

Attachment A Methodology Memo



MEMORANDUM

Date: June 16, 2015

Project #:
18018.0

To: Mike Kuntz, Jackson County

CC: Allie Coates, Oregon Department of Transportation, Region 3

From: Matthew Bell and Susan Wright, P.E. Kittelson & Associates, Inc.

Project: Jackson County Transportation System Plan (TSP) Update

Subject: Methodology & Assumptions Memo (Subtask 3.4)

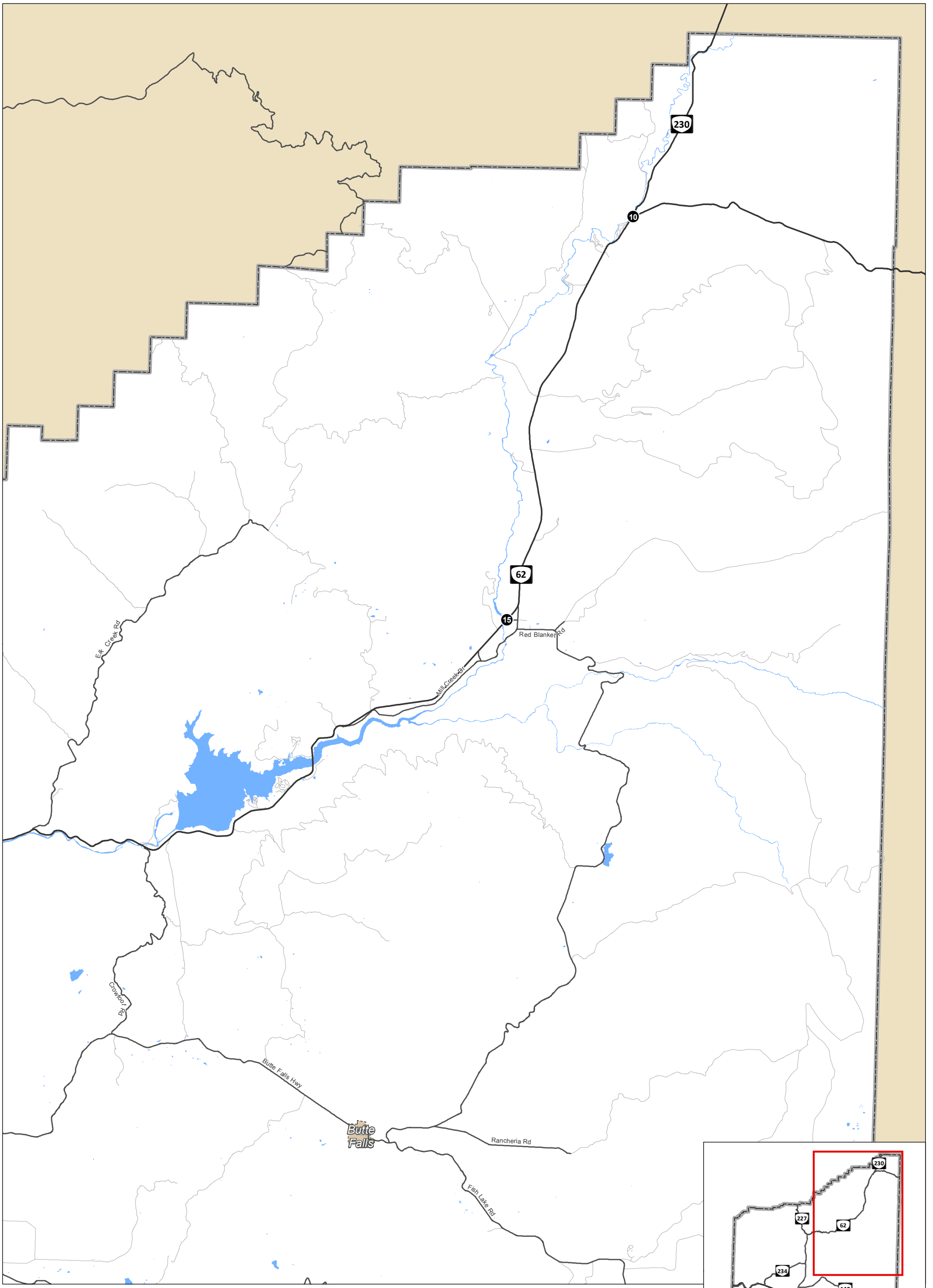
This memorandum documents the methodology and assumptions associated with the current and future transportation system operations analyses for the Jackson County Transportation System Plan (TSP) Update. The methodology and assumptions included in this memorandum are based on guidance provided in the Oregon Department of Transportation (ODOT) Transportation System Plan Guidelines (Reference 1) and the Analysis Procedures Manual (APM – Reference 2) as they relate to rural areas.

STUDY INTERSECTIONS

The study intersections for the Jackson County TSP Update were determined by the County and ODOT prior to the development of the scope of the work. There are a total of 30 study intersections located along County and ODOT facilities, including eight signalized and 22 unsignalized intersections. Figures 1A through 1D illustrate the location of the study intersections. The following provides information related to the traffic counts conducted at the study intersections and how they will be used to develop existing and future traffic volumes.

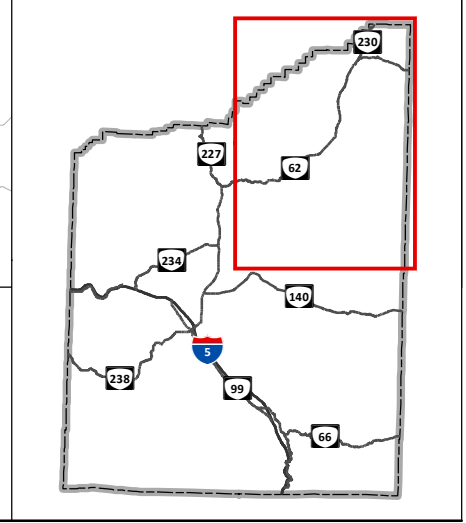
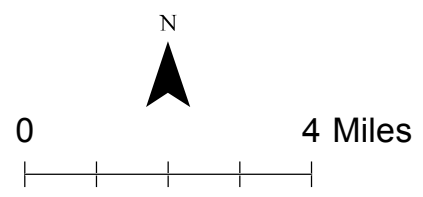
Traffic Counts

Manual turning movement counts were conducted at the study intersections in June 2014 and July 2014. A majority of the counts were conducted over a 16 hour period (6:00 a.m. to 10:00 p.m.) while a few of the counts were conducted over a 3-hour period (3:00 to 6:00 p.m.). The 16-hour counts include the total number of pedestrians, bicyclists, and motor vehicles that entered the intersections in 15-minute intervals during the morning (6:00 to 9:00 a.m.) and evening (3:00 to 6:00 p.m.) peak time periods and on 60-minute intervals during all other times of the day. The 3-hour counts include the total number of pedestrians, bicyclists, and motor vehicles that entered the intersections in 15-minute intervals during the evening (3:00 to 6:00 p.m.) peak time period. Table 1 summarizes the traffic count information obtained for the TSP Update.



