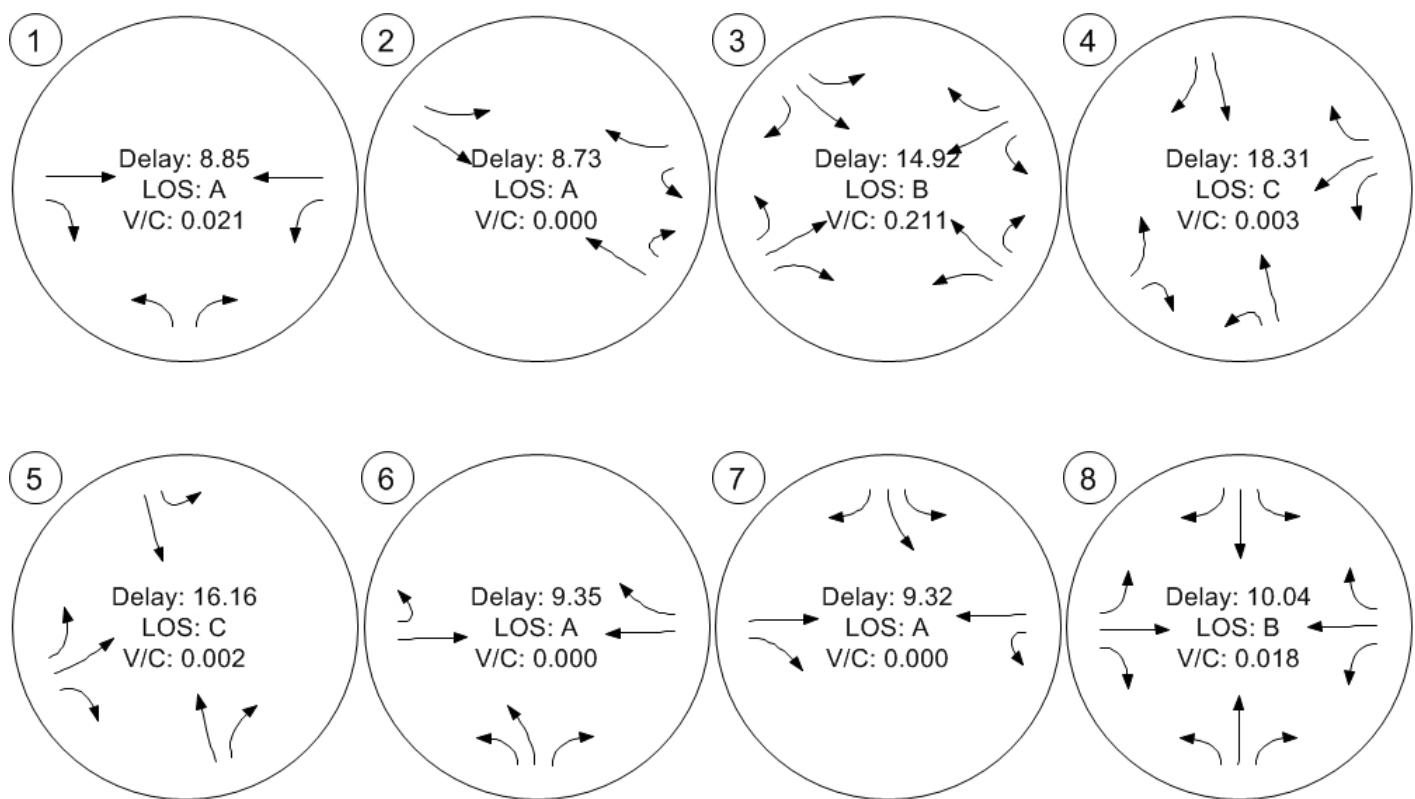
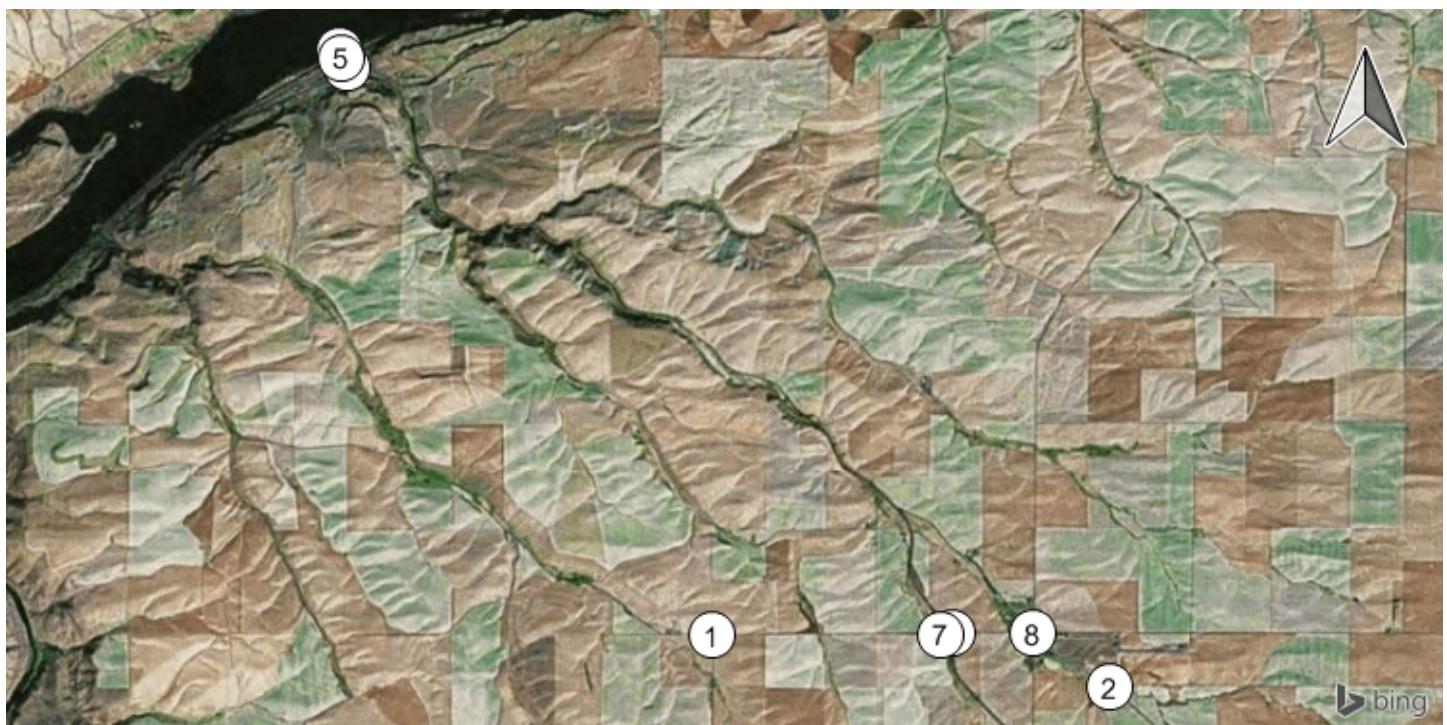
## Traffic Volume - Base Volume



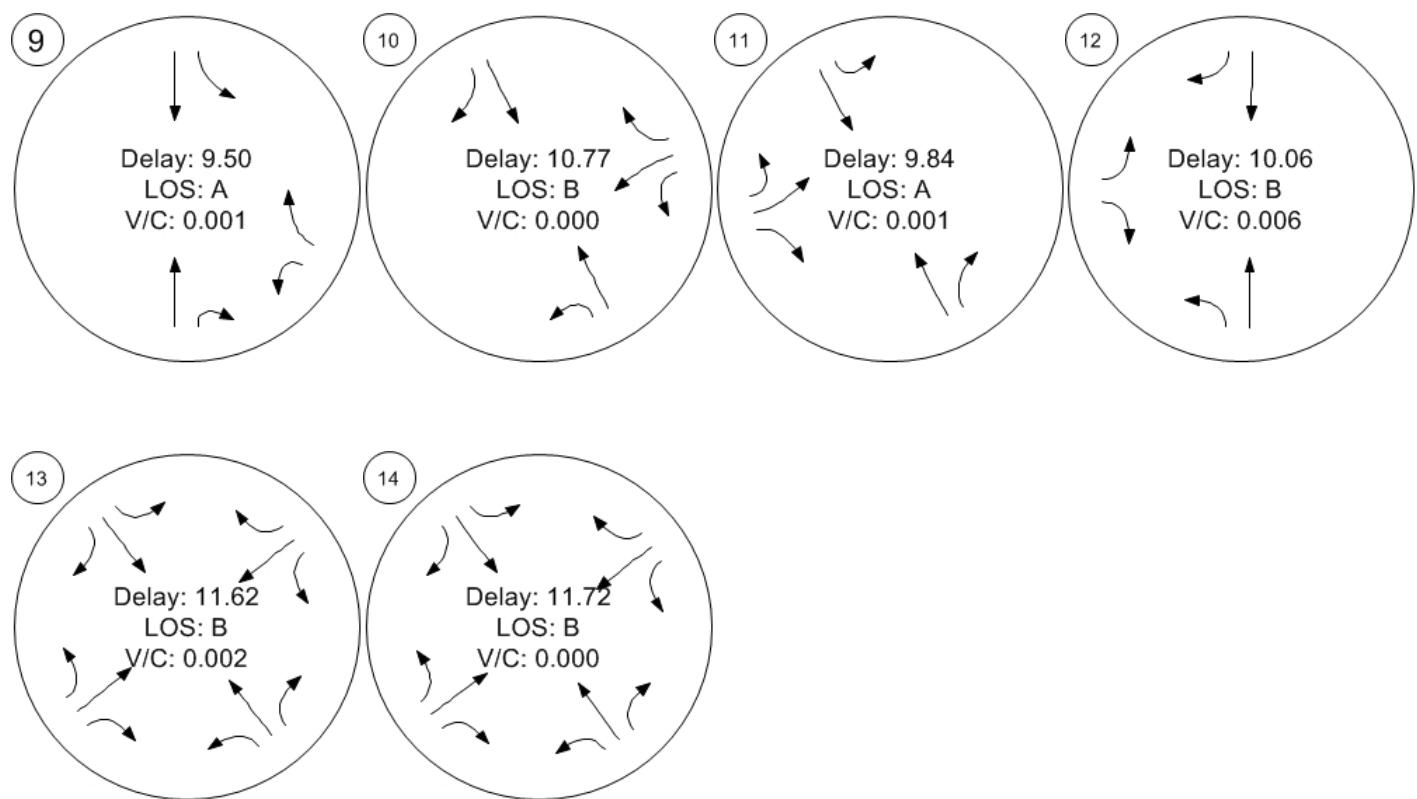
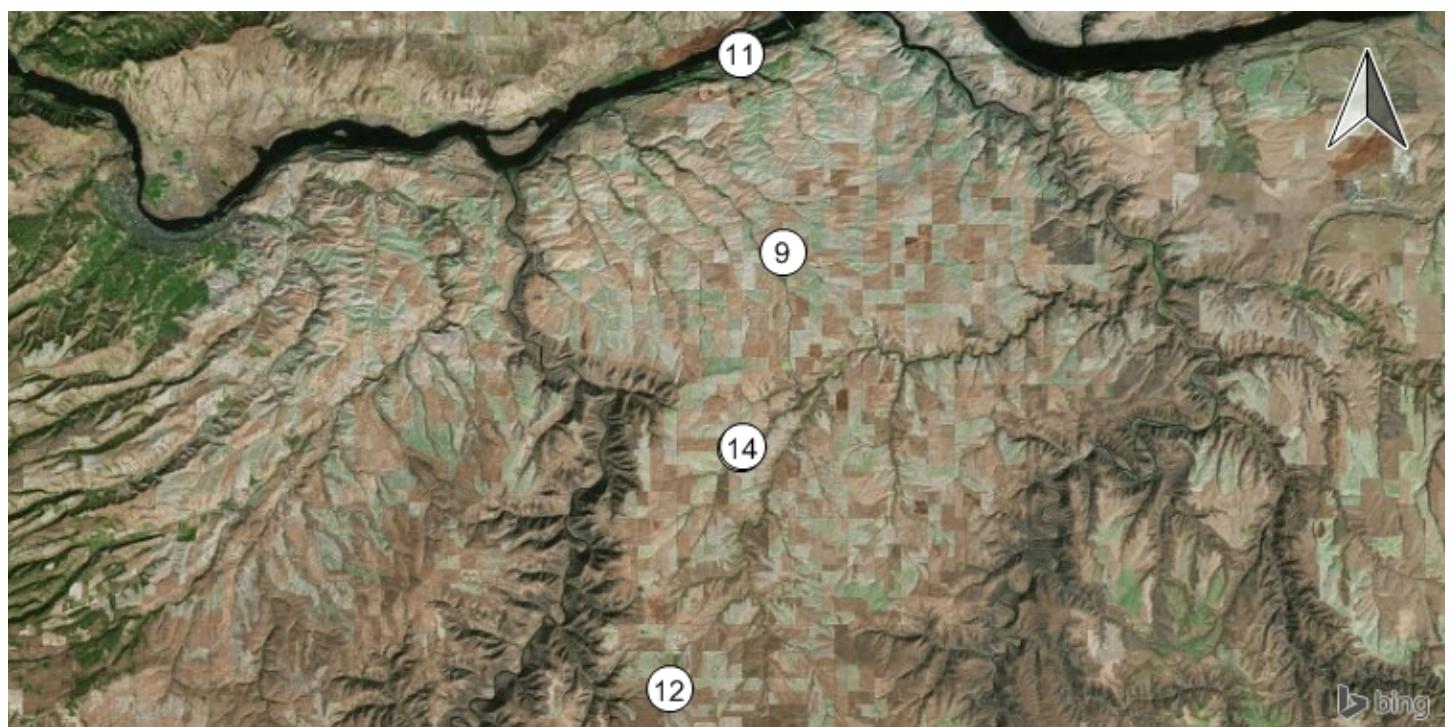
## Traffic Volume - Base Volume



## 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	<b>19</b>

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	<b>30</b>
WB	MNLTR	4	2.0%	294	0	0	<b>16</b>

Queue Length Estimation at Two-Way STOP Controlled Intersection							
Project Information							
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	<b>17</b>
WB	MNLTR	48	2.0%	283	0	0	<b>30</b>

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	<b>18</b>

Queue Length Estimation at Two-Way STOP Controlled Intersection							
Project Information							
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	<b>21</b>

Queue Length Estimation at Two-Way STOP Controlled Intersection							
Project Information							
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	<b>18</b>

Queue Length Estimation at Two-Way STOP Controlled Intersection							
Project Information							
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	<b>29</b>

Queue Length Estimation at Two-Way STOP Controlled Intersection							
Project Information							
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	<b>19</b>
WB	MNLTR	25	2.0%	115	0	0	<b>20</b>

## 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	<b>13</b>

## 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	<b>13</b>

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	<b>15</b>

## Appendix F ODOT Crash Data (2009-2013)

Crash_ID	Crash_Mont	Crash_Day	Crash_Year	Week_Day_C	Crash_Hour	County	Latitude_D	Longitude_D	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	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_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	-120.665539	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	Fixed_object	Fixed-Object_or_Other-Object	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	-120.69																		

142389.000000 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
142398.000000 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	45.4644356 -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_underspa	No_	-	No	No	No	From_same_direction_û_one_stopped	Rear-End	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C
1427104.000000 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
1429458.000000 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
1434519.000000 December	19.000000 2011.000000 Monday	10:00:00_AM	Sherman	45.535510 -120.606893 6.05	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	Injury_B
1434522.000000 December	17.000000 2011.000000 Saturday	8:00:00_AM	Sherman	45.5104042 -120.581665 8.15	55	Straight_roadway	Yes_	-	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Non-fatal_injury_crash	Cloudy	Ice	Daylight	Injury_B
1434525.000000 December	30.000000 2011.000000 Friday	6:00:00_PM	Sherman	45.2547414 -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	45.5484838 -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	From_same_direction_û_both_going_straight	Rear-End	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	Non-collision	Non-fatal_injury_crash	Clear_	Dry	Daylight	Injury_C	
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	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	Darkness_û_no_street_lights	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	From_same_direction_û_one_stopped	Rear-End	Non				