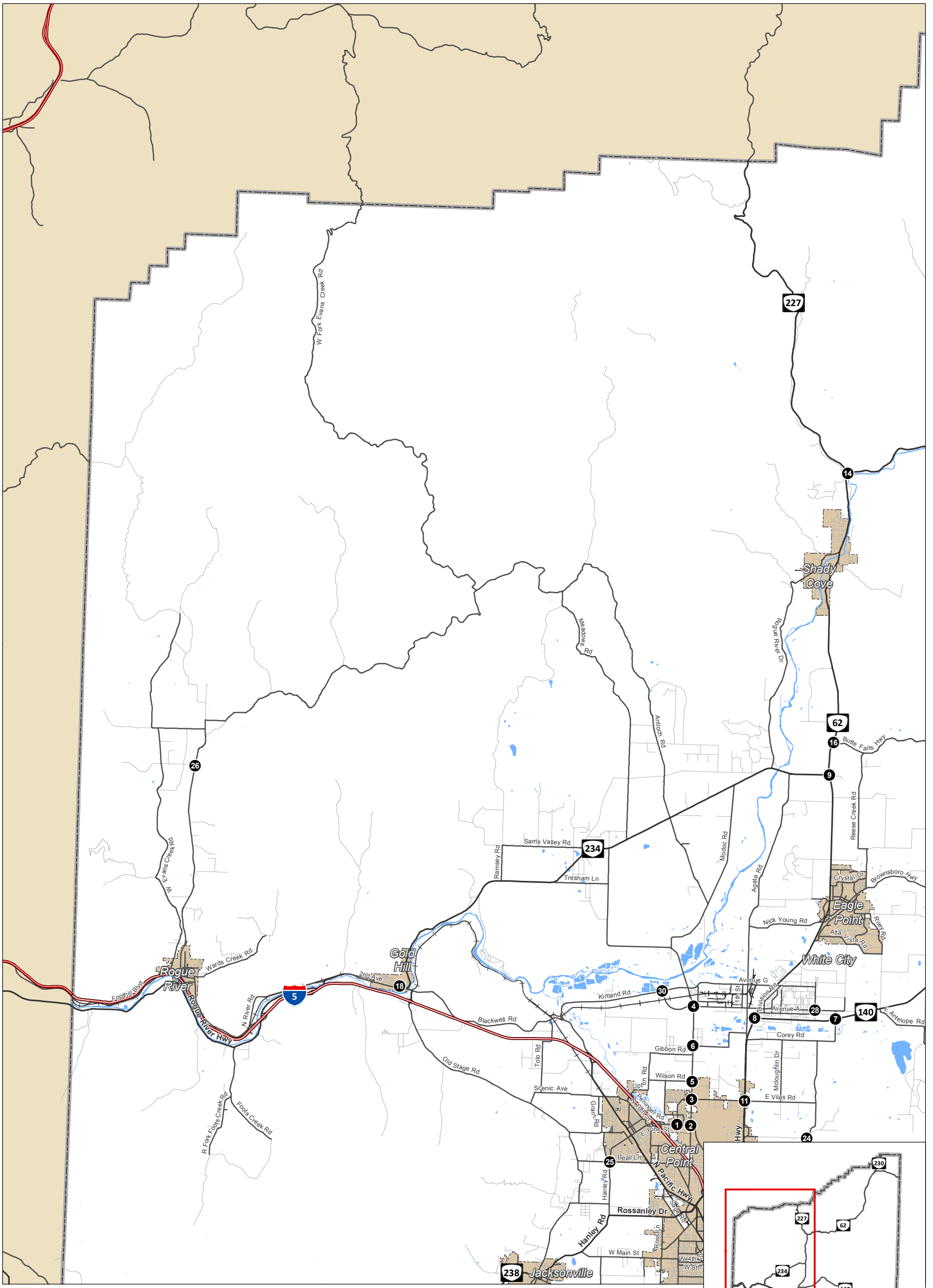
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- Study Intersections
- City Boundaries
- ⊞ County Boundary

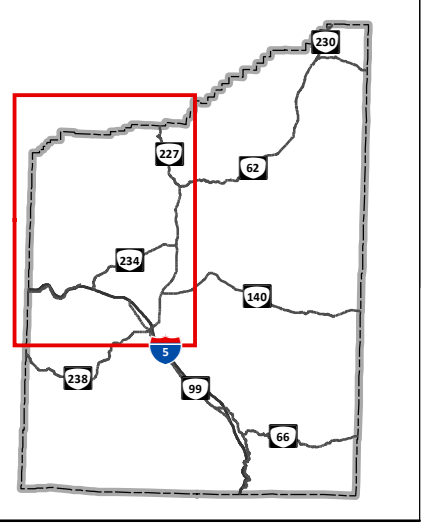
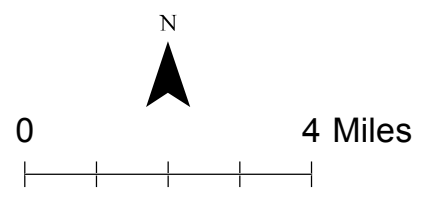


**Study Intersections
Jackson County, OR**

**Figure
1A**



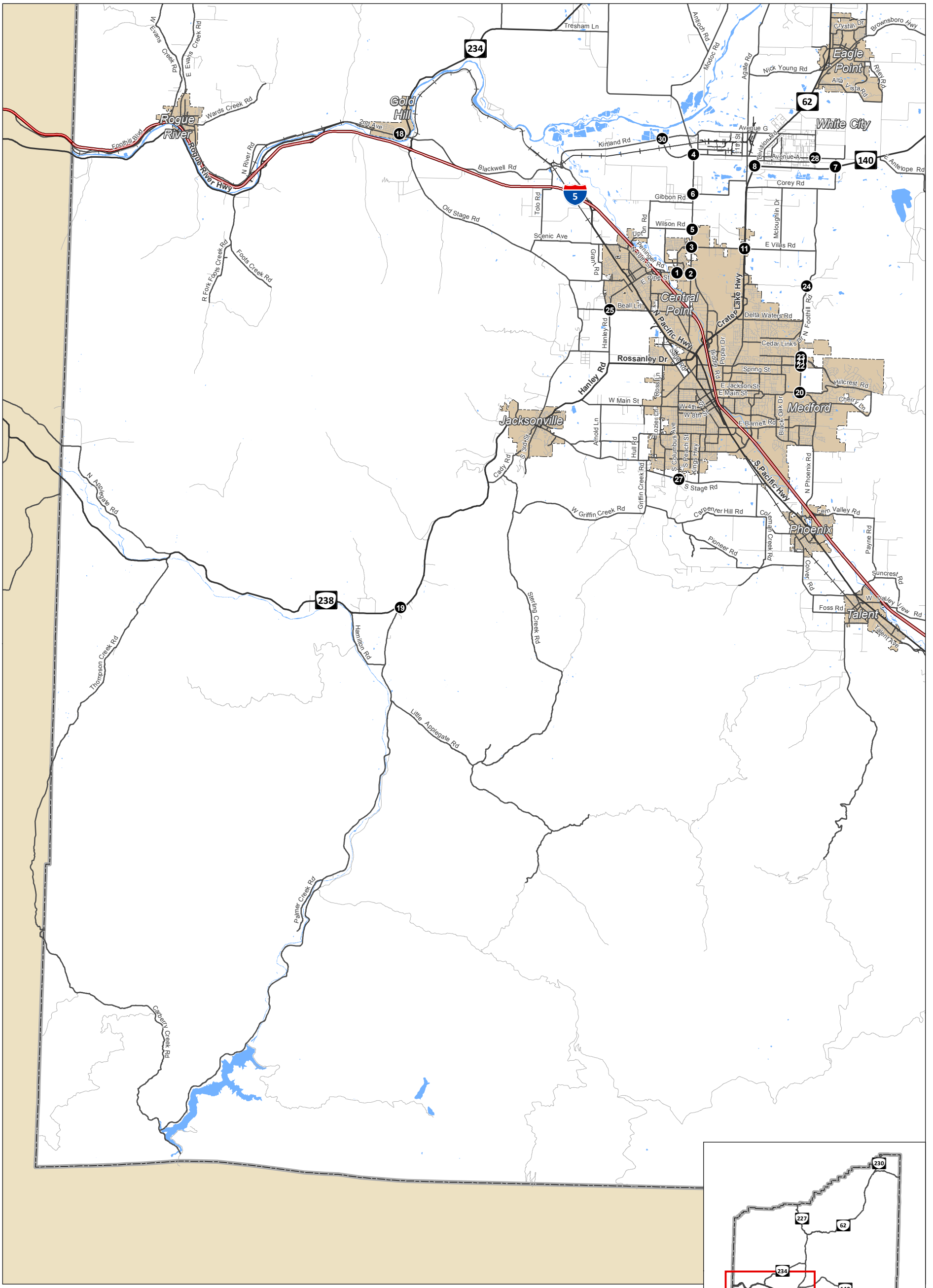
- Study Intersections
- City Boundaries
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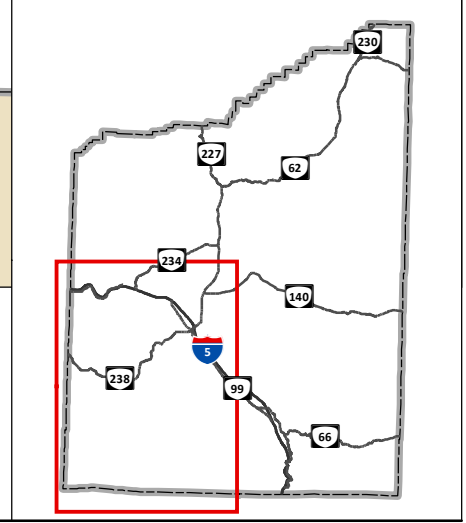
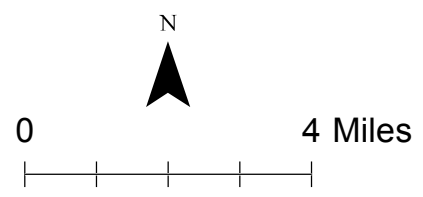
Study Intersections
Jackson County, OR

Figure
1B

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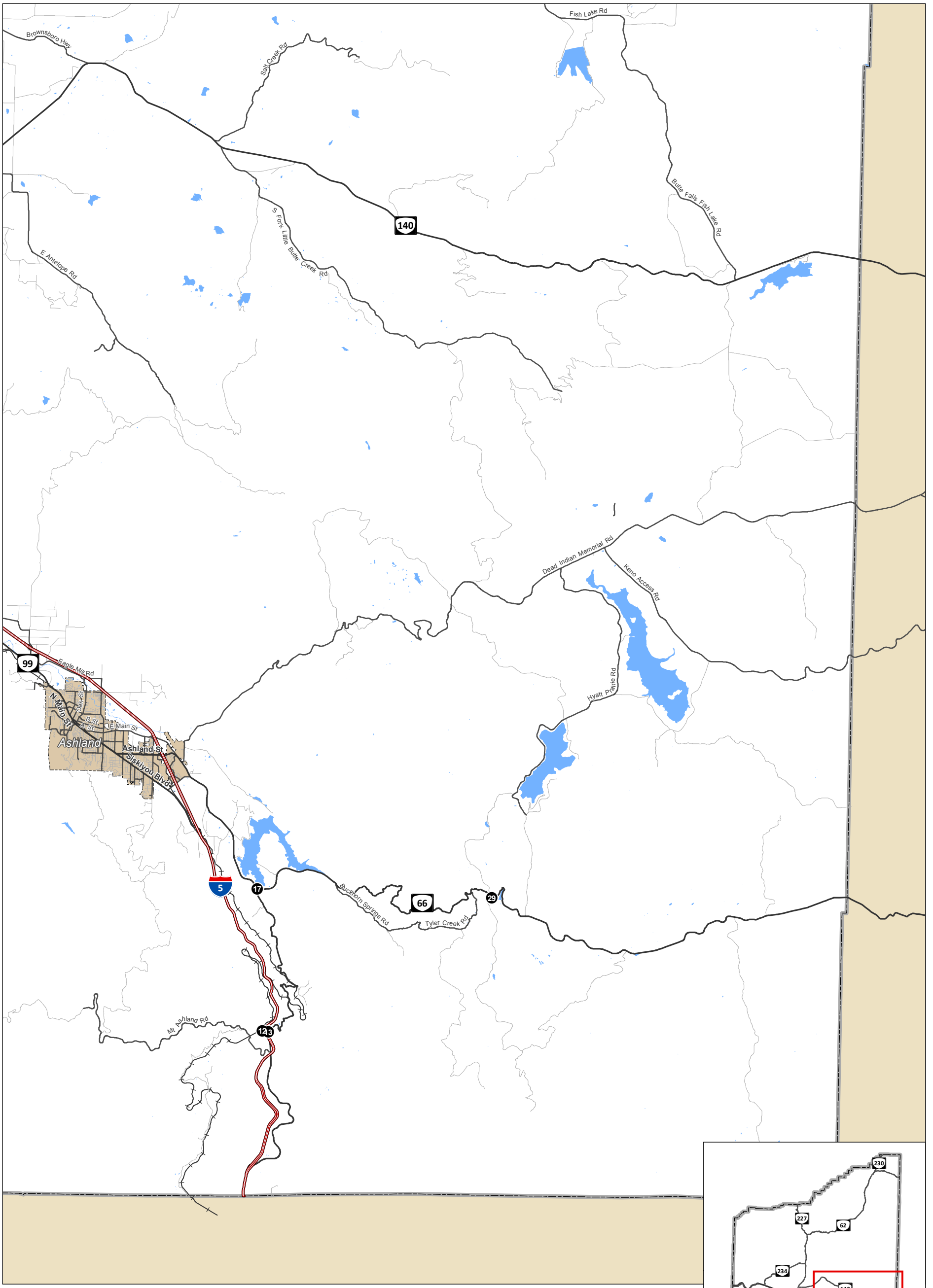
- Study Intersections
- City Boundaries
- County Boundary



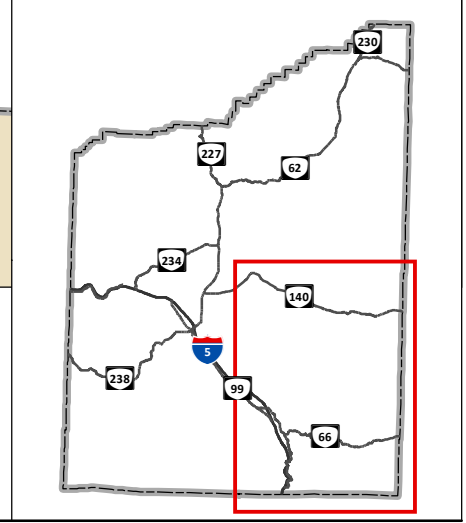
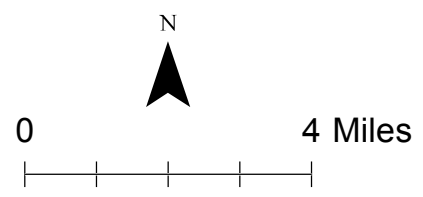
Study Intersections Jackson County, OR

Figure 1C

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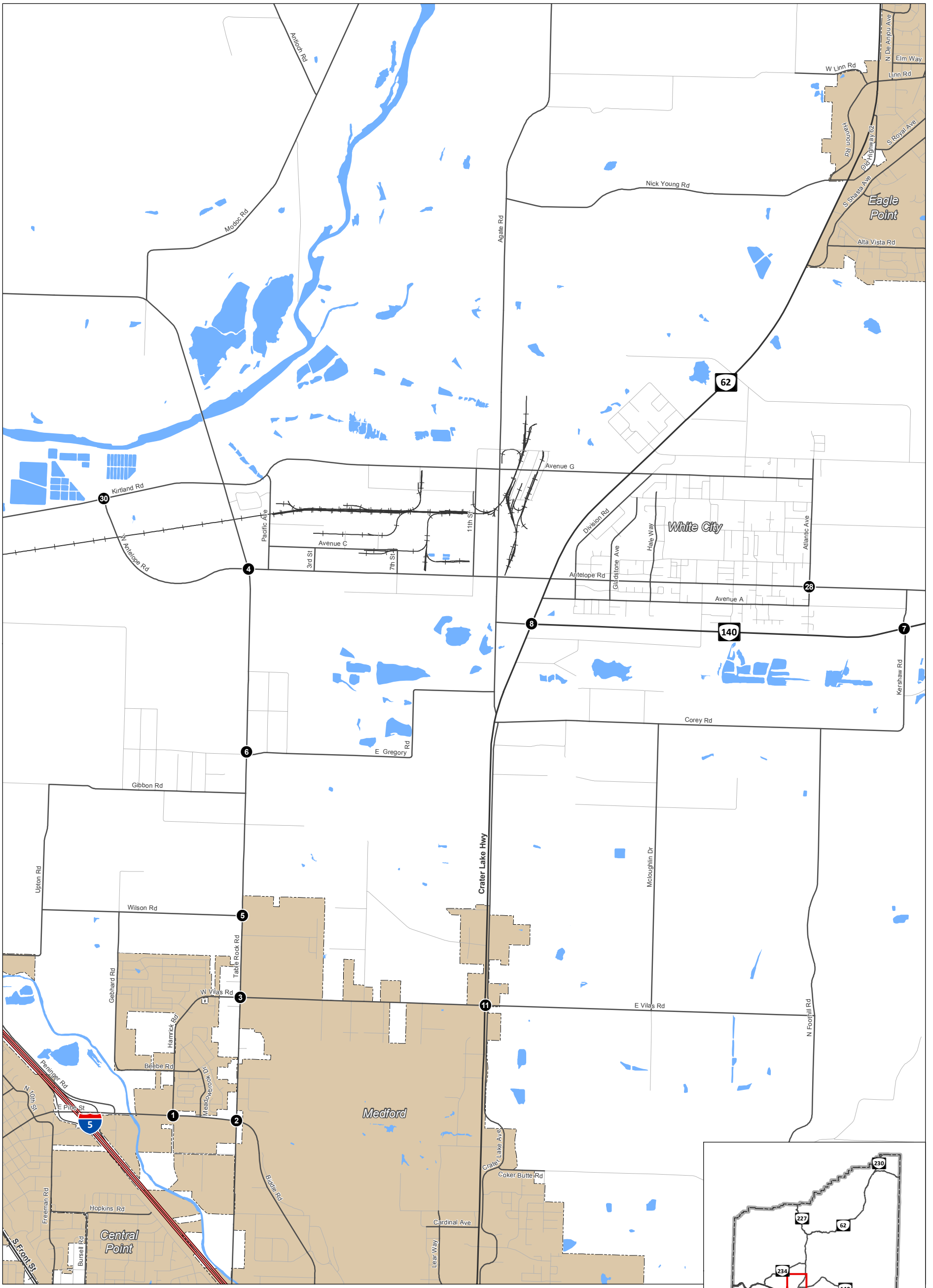
- Study Intersections
- City Boundaries
- County Boundary