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_straight	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_straight	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	45.589560 -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_straight	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 -120.650356 100.56	65	roadway_and_considered_"located"	Yes_	-	No	No	No	Fixed_object	Fixed-Object_or_Other-Object	Property_damage_only_crash_(PDO)	Clear_	Dry	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	Straight_roadway	Yes_	-	No	No	No	&	Non-collision	Non-fatal_injury_crash	Clear_	Dry	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_	Dry	Dawn_(Twilight)	Injury_B
1316271.000000 January	18.000000 2009.000000 Sunday	9:00:00 AM	Sherman	45.560900 -120.691785 113.32	55	Straight_roadway	Yes_	-										

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_ü_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_ü_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_ü_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_ü_both_going_straight	Rear-End	Non-fatal_injury_crash	Snow	Ice	Darkness_ü_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_ü_both_going_straight	Sideswipe-meeting	Non-fatal_injury_crash	Clear_	Dry	Darkness_ü_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_ü_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_ü_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_ü_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_ü_no_street_lights	PDO
1455524.000000 February	4.000000 2012.000000 Saturday	6:00:00_AM	Sherman	45.522155 -120.760312 5.1	55	Straight_roadway	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_ü_both_going_straight	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_ü_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_ü_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_ü_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					

## 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	***	***
OP107	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)
OP107S	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	***	***
OP118	1966	ODOT	Creek, Hwy 301 at MP 8.97	6	0	07 Rural Mjr Collector	HWY 301	CREEK	99.3	A Open, No Restriction	***	***
OP124	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	***	***
OP125	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	***	***
OP126	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	***	***
OP127	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	***	***
OP128	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	***	***
OP129	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	***	***
OP130	1959	ODOT	Cottonwood Canyon & Cattlepass, Hwy 300 at MP 11.07	7	0	06 Rural Minor Arterial	OR 206 (HWY 300)EB	COTTONWOOD CANYON	92.4	A Open, No Restriction	***	***
OP131	1959	ODOT	Cottonwood Canyon & Cattlepass, Hwy 300 at MP 11.28	7	0	06 Rural Minor Arterial	OR 206 (HWY 300)EB	COTTONWOOD CANYON	92.4	A Open, No Restriction	***	***
OP132	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	***	***
OP141	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
OP184	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	***	***
OP416	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	***	***
OP417	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	***	***
OP418	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	***	***
OP419	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	***	***
OP420	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	***	***
OP434	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	HENRICHES 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

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## Appendix H 2035 Operational Analysis Worksheets & Queue Length Calculations

Vistro File: H:\...\Future Conditions-ajg-no biggs.vistro  
Report File: H:\...\Future Conditions-ajg-no biggs.pdf

Scenario: Base Scenario  
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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.4  
 Level Of Service: A  
 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

**Intersection Level Of Service Report**

#7: OR 206 / US 97 SB

Control Type: Two-way stop  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3  
 Level Of Service: A  
 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
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
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
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
d_A, Approach Delay [s/veh]		8.84			0.00			0.75		0.00	
Approach LOS		A			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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 10.2  
 Level Of Service: B  
 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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9  
 Level Of Service: A  
 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
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
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
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
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  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 12.2  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.004

**Intersection Setup**

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	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

**Intersection Level Of Service Report**

#14: 4th Street / US 97

Control Type: Two-way stop  
 Analysis Method: HCM2010  
 Analysis Period: 15 minutes

Delay (sec / veh): 12.6  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.000

**Intersection Setup**

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	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			Southeastbound			Total Volume
		Thru	Right	Left	Left	Thru	Right	Left	Right	Left	Thru	Right		
9	Clark St / OR 206	44	0	32	47	1	48	1	48	44	0	32	172	

ID	Intersection Name	Westbound			Northwestbound			Southeastbound			Total Volume		
		Left	Thru	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
10	I-84 WB / John Day Dam Road	23	0	2	36	11	27	39	138	23	0	2	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										
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										
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
		<b>Future Total</b>	<b>19</b>	<b>0</b>	<b>20</b>	<b>15</b>	<b>0</b>	<b>21</b>	<b>75</b>

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
		<b>Future Total</b>	<b>0</b>	<b>3</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>39</b>

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
		<b>Future Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>25</b>	<b>26</b>	<b>15</b>	<b>67</b>

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
		<b>Future Total</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>3</b>	<b>25</b>	<b>54</b>

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

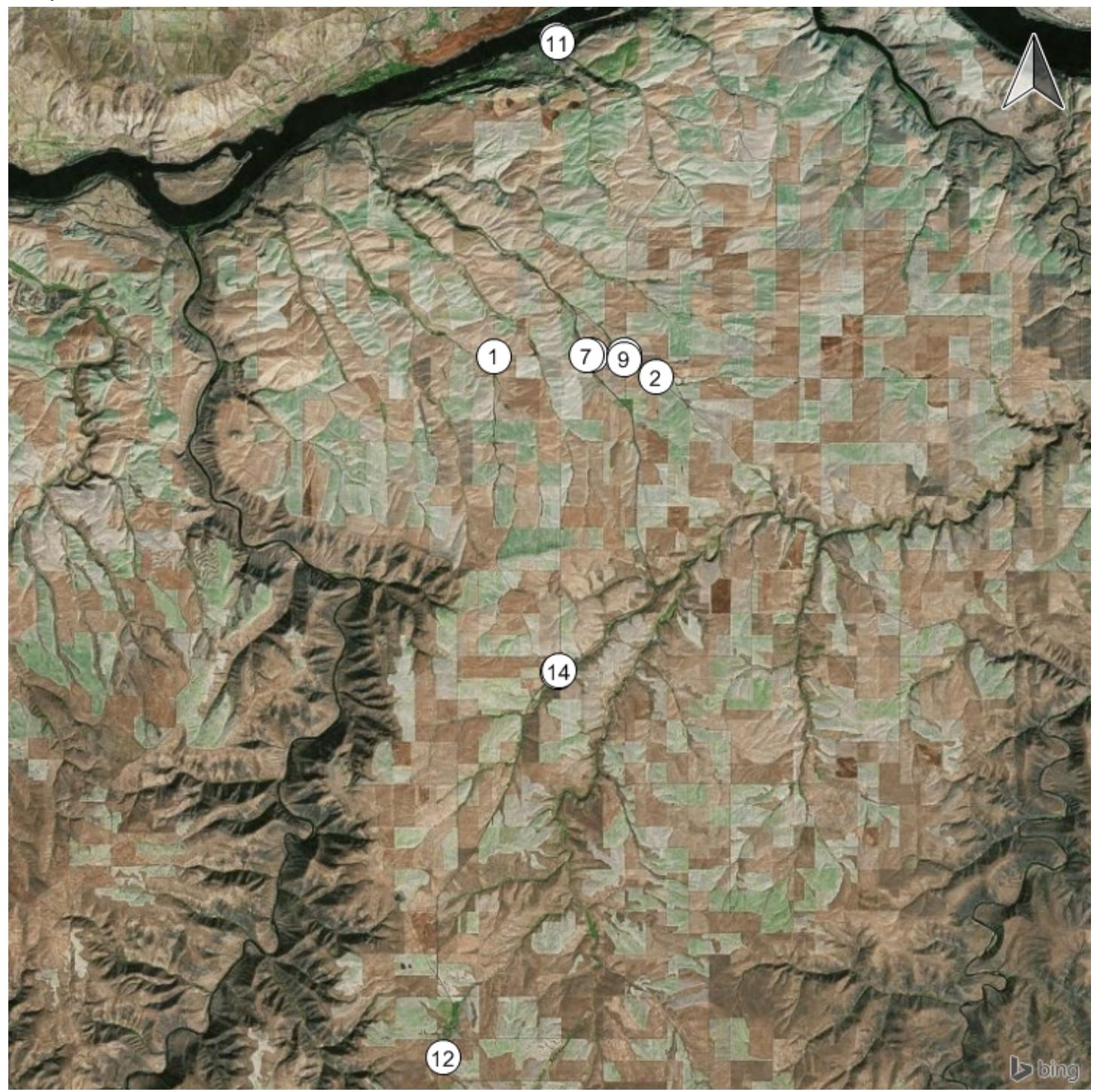
ID	Intersection Name	Volume Type	Eastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
11	I-84 EB / John Day Dam Road	Final Base	3	2	35	44	21	3	48	156
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0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