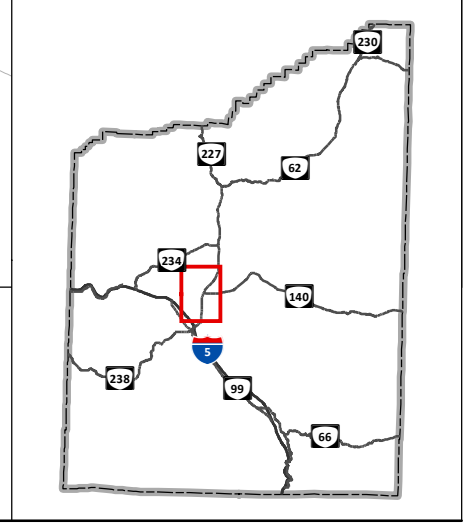
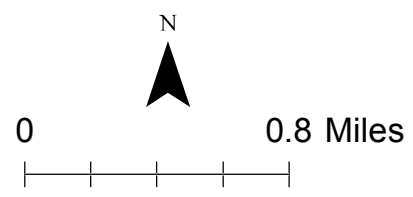
Study Intersections Jackson County, OR

Figure 1D

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- Study Intersections
- City Boundaries
- County Boundary



Study Intersections Jackson County, OR

Figure 1E

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Table 1: Traffic Count Summary

Map ID	Intersection	Count Date	Count Type	Map ID	Intersection	Count Date	Count Type
1	Hamrick Road/E Pine Street-Biddle Road	06/17/14	24-Hour	16	OR62/Butte Falls Highway	06/25/14	16-Hour
2	Table Rock Road/Biddle Road	06/17/14	24-Hour	17	Siskiyou Highway/OR66	06/23/14	16-Hour
3	Table Rock Road/Vilas Road	06/17/14	16-Hour	18	Rogue River Highway/OR234	07/07/14	16-Hour
4	Table Rock Road/Antelope Road	06/18/14	16-Hour	19	OR238/Upper Applegate Road	12/09/14	16-Hour
5	Table Rock Road/Wilson Road	06/17/14	16-Hour	20	Foothill Road/Hillcrest Road	06/24/14	3-Hour
6	Table Rock Road/Gregory Road	06/18/14	16-Hour	21	Foothill Road/McAndrew Road WB Ramp	06/24/14	3-Hour
7	Kershaw Road/OR140	08/16/12	16-Hour	22	Foothill Road/McAndrew Road EB Ramp	06/24/14	3-Hour
8	OR62/OR140	06/18/14	16-Hour	23	Foothill Road/Lone Pine Road	06/24/14	3-Hour
9	OR62/OR234-Del Isle Way	06/25/14	16-Hour	24	Foothill Road/Cocker Butte Road	07/08/14	3-Hour
10	OR62/OR230	06/26/14	16-Hour	25	Hanley Road/Beall Lane	07/09/14	3-Hour
11	OR62/Vilas Road	06/19/14	16-Hour	26	E Evans Creek Road/Minthorne Road	07/07/14	3-Hour
12	I-5 SB Ramp/Siskiyou Highway	06/23/14	16-Hour	27	Columbus Road/Stage Road	07/09/14	3-Hour
13	I-5 NB Ramp/Siskiyou Highway	06/24/14	16-Hour	28	Atlantic Avenue/Antelope Road	07/08/14	3-Hour
14	OR62/Tiller Trail Highway	07/07/14	16-Hour	29	OR66/Old Hyatt Prairie Road	06/23/14	3-Hour
15	OR62/Mill Creek-1 st Street	06/25/14	16-Hour	30	Antelope Road/Kirtland Road	07/09/14	3-Hour

Additional traffic volumes for the Interstate-5 (I-5) mainline were obtained from the 2013 ODOT Traffic Volume Tables (TVT - Reference 3), which provide the average annual daily traffic at select locations on the I-5 corridor.

Peak Hour Development

The traffic counts conducted during the morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak time periods were reviewed to determine individual and system-wide peak hours for the operational analysis. Individual intersection peaks were identified at the study intersections located significant distances away from other study intersection, while system-wide peaks were identified at the study intersections located within close proximity to other study intersections, such as along E Paine Street-Biddle Road, Table Rock Road, Foothills Road, OR62, and others. Table 2 summarizes the morning and evening peak hours at the study intersections.

Table 2: Study Intersection Peak Hours

Map ID	Intersection	Morning Peak	Evening Peak	Map ID	Intersection	Morning Peak	Evening Peak
1	Hamrick Road/E Pine Street-Biddle Road	7:15 a.m.	4:30 p.m.	16	OR62/Butte Falls Highway	8:00 a.m.	4:00 p.m.
2	Table Rock Road/Biddle Road	7:15 am.	4:30 p.m.	17	Siskiyou Highway/OR66	8:00 a.m.	5:00 p.m.
3	Table Rock Road/Vilas Road	7:15 a.m.	4:30 p.m.	18	Rogue River Highway/OR234	8:00 a.m.	4:00 p.m.
4	Table Rock Road/Antelope Road	7:15 a.m.	4:30 p.m.	19	OR238/Upper Applegate Road	7:15 a.m.	4:00 p.m.

5	Table Rock Road/Wilson Road	7:15 a.m.	4:30 p.m.	20	Foothill Road/Hillcrest Road	NA	4:30 p.m.
6	Table Rock Road/Gregory Road	7:15 a.m.	4:30 p.m.	21	Foothill Road/McAndrew Road WB Ramp	NA	4:30 p.m.
7	Kershaw Road/OR140	7:00 a.m.	4:30 p.m.	22	Foothill Road/McAndrew Road EB Ramp	NA	4:30 p.m.
8	OR62/OR140	7:30 a.m.	4:30 p.m.	23	Foothill Road/Lone Pine Road	NA	4:30 p.m.
9	OR62/OR234-Del Isle Way	8:00 a.m.	4:00 p.m.	24	Foothill Road/Cocker Butte Road	NA	4:30 p.m.
10	OR62/OR230	8:00 a.m.	4:00 p.m.	25	Hanley Road/Beall Lane	NA	4:30 p.m.
11	OR62/Vilas Road	7:30 a.m.	4:30 p.m.	26	E Evans Creek Road/Minthorne Road	NA	4:45 p.m.
12	I-5 SB Ramp/Siskiyou Highway	8:00 a.m.	4:30 p.m.	27	Columbus Road/Stage Road	NA	5:00 p.m.
13	I-5 SB Ramp/Siskiyou Highway	8:00 a.m.	4:30 p.m.	28	Atlantic Avenue/Antelope Road	NA	4:30 p.m.
14	OR62/Tiller Trail Highway	8:00 a.m.	4:00 p.m.	29	OR66/Old Hyatt Prairie Road	NA	4:30 p.m.
15	OR62/Mill Creek-1 st Street	8:00 a.m.	4:15 p.m.	30	Antelope Road/Kirtland Road	NA	4:30 p.m.

Seasonal Factors

30th Hour Volumes (30 HV) for Jackson County will be developed based on the traffic counts collected at the study intersection and the application of seasonal adjustment factors consistent with the methodology identified in the APM. 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. Each method was evaluated to determine the most appropriate method for the study intersections. Based on the evaluations and direction provided by TPAU, a combination of the On-Site ATR and Seasonal Trend Table methods will be used to develop 30 HV volumes at the study intersections. The results of the evaluations are summarized below.

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 within the project area. Information on AADT for highway segments throughout Oregon can be found in ODOT’s TVT. Based on a review of the most recent ATR stations, there are a total of nine ATRs located within Jackson County along ODOT facilities, two of which are located adjacent to ODOT study intersections. The on-site ATR method was applied at these two ODOT study intersections as indicated below.

Based on direction provided by TPAU, information from the nine ATRs located within Jackson County was combined to develop seasonal adjustment factors for Interstate, Statewide, Regional, and District Highway approaches to the study intersection. These seasonal adjustment factors will be applied at the remaining ODOT study intersections as indicated below. *Additional information related to the seasonal adjustment factors developed for ODOT study intersections is provided in Attachment “A”.*

Seasonal Trend Table Method

The Seasonal Trend Table Method uses average values from the ATR Characteristic Table for each seasonal traffic trend. Based on a review of the ATRs located within Jackson County and direction provided by TPAU, an average of the Summer and Commuter seasonal traffic trend values will be used to derive 30 HV volumes at the County study intersections. Additional information related to the seasonal adjustment factors developed for County study intersections is provided in *Attachment "A"*.

Table 3 summarizes the method and associated seasonal adjustment factor for the study intersections. Additional information on the seasonal adjustments is included in Attachment "A".

Table 3: Study Intersection Seasonal Adjustment

Map ID	Intersection	Method	Seasonal Adjustment	Map ID	Intersection	Method	Seasonal Adjustment
1	Hamrick Road/E Pine Street-Biddle Road	Seasonal Trend Table	1.0389	16	OR62/Butte Falls Highway	On-Site ATR/ 15-013	1.0704
2	Table Rock Road/Biddle Road	Seasonal Trend Table	1.0389	17	Siskiyou Highway/OR66	District	1.0472
3	Table Rock Road/Vilas Road	Seasonal Trend Table	1.0389	18	Rogue River Highway/OR234	District	1.0090
4	Table Rock Road/Antelope Road	Seasonal Trend Table	1.0383	19	OR238/Upper Applegate Road	On-Site ATR/ 15-011	1.3045
5	Table Rock Road/Wilson Road	Seasonal Trend Table	1.0389	20	Foothill Road/Hillcrest Road	Seasonal Trend Table	1.0348
6	Table Rock Road/Gregory Road	Seasonal Trend Table	1.0383	21	Foothill Road/McAndrew Road WB Ramp	Seasonal Trend Table	1.0348
7	Kershaw Road/OR140	Statewide	1.0127	22	Foothill Road/McAndrew Road EB Ramp	Seasonal Trend Table	1.0348
8	OR62/OR140	Statewide E-S Regional N District W	1.0673 E-S 1.0704 N 1.0472 W	23	Foothill Road/Lone Pine Road	Seasonal Trend Table	1.0348
9	OR62/OR234-Del Isle Way	Regional N-S District E-W	1.0704 N-S 1.0472 E-W	24	Foothill Road/Cocker Butte Road	Seasonal Trend Table	1.0181
10	OR62/OR230	Regional N-S District E	1.0704 N-S 1.0472 E	25	Hanley Road/Beall Lane	Seasonal Trend Table	1.0176
11	OR62/Vilas Road	Statewide	1.0673	26	E Evans Creek Road/Minthorne Road	Seasonal Trend Table	1.0187
12	I-5 SB Ramp/Siskiyou Highway	Interstate N-S District E	1.0491 N-S 1.0472 E	27	Columbus Road/Stage Road	Seasonal Trend Table	1.0176
13	I-5NB Ramp/Siskiyou Highway	Interstate N District E-W	1.0491 N 1.0472 E-W	28	Atlantic Avenue/Antelope Road	Seasonal Trend Table	1.0181
14	OR62/Tiller Trail Highway	Regional E-W District N	1.000 E-W 1.0090 N	29	OR66/Old Hyatt Prairie Road	District	1.0472
15	OR62/Mill Creek-1 st Street	Regional	1.0704	30	Antelope Road/Kirtland Road	Seasonal Trend Table	1.0176

Historical Factors

All of the traffic counts were conducted in 2014, with the exception of the counts conducted at the Kershaw Road/OR140 intersection, which were conducted in 2012. The counts at Kershaw Road/OR140 will be adjusted from 2012 to 2014 based on historical traffic data provided in the TVT.

Forecast Traffic Volumes

Forecast traffic volumes for the Jackson County TSP update will be developed for the study intersections based on the methodology identified in the National Cooperative Highway Research Program (NCHRP) Report 255 *Highway Traffic Data for Urbanized Area Project Planning and Design*. The methodology combines the year 2014 30 HV traffic volumes developed at the study intersections with base year 2006 and future year 2034 traffic volume forecasts from the currently accepted RVMPO travel demand model (3.1). The general methodology to develop the volumes is outlined below.

- The year 2014 30 HV traffic volumes are used to represent the base volumes. These volumes will directly correlate to base year model volumes.
- The percentage change in the model's base and horizon year traffic volume for each movement is calculated and applied to the year 2014 30 HV traffic volumes. Each table reports the existing and future model volumes, in addition to the percentage change as applied.
- The numerical change (delta) in the model's traffic volumes is also calculated and applied to the year 2014 30 HV traffic volumes.
- The results obtained from the percentage and numerical change calculations are averaged to obtain the year 2034 analysis traffic volumes.

Post processing of the traffic volumes will occur on a link basis first. Once the volumes are adjusted, the link volumes will be converted into turn movements at the intersections. This process will be applied to all of the study intersections that exist in the base year model, as available. The reasonableness of the averaging method will be reviewed at each location, especially in instances in which the numerical and percentage change yield significantly different results (which can often occur on very low volume movements in the base model that increase significantly in 2034) or when the existing model differs significantly from the existing turning movement counts. On these occasions, the available data and travel forecasts will be reviewed to determine the appropriate year 2034 analysis volumes. The resulting unbalanced year 2034 volumes will be rounded and balanced, as appropriate, for use in the forecast conditions assessment.

To establish existing and future baseline conditions, the intersection performance of the 30 study intersections will be evaluated for year 2014 and year 2034 No Build traffic conditions. A sensitivity analysis will be conducted to evaluate year 2034 conditions under the Regional Problem Solving land use scenario.

Intersection Operational Standards

County Facilities

Jackson County uses volume-to-capacity (v/c) ratio standards to assess intersections operations. The County’s current TSP sets a maximum v/c ratio of 0.85 for all signalized and unsignalized intersections located outside an MPO boundary and a v/c ratio of 0.95 for those located inside an MPO boundary. Table 3 summarizes the v/c ratio standards that will be used to identify existing and potential future operational issues at the County study intersections.

Table 4: Jackson County Mobility Standards

Map ID	Intersection	Traffic Control	Mobility Standard
1	Hamrick Road/E Pine Street-Biddle Road	Signal	0.95
2	Table Rock Road/Biddle Road	Signal	0.95
3	Table Rock Road/Vilas Road	Signal	0.95
4	Table Rock Road/Antelope Road	Signal	0.95
5	Table Rock Road/Wilson Road	TWSC	0.95
6	Table Rock Road/Gregory Road	TWSC	0.95
20	Foothill-Phoenix Road/Hillcrest Road	Signal	0.95
21	Foothill Road/McAndrew Road WB Ramp	TWSC	0.95
22	Foothill Road/McAndrew Road EB Ramp	TWSC	0.95
23	Foothill Road/Lone Pine Road	TWSC	0.95
24	Foothill Road/Cocker Butte Road	TWSC	0.95
25	Hanley Road/Beall Lane	AWSC	0.95
26	E Evans Creek Road at Minthorne Road	TWSC	0.85
27	Columbus Road/Stage Road	AWSC	0.95
28	Atlantic Avenue/Antelope Road	TWSC	0.95
30	Antelope Road/Kirtland Road	TWSC	0.95

AWSC: All-Way Stop Control
TWSC: Two-way Stop Control

ODOT Facilities

ODOT also uses volume-to-capacity (V/C) ratio standards to assess intersections operations. Table 6 of the *Oregon Highway Plan* (OHP - Reference 4) and table 10-2 of the *Oregon Highway Design Manual* (HDM – Reference 5) provide maximum volume-to-capacity ratios for all signalized and unsignalized intersections outside the Metro area. The OHP ratios are used to evaluate existing and future no-build conditions, while the HDM ratios are used in the creation of future TSP alternatives which involve projects along state highways. The ODOT controlled intersections within the study area are located along OR62, OR66, OR/99, OR140, OR230, OR234, OR238, and at the I-5/Siskiyou Highway interchange. The following provides a summary of the state highway classifications, freight route designations, and other roadway characteristics at each of the study intersection that help determine the v/c ratio.

- Kershaw Road/OR140 – The east and west legs of the intersection are classified as Statewide Highways and are designated freight routes within an MPO. The north and south legs are County facilities, and therefore ODOT’s District Highway/Local Interest Road standards are applied to these approaches.
- OR 62/OR140 – The north leg of the intersection is classified as an Expressway, a Regional Highway, and is located within an MPO. The south leg is classified as an Expressway, a Statewide Highway, and is a designated freight route within an MPO. The east leg is classified as a Statewide Highway and is a designated freight route within an MPO.
- OR62/OR234-Del Isle Way – The north and south legs of the intersection are classified as Regional Highways and the west leg is classified as a District Highway. All legs are located outside the MPO boundary in rural lands.
- OR62/OR230 – The north and south legs of the intersection are classified as Regional Highways and the east leg is classified as a District Highway. All legs are located outside the MPO boundary in rural lands.
- OR62/Vilas Road – The north and south legs of the intersection are classified as Expressways and Statewide Highways and are designated freight routes within an MPO. The east and west legs are County facilities, and therefore ODOT’s District Highway/Local Interest Road standards are applied to these approaches.
- I-5NB and SB Ramps/Siskiyou Highway – The north and south legs of the intersections are ramp terminals and the east and west legs are classified as District Highways. All legs are located outside the MPO boundary in rural lands.
- OR62/Tiller Trail Highway (OR 227) – The east and west legs of the intersection are classified as Regional Highways. The north leg is classified as a District Highway. All three legs are located outside the MPO boundary in rural lands.
- OR62/Mill Creek/1st Street - The north and south legs of the intersection are classified as Regional Highways and are located outside the MPO boundary in rural lands. The east leg is a County facility, and therefore ODOT’s District Highway/Local Interest Road standards are applied to this approach.
- OR62/Butte Falls Highway – The north and south legs of the intersection are classified as Regional Highways and are located outside the MPO boundary in rural lands. The east leg is a County facility, and therefore ODOT’s District Highway/Local Interest Road standards are applied to this approach.
- Siskiyou Highway (OR273)/OR66 – The north, south and west legs of the intersection are classified as District Highways located outside the MPO boundary in rural lands.
- Rogue River Highway/OR234 – The east and west legs of the intersection are classified as District Highways and are located outside the MPO boundary in rural lands. The north leg is

a County facility, and therefore ODOT’s District Highway/Local Interest Road standards are applied to this approach.