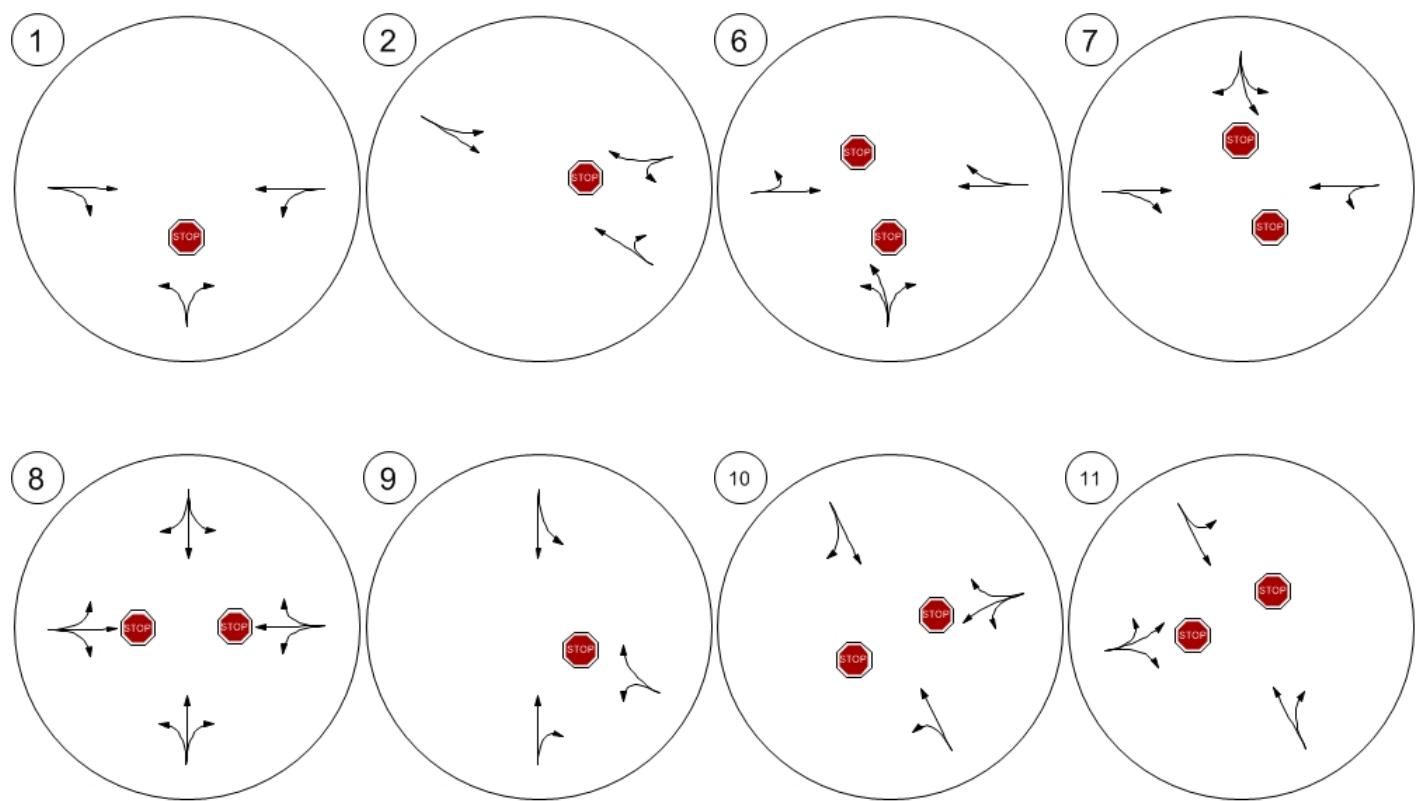
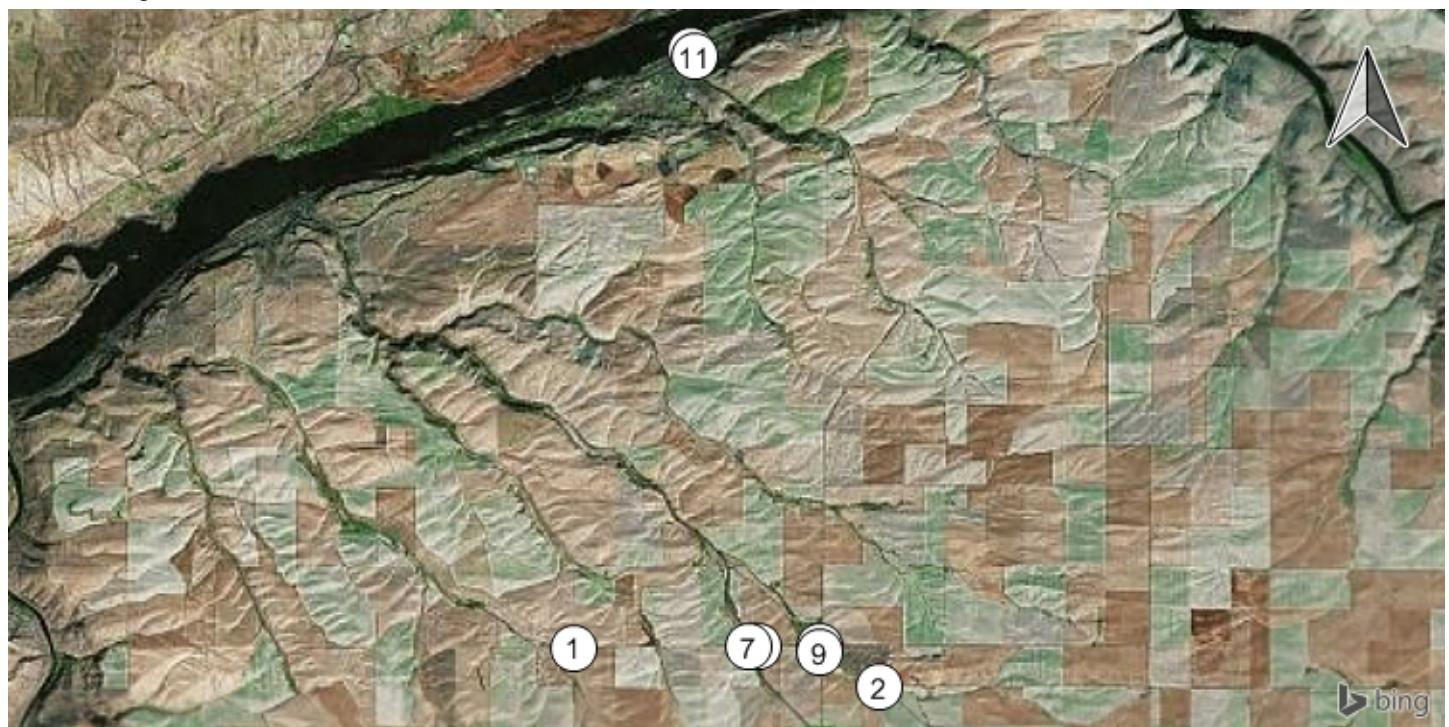
ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
13	Lone Rock Road / US 97	Final Base	5	111	16	20	201	6	17	2	42	5	5	5	435
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process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