- OR238/Upper Applegate Road – The east and west legs of the intersection are classified as District Highways and are located outside the MPO boundary in rural lands. The south leg is a County facility, and therefore ODOT’s District Highway/Local Interest Road standards are applied to this approach.
- OR66/Old Hyatt Prairie Road – The east and west legs of the intersection are classified as District Highways and are located outside the MPO boundary in rural lands. The south leg is a County facility, and therefore ODOT’s District Highway/Local Interest Road standards are applied to this approach.

Table 4 summarizes the v/c ratio standards that will be used to identify existing and potential future operational issues at the ODOT study intersections. The ODOT controlled approaches are shown in **bold** font. The OHP Standards are what will be applied to determine if there is a future capacity related deficiency. The HDM Standard will be used to evaluate adequacy of potential improvements.

Table 5: ODOT Mobility Standards

Map ID	Intersection	Traffic Control	OHP Standard	HDM Standard
7	Kershaw Road/OR140	TWSC	.95 N-S / .85 E-W	.85 N-S / .75 E-W
8	OR62/OR140	Signal	.85 S / .90 N / .85 E	.75 S / .80 N / .75 E
9	OR62/OR234-Del Isle Way	TWSC	.70 N-S / .75 W	.65 N-S / .70 W
10	OR62/OR230	TWSC	.70 N-S / .75 E	.65 N-S / .70 E
11	OR62/Vilas Road	Signal	.85 N-S / .95 E-W	.75 N-S / .85 E-W
12	I-5 SB Ramp /Siskiyou Highway	TWSC	0.85 N-S / 0.75 E	0.85 N-S / 0.70 E
13	I-5NB Ramp/Siskiyou Highway	TWSC	0.85 N / 0.75 E-W	0.85 N / 0.70 E-W
14	OR62/Tiller Trail Highway (OR 227)	TWSC	.75 N / .70 E-W	.70 N / .65 E-W
15	OR62/Mill Creek/1 st Street	TWSC	.70 N-S / .75 E	.65 N-S / .70 E
16	OR62/Butte Falls Highway	TWSC	.70 N-S / .75 E	.65 N-S / .70 E
17	Siskiyou Highway/OR66	TWSC	.75 N-S / .75 E	.75 N-S / .75 E
18	Rogue River Highway/OR234	TWSC	.75 N / .75 E-W	.70 N / .70 E-W
19	OR238/Upper Applegate Road	TWSC	.75 S / .75 E-W	.70 S / .70 E-W
29	OR66/Old Hyatt Prairie Road	TWSC	.75 N / .75 E-W	.70 N / .70 E-W

TWSC: Two-way Stop Control

ANALYSIS MODEL PARAMETERS

The bullets below identify the specific sources of data and methodologies we propose to utilize. Analyses of all state facilities will be conducted according to 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 and 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.

2. *Operational Data* (such as posted speeds, intersection control, parking, transit stops, rail crossings, right-turn on red, etc.) will be verified. Data will be reviewed and supplemented by available GIS data, traffic count DVDs, 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 year 2034 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 Volume* development is described above.
5. *Signal Timing Data* will be requested from the Jackson County, ODOT, and the Cities of Medford and Ashland for use in the existing conditions analysis. Signal parameters such as Flash Don't Walk, Walk, and Minimum Times will be retained in the forecast analysis with the signal splits optimized to better serve the future traffic volume patterns. Optimized signal cycle lengths may range between 60 and 120 seconds.
6. **Traffic Operations**
 - a. The 2000 Highway Capacity Manual (HCM 2000) methodology will be used to analyze traffic operations at the signalized intersections while the HCM 2010 methodology will be used to analyze traffic operations at the unsignalized intersections.
 - b. The existing and future no-build traffic operations analyses will use Synchro 8 software using HCM 2000 reports for signalized intersections and HCM 2010 reports for unsignalized intersections. Roundabouts will be analyzed using ODOT's methodology for roundabout operations and will be compared to the results yielded from the findings from the NCHRP 3-65 report. Level-of-service, delay, and volume-to-capacity ratios will be reported at each of the study intersections regardless of roadway jurisdiction.
 - c. Queuing analysis methodology will be based on Synchro 95th percentile queue lengths. Microsimulation is not proposed as part of this long-range planning effort.

TRAFFIC ANALYSIS SOFTWARE AND INPUT ASSUMPTIONS

Synchro software, Version 7 will be used for the intersection analysis. The reported results will be the level of service, intersection delay, and v/c ratios generated by the HCM report. Analysis assumptions are listed in Table 6.

Table 6: Synchro 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
Area Type	Other

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
Percent Grade	Estimated based on field observations
Parking Maneuvers per Hour	Estimated based on field observations
Bus Blockages	None
Intersection signal phasing and coordination	From ODOT/County/City
Intersection signal timing optimization limits	Maximum cycle length = 120 seconds
Minimum Green time	From timing plans
Yellow and all-red time	From timing plans
95 th percentile vehicle queues	Synchro HCM summary output

LTS ANALYSIS

The bicycle level of traffic stress (LTS) analysis will be performed consistent with the methodologies identified in the APM for urban and rural roadways. The urban methodology will be applied to the roadways included in the scope of work with speeds below 45 miles per hour (mph) while the rural methodology will be applied to the roadways with speeds 45 mph and above. The speed data was obtained from the County’s GIS database and field verified during the kick off meeting and site visit for consistency. Additional data collected during the kick-off meeting and site visit (presence and width of bike lanes, shoulders, shared-use paths, etc.) will be supplemented by additional data obtained from aerial imagery of the roadways. The LTS analysis results will be presented in a tabular format and as part of a map atlas.

CRASH ANALYSIS

The five most recent years of crash data will be reviewed at the study intersections and along the County’s roadway segments consistent with the methodologies outlined in the APM. The data will be analyzed for number, type, severity, and location to identify potential crash patterns and million entering vehicle (MEV) crash rates. Intersection crash rates will be compared to the published 90th percentile crash rates in Exhibit 4.1 of the APM and segment crash rates will be compared to Table II in the current ODOT Crash Rate Tables. In addition, ODOT’s top 10% ODOT Safety Priority System sites will be reviewed, as appropriate. Any identified potential countermeasures (and any resulting crash percentage reduction) will be taken from the All Roads Transportation Safety (ARTS) Crash Reduction Factors (CRF) listing or the CRF Appendix.

REFERENCES

1. Oregon Department of Transportation. *Transportation System Plan Guidelines*, 2008.
2. Oregon Department of Transportation. *Analysis Procedures Manual*, 2012.
3. Oregon Department of Transportation. *Transportation Volume Tables*, 2013.
4. Oregon Department of Transportation. *Oregon Highway Plan*, 2012.
5. Oregon Department of Transportation. *Highway Design Manual*, 2012.

ATTACHMENTS

- A. Seasonal Adjustment Factors

Appendix 1 Seasonal Adjustment Factors

SEASONAL ADJUSTMENT FACTORS

On-Site ATR Method

The On-Site ATR Method was used to develop seasonal adjustment factors at the OR62/Butte Falls Highway and the OR238/Applegate Road intersections as described below.

OR62/Butte Falls Highway

The ATR selected for this intersection (15-013) is located on OR62 approximately 1.82 miles north of OR234. The ATR was installed in November 1956 and has traffic count data for the last 57 years. Based on historical traffic data provided by the ATR, the Peak Month generally occurs in July. Table A-1 summarizes the percent of average daily traffic (ADT) at the ATR for the last five years.

Table A-1: OR 62/Butte Falls Highway Seasonal Adjustment Factor

ATR	Year	2009	2010	2011	2012	2013	Average	Seasonal Adjustment
15-013	Peak Month (July)	121	123	120	122	122	121.67	
	Count Month (June)	114	113	114	113	115	113.67	1.074

Note: Shaded values dropped from average calculation per ODOT methodology.

Based on the data shown in Table A-1, the traffic counts conducted at the OR62/Butte Falls Highway intersection will be seasonally adjusted by a factor of 1.0704 (121.67/113.67).

OR238/Applegate Road

The ATR selected for this intersection (15-011) is located on OR238 approximately 0.68 miles west of Applegate Road. The ATR was installed in November 1956 and has traffic count data for the last 57 years. Based on historical traffic data provided by the ATR, the Peak Month generally occurs in July. Table A-2 summarizes the percent of average daily traffic (ADT) at the ATR for the last five years.

Table A-2: OR238/Applegate Road Seasonal Adjustment Factor

ATR	Year	2009	2010	2011	2012	2013	Average	Seasonal Adjustment
15-011	Peak Month (July)	118	117	114	115	115	115.67	
	Count Month (Dec)	92	91	89	86	82	88.67	1.3045

Note: Shaded values dropped from average calculation per ODOT methodology.

Based on the data shown in Table A-2, the traffic counts conducted at the OR238/Applegate Road intersection will be seasonally adjusted by a factor of 1.3045 (115.67/89.00).

Information from the nine ATRs located within Jackson County were used to develop seasonal adjustment factors for Interstate, Statewide, Regional, and District Highways approaches to the study intersection as described below.

Interstate

The ATRs located along Interstates within Jackson County include 15-001, 15-002, and 15-019. Table A-3 summarizes the percent of average daily traffic (ADT) at the ATRs for the last five years.

A-3: Interstate Seasonal Adjustment Factors

ATR	Year	2009	2010	2011	2012	2013	Average	Seasonal Adjustment
15-007	Peak Month (July)	117	118	116	116	118	117.00	
	Count Month (June)	110	112	113	114	114	113.00	1.0354
	Count Month (July)	117	118	116	116	118	117.00	1.0000
15-002	Peak Month (July)	124	125	123	122	123	123.33	
	Count Month (June)	110	114	114	115	112	113.33	1.0882
	Count Month (July)	124	125	123	122	123	123.33	1.0000
15-019	Peak Month (June, July)	115	116	115	117	116	115.67	
	Count Month (June)	108	113	114	112	114	113.00	1.0236
	Count Month (July)	114	116	115	114	116	115.00	1.0058
							Count Month (June)	1.0491
							Count Month (July)	1.0019

Note: Shaded values dropped from average calculation per ODOT methodology.

Based on the data shown in Table A-3, the traffic counts conducted along interstates, including ramp terminals, will be seasonally adjusted by a factor of 1.0491 if conducted in June and 1.0019 if conducted in July.

Statewide Highways

The ATRs located along Statewide Highways within Jackson County include 15-017 and 15-020. Table A-4 summarizes the percent of average daily traffic (ADT) at the ATRs for the last five years.

A-4: Statewide Highways Seasonal Adjustment Factor

ATR	Year	2009	2010	2011	2012	2013	Average	Seasonal Adjustment
15-017	Peak Month (July)	109	108	108	110	108	108.33	
	Count Month (June)	108	108	108	110	108	108.00	1.0031
	Count Month (July)	109	107	105	109	107	107.67	1.0062
	Count Month (August)	109	108	107	107	108	107.67	1.0062
15-020	Peak Month (July)	123	124	120	125	123	123.33	
	Count Month (June)	109	110	107	111	108	109.00	1.1315
	Count Month (July)	122	124	120	125	123	123.00	1.0027
	Count Month (August)	123	120	120	125	120	121.011	1.0193
							Count Month (June)	1.0673
							Count Month (July)	1.0045
							Count Month (August)	1.0127

Note: Shaded values dropped from average calculation per ODOT methodology.

Based on the data shown in Table A-4, the traffic counts conducted along Statewide Highways will be seasonally adjusted by a factor of 1.0673 if conducted in June and 1.0045 if conducted in July.

Regional Highway

There is one ATR located along a Regional Highway within Jackson County. Table A-5 summarizes the percent of average daily traffic (ADT) at the ATR for the last five years.

A-5: Regional Highway Seasonal Adjustment Factors

ATR	Year	2009	2010	2011	2012	2013	Average	Seasonal Adjustment
15-013	Peak Month (July)	121	123	120	122	122	121.67	
	Count Month (June)	114	113	114	113	115	113.67	1.0704
	Count Month (July)	121	123	120	122	122	121.67	1.0000
							Count Month (June)	1.0704
							Count Month (July)	1.0000

Note: Shaded values dropped from average calculation per ODOT methodology.

Based on the data shown in Table A-5, the traffic counts conducted along Regional Highways will be seasonally adjusted by a factor of 1.0704 if conducted in June. No Adjustment will be made to the traffic counts conducted along Regional Highways in July.

District Highways

The ATRs located along District Highways within Jackson County include 15-007, 15-011, and 15-014. Table A-6 summarizes the percent of average daily traffic (ADT) at the ATRs for the last five years.

A-6: District Highways Seasonal Adjustment Factors

ATR	Year	2009	2010	2011	2012	2013	Average	Seasonal Adjustment
15-007	Peak Month (July)	125	139	134	140	134	135.67	
	Count Month (June)	121	122	126	119	121	121.33	1.1181
	Count Month (July)	125	139	134	140	134	135.67	1.0000
15-002	Peak Month (July)	118	117	114	115	115	115.67	
	Count Month (June)	114	113	114	113	115	113.67	1.0176
	Count Month (July)	118	117	114	115	115	115.67	1.0000
15-019	Peak Month (June, July)	116	111	113	116	113	114.00	
	Count Month (June)	114	111	113	116	113	113.33	1.0059
	Count Month (July)	112	110	112	111	110	111.00	1.0270
							Count Month (June)	1.0472
							Count Month (July)	1.0090

Note: Shaded values dropped from average calculation per ODOT methodology.

Based on the data shown in Table A-6, the traffic counts conducted along District Highways will be seasonally adjusted by a factor of 1.0270 if conducted in June and 1.0472 if conducted in July.

Seasonal Trend Table Method

The Seasonal Trend Table Method was used to develop seasonal adjustment factors at the County study intersections. Table A-7 summarizes the average values for both seasonal traffic trends during the count months (June and July) and the peak period as provided in the ODOT Seasonal Trend Table.

A-7: Seasonal Trend Table

Trend	15-June	1-July	15-July	ODOT Peak Period Seasonal Factor
Summer	0.9048	0.9083	0.9082	0.9001
Commuter	0.8970	0.8673	0.8376	0.8376

The results of the analysis indicate that the average seasonal adjustment factor ranges from 1.0389 for the counts conducted in June to 1.0176 to the counts conducted in July.

Attachment B Site Visit Memo



MEMORANDUM

Date: June 10, 2015 Project #: 18018.0

To: Mike Kuntz, Jackson County

CC: Allie Coates, Oregon Department of Transportation, Region 3

From: Matthew Bell and Susan Wright, P.E. Kittelson & Associates, Inc.

Project: Jackson County Transportation System Plan (TSP) Update

Subject: Site Visit Memorandum (Subtask 2.6)

PURPOSE AND INTRODUCTION

This memorandum summarizes information collected during a site visit on January 28, 2015. The information was used in the development of the transportation system inventory and will be used in the existing conditions analysis. The information includes a basic assessment of the roadways identified in the scope of work for the Bicycle Level of Traffic Stress (LTS) analysis and confirmation of lane geometry at several of the study intersections.

BICYCLE LEVEL OF TRAFFIC STRESS

The ODOT Analysis Procedures Manual (APM – Reference 1) includes a methodology for evaluating Bicycle Level of Traffic Street (LTS) along streets with posted speeds of less than or equal to 35 miles per hour (mph) and streets with posted speeds of 45 mph and above. While the former is based on a report prepared by the Mineta Transportation Institute called *Low Street Bicycling and Network Connectivity* and requires multiple inputs, the latter was developed by ODOT to evaluate Bicycle LTS in rural areas and requires paved shoulder width and Average Daily Traffic (ADT). Table 1 summarizes the shoulder width of the LTS Streets.