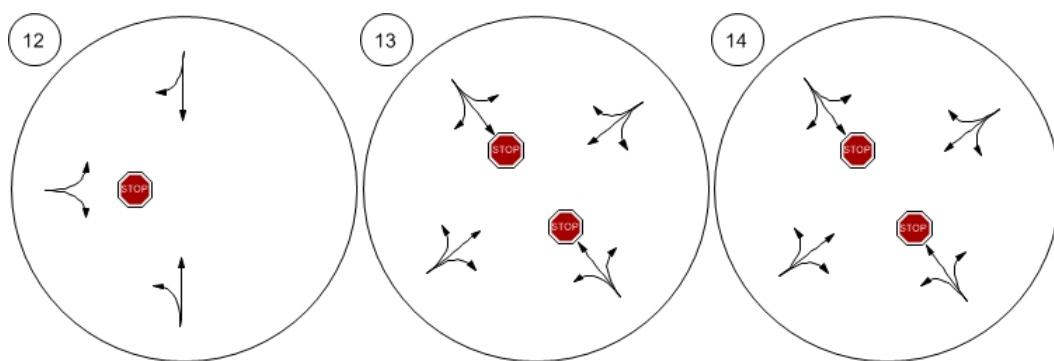
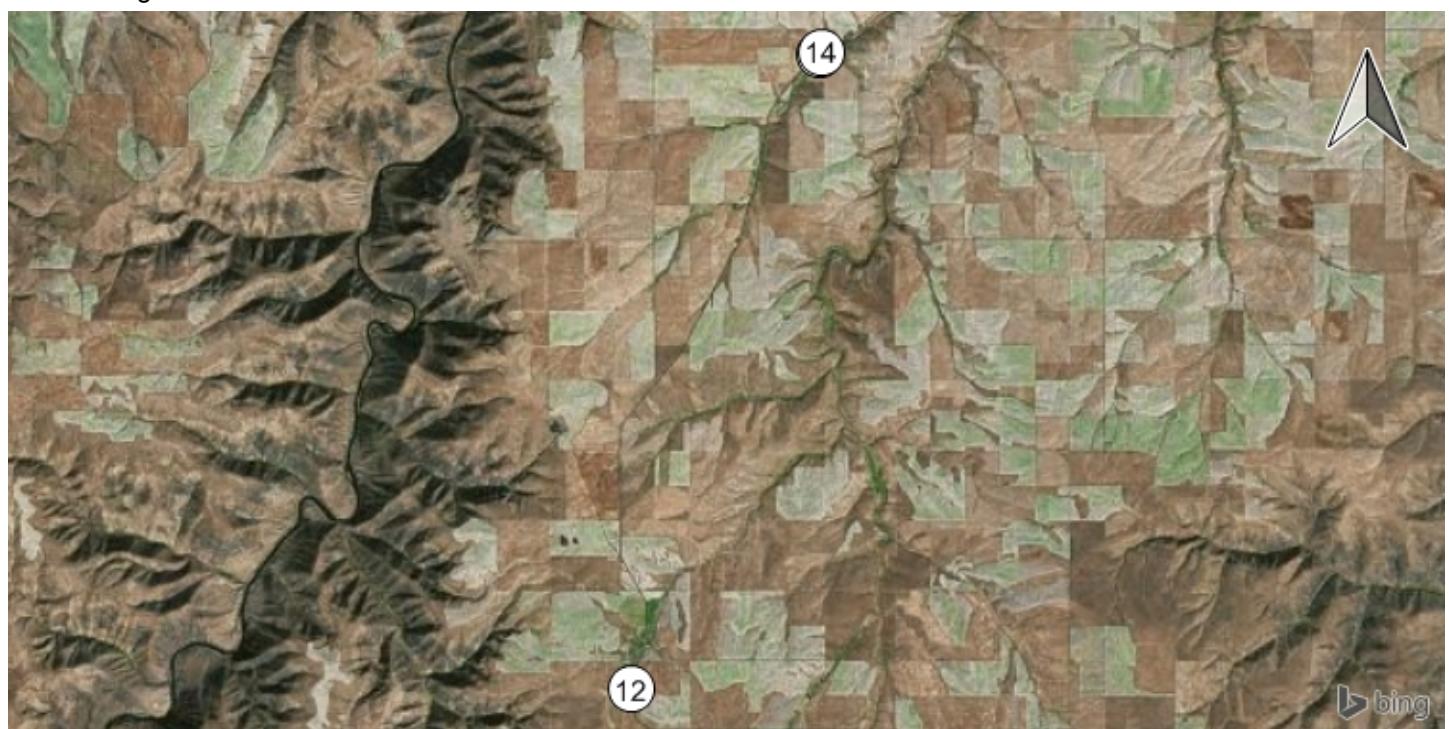
## Study Intersections



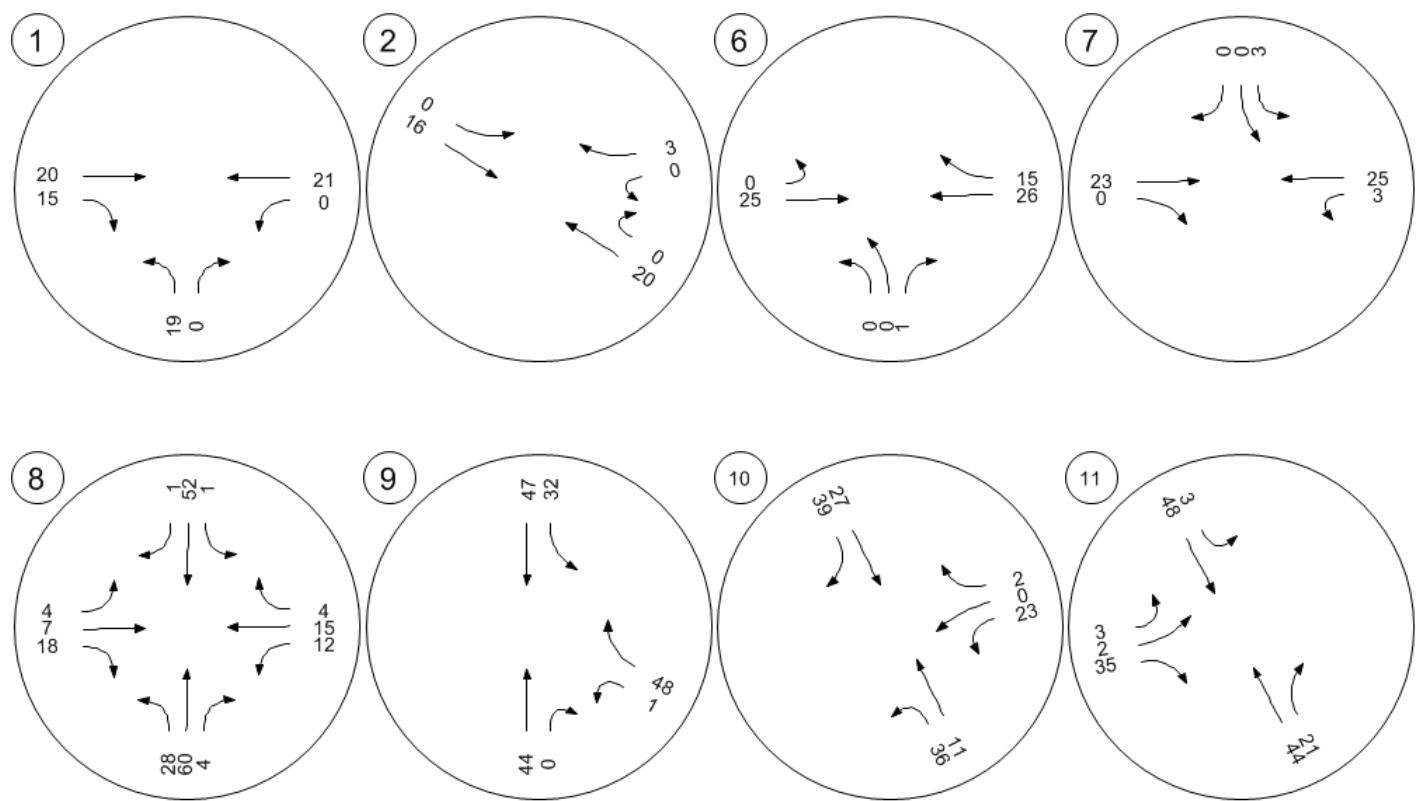
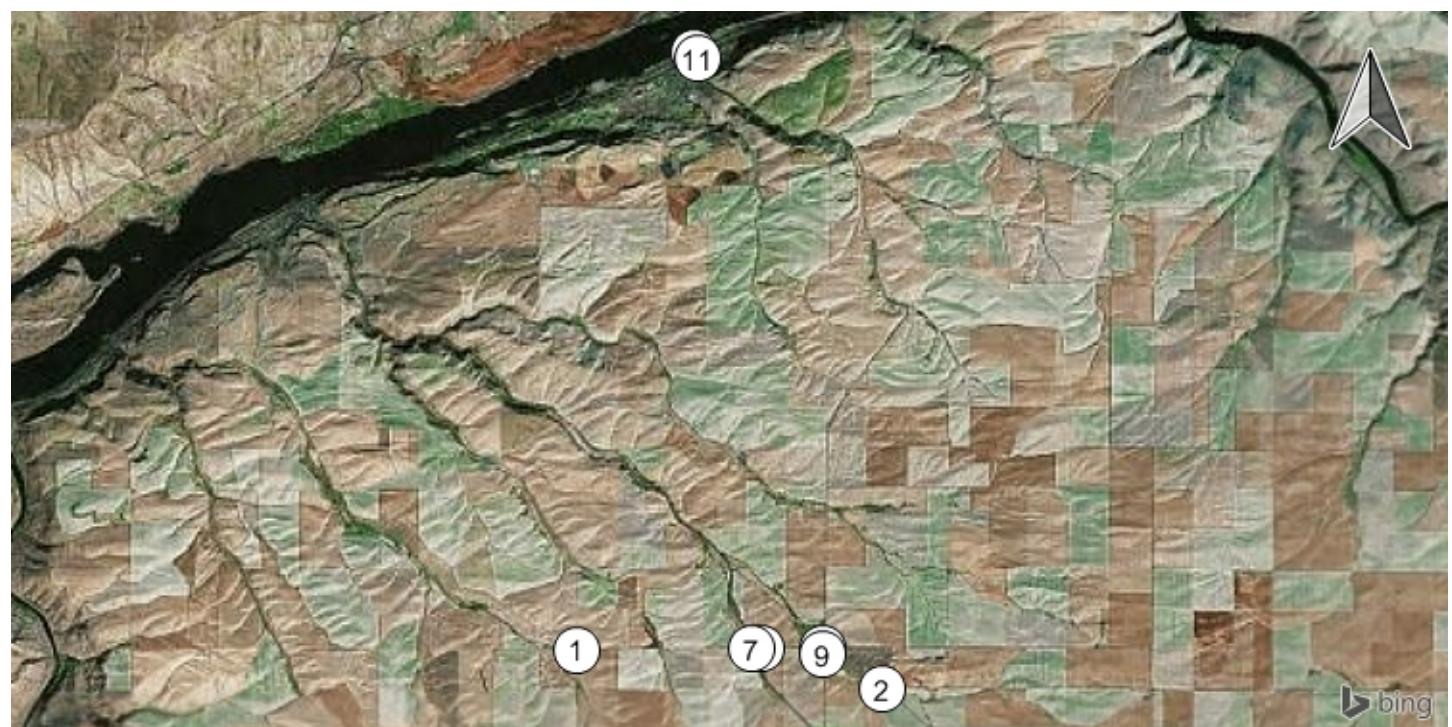
## Lane Configuration and Traffic Control



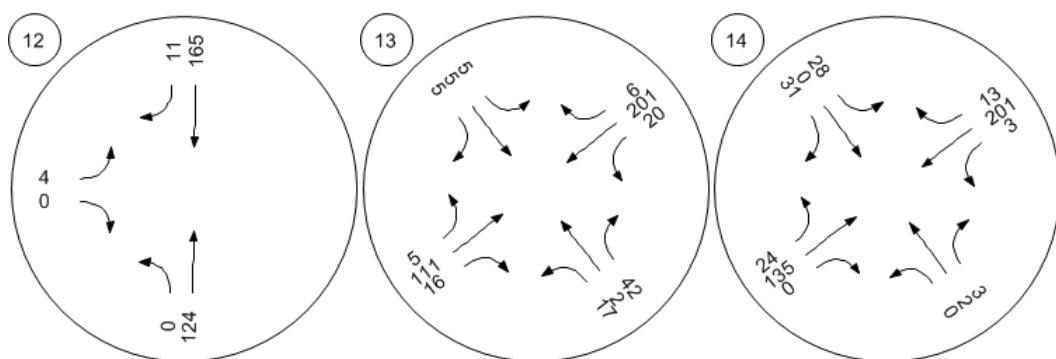
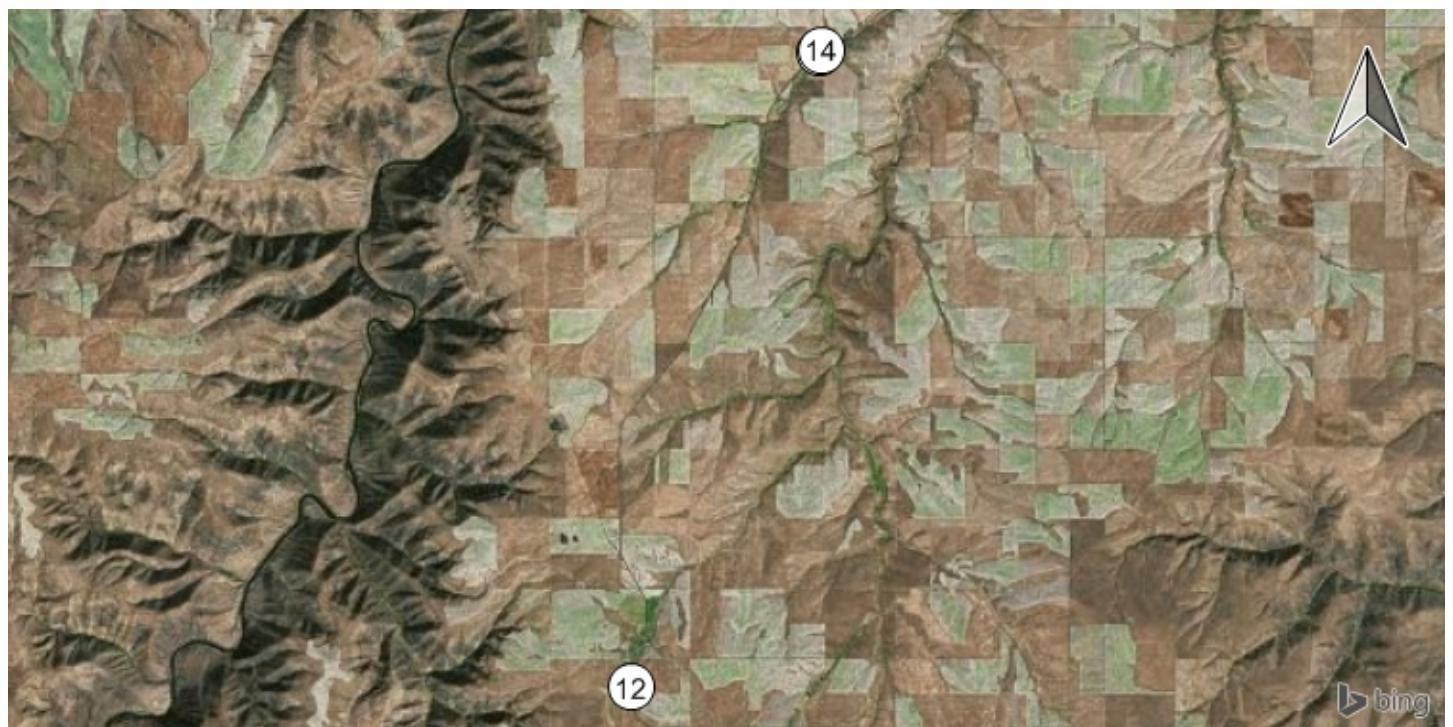
## Lane Configuration and Traffic Control



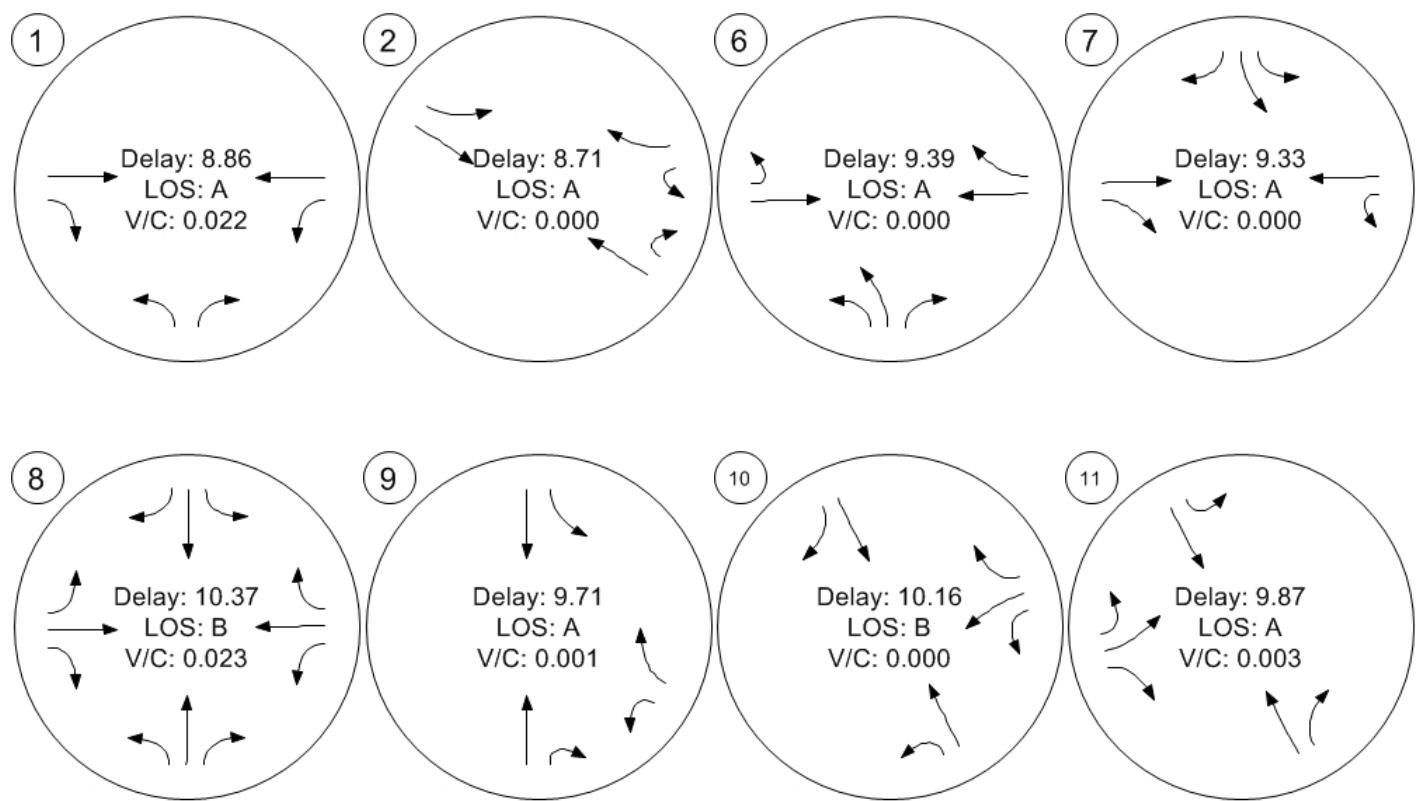
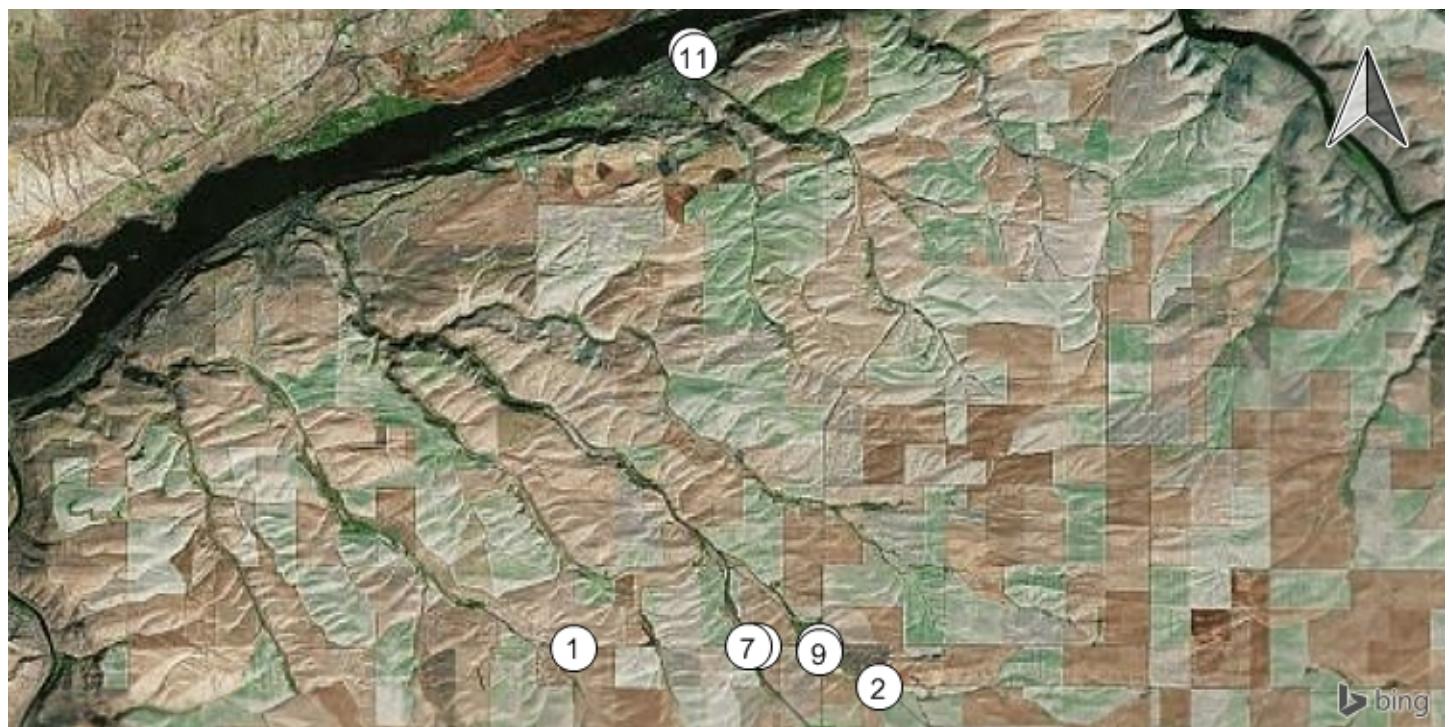
## Traffic Volume - Base Volume



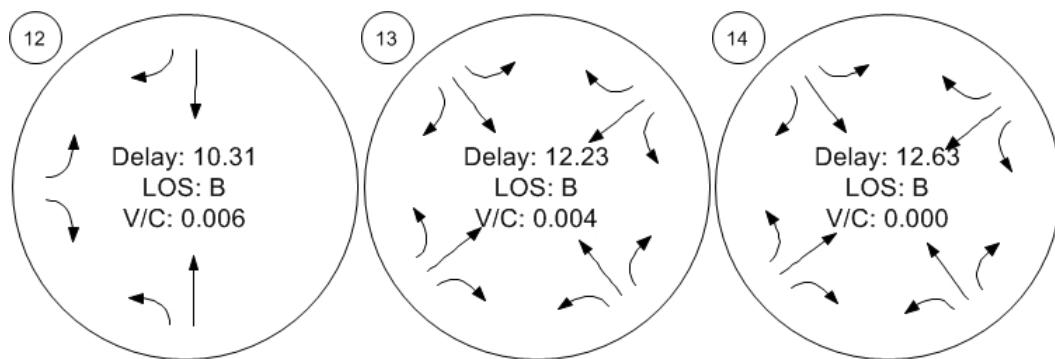
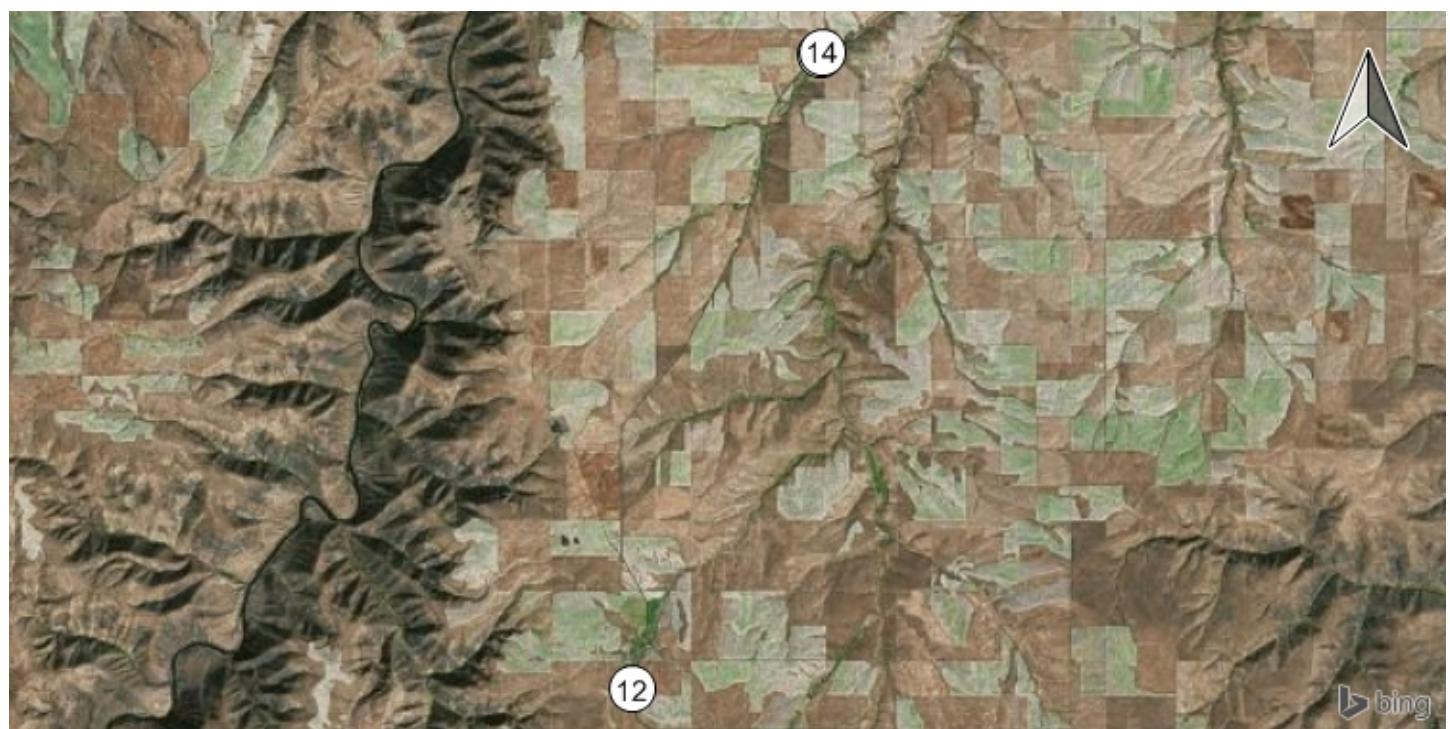
## Traffic Volume - Base Volume



## Traffic Conditions



## Traffic Conditions



# HCM Signalized Intersection Capacity Analysis

## 3: US 97 & Biggs-Rufus Highway

10/7/2015

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	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Fr <sub>t</sub>	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
Adj. Flow (vph)	132	27		46	10		17	80	17	97	22	85
RTOR Reduction (vph)	0	32		0	0		60	0	0	0	13	0
Lane Group Flow (vph)	132	41		0	10		37	0	17	97	9	85
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	
<b>Intersection Summary</b>												
HCM 2000 Control Delay		16.1										B
HCM 2000 Volume to Capacity ratio		0.24										
Actuated Cycle Length (s)		83.4										18.0
Intersection Capacity Utilization		34.2%										A
Analysis Period (min)		15										
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 4: US 97 & I-84 WB Ramps

10/7/2015

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
Lane Util. Factor				1.00		0.95		1.00				1.00
Fr <sub>t</sub>				0.86		1.00		0.94				0.93
Flt Protected				1.00		0.95		0.97				1.00
Satd. Flow (prot)				1611		1681		1619				1736
Flt Permitted				1.00		0.73		0.58				1.00
Satd. Flow (perm)				1611		1287		960				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
<b>Intersection Summary</b>												
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												

# HCM Signalized Intersection Capacity Analysis

## 5: US 97 & I-84 EB Ramps

10/7/2015

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	
Fr <sub>t</sub>		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	
<b>Intersection Summary</b>												
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							
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	19	2.0%	66	0	0	<b>21</b>

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							
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	<b>19</b>
WB	MNLTR	61	2.0%	360	0	0	<b>38</b>

## 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	<b>19</b>

## 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	<b>20</b>

Queue Length Estimation at Two-Way STOP Controlled Intersection							
Project Information							
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	<b>34</b>

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	<b>21</b>
WB	MNLTR	32	2.0%	147	0	0	<b>22</b>

## 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	<b>13</b>

## 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	<b>13</b>

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	<b>15</b>

## Appendix I Project Advisory Committee Meeting Minutes

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# 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

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#### **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/1<sup>st</sup>.
    - 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.

- xii. There is concern about the lack of common sense and distracted drivers on US 97.
- xiii. 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

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- 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 6<sup>th</sup>, 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 6<sup>th</sup>, 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.



## PAC Meeting #1 Sign-In Sheet

NAME	AGENCY/COMPANY	PHONE	EMAIL
Georgia Maunab	Sherman Co.	541-565-3601	georgia.m@embermail.com
Cassie Strope	City of Wasco	541-442-5515	wascoicity@embermail.com
Mark Cole	Sherman Co. Rd.	541-565-9271	markcf@shermon.or.us
Jessica Metta	MCEDD	541-296-2266	jessica@mcedd.org
Michelle Spatz	MCEDD	541-296-2266	Michelle@mcedd.org
Michael Duncan	DDO	541-393-6046	Michael.W.Duncan@DDO.
Jenn Otway	Rufus City Council	541 789 2250	jennastanoff@yahoo
Scott Edelman	DLCD		scott.edelman@state.tn.a.e.
Leahyn McCurdy	CITY OF RUFUS Administrator	541-789-2251	rufuscityhall@gmail.com
Darlene Medee	Reserve	541 296- 9177	darlene@reserves.com
Rene' Moore	City of Moro	541 565 3535	mooro@embermail.com
Caitlin Blagg	Benton County Medical Clinic	541 565 0536	medclinic1@embermail.com
Tom Miller	Oregon Recovery Park	503-201-4586	tanab.miller@osha.gov
Shawn Payne	Sherman Co. EMS	541-565-3101	emergencyserv@embermail.com
Bonnie Whiting	GU city council	541-333-2292	cbsny@hotmail.com
Carolyn Bondell	Cross Valley City Admin.	541-293-2434	cityclerk@embermail.com
Brent Lower	Sherman Co. Sheriff	541-565-3622	sherrif@shermon.or.us
Jim Payne	Sherman Co. Fire Dept	541 993 7167	same as Shawn Payne