Table 1: Bicycle LTS Street Shoulder Width

Road	From/to	Shoulder Width (feet)	
		Left Side	Right Side
W Pine St (west to east)	Highway 99 to Hanley	4 to 6 ¹	4 to 6 ¹
Hanley Road	W Pine to Rossanley	4 to 6	4 to 6
Ross Ln	Hanley to Old Stage	4 to 6	4 to 6

Old Stage Rd	Jacksonville city limits to I-5 Exit 40	0 to 2 ¹²	0 to 2 ¹²
S Stage Rd	Highway 99 to Jacksonville	4 to 6 ¹	4 to 6 ¹
W Main St	Renault to Hanley	4 to 6 ¹	4 to 6 ¹
N Phoenix Rd	Phoenix city limits to Barnett	4 to 6	4 to 6
Foothill Rd	Hillcrest to Corey	0 to 2	0 to 2
Bigham-Brown Rd	Antelope to Alta Vista	0 to 2	0 to 2
E Pine St (west to east)	I-5 n/b ramps to 500' east of Table Rock	4 to 6 ¹²	4 to 6 ¹²
Table Rock Road	South touchdown of I-5 overcrossing to Highway 234	4 to 6 ²	4 to 6 ²
East Vilas Rd	Highway 62 to Foothill	0 to 2	0 to 2
Antelope Road	Kirtland to Bigham-Brown	4 to 6 ¹	4 to 6 ¹
Fern Valley Rd (west to east)	N. Phoenix to Payne	0 to 2 ¹	0 to 2 ¹
Payne Rd	Fern Valley to Suncrest	0 to 2	0 to 2
Suncrest Rd	Payne to W Valley View	0 to 2	0 to 2
W Valley View Rd	Suncrest to S Valley View	0 to 2	0 to 2
E Valley View Rd	S Valley View to Butler Cr	0 to 2	0 to 2
Butler Creek Rd	E Valley View to Eagle Mill Rd	0 to 2	0 to 2
Eagle Mill Rd	S Valley View to Oak	4 to 6 ²	4 to 6 ²
Colver Rd (north to south)	Highway 99 to Phoenix City Limit	4 to 6 ¹	4 to 6 ¹
Pioneer Rd	Colver to Griffin Creek	0 to 2	0 to 2
Dark Hollow Rd (north to south)	Pioneer to Pioneer	0 to 2 ¹	0 to 2 ¹
Griffin Creek Rd (north to south)	S Stage to Pioneer	4 to 6 ¹²	4 to 6 ¹²
Houston Rd	Colver to Coleman Creek	4 to 6	4 to 6
Coleman Creek Rd	Pioneer to Carpenter Hill	0 to 2	0 to 2
Carpenter Hill Rd	Coleman Creek to Voorhies	0 to 2	0 to 2
Voorhies Rd	Carpenter Hill to S Stage	0 to 2	0 to 2
Stewart Ave	Oak Grove to Hull	0 to 2	0 to 2
Hull Rd	Stewart to S Stage	0 to 2	0 to 2
Bellinger Ln	Hull to S Stage	4 to 6 ¹²	4 to 6 ¹²
E Main St (Ashland)	Walker to Highway 66	4 to 6 ¹²	4 to 6 ¹²
E Evans Creek Rd	Rogue River city limit to Meadows	4 to 6 ²	4 to 6 ²
Meadows Rd	E Evans Creek to Highway 234	4 to 6 ²	4 to 6 ²

1. Some segments are posted below 45 miles per hour.
2. Some segments have 0 to 2-foot shoulders.

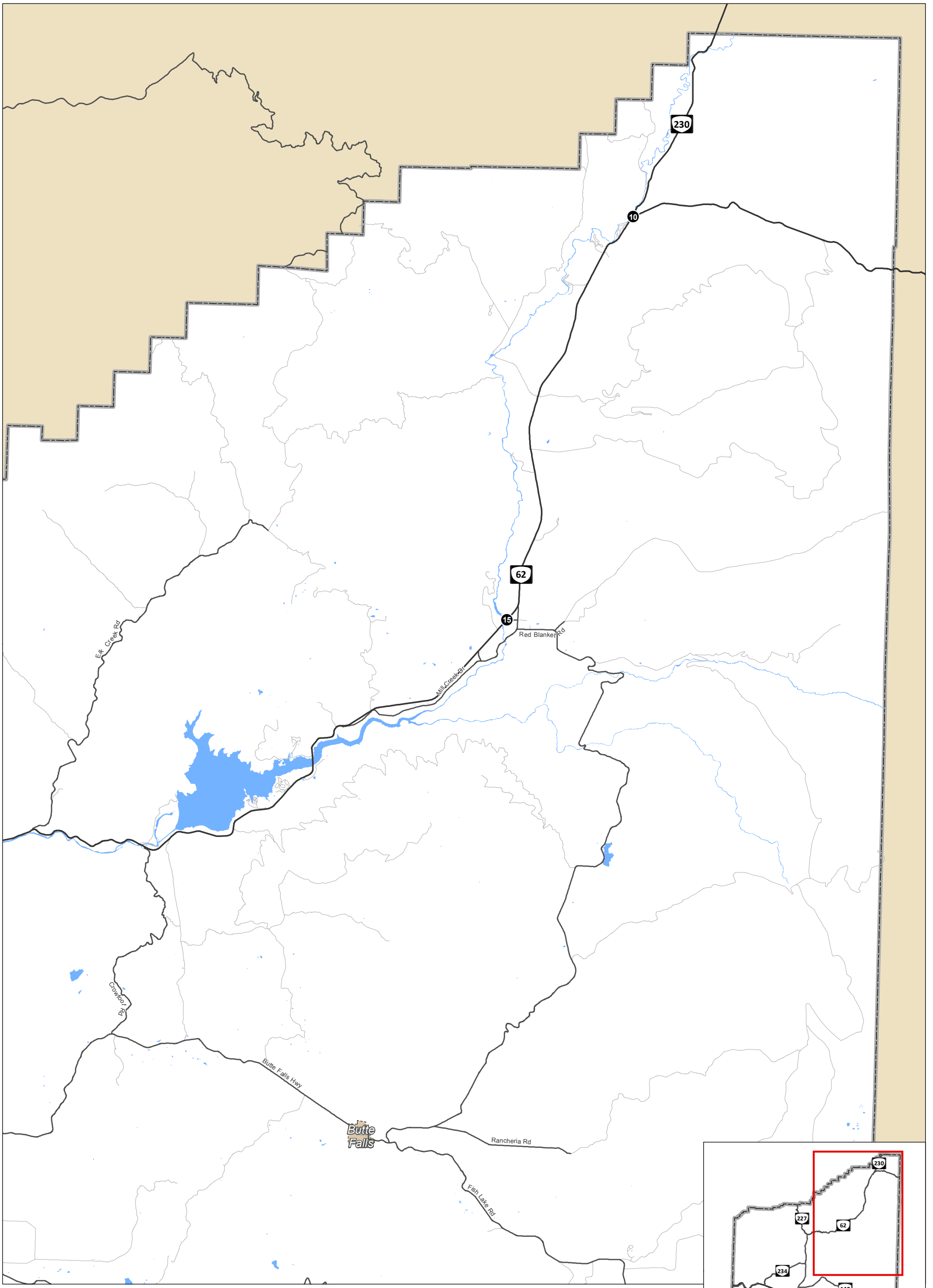
As shown in Table 1, some segments are posted below 45 mph and therefore, additional information, such as posted speed limits, lanes per direction, bicycle lane width parking lane widths, and other roadway characteristics will be needed to evaluate Bicycle LTS along these streets. Photos taken along of several roadway segments are included in Attachment "A".

LANE GEOMETRY

The lane geometry of the study intersections was reviewed prior to the kick-off meeting and site visit using aerial imagery. The lane geometry was confirmed during the site visit to ensure that the existing conditions analysis will reflect current transportation system conditions. Figure 1 illustrates the location of the study intersections. Figure 2 illustrates the lane configurations and traffic control devices at the study intersections.

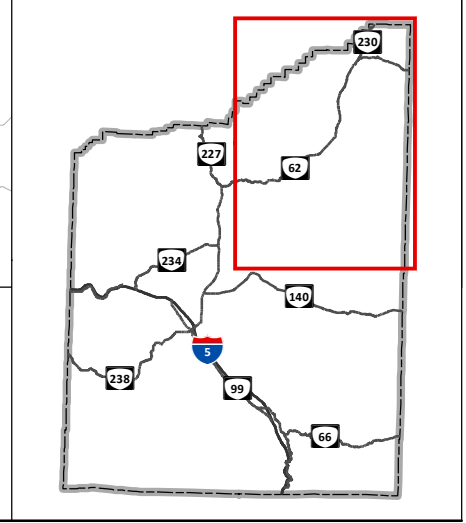
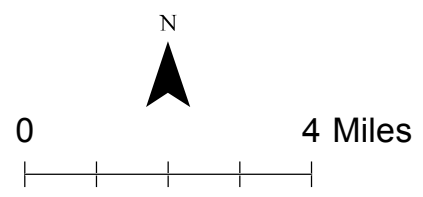
ATTACHMENTS

- A. Bicycle LTS Street Photos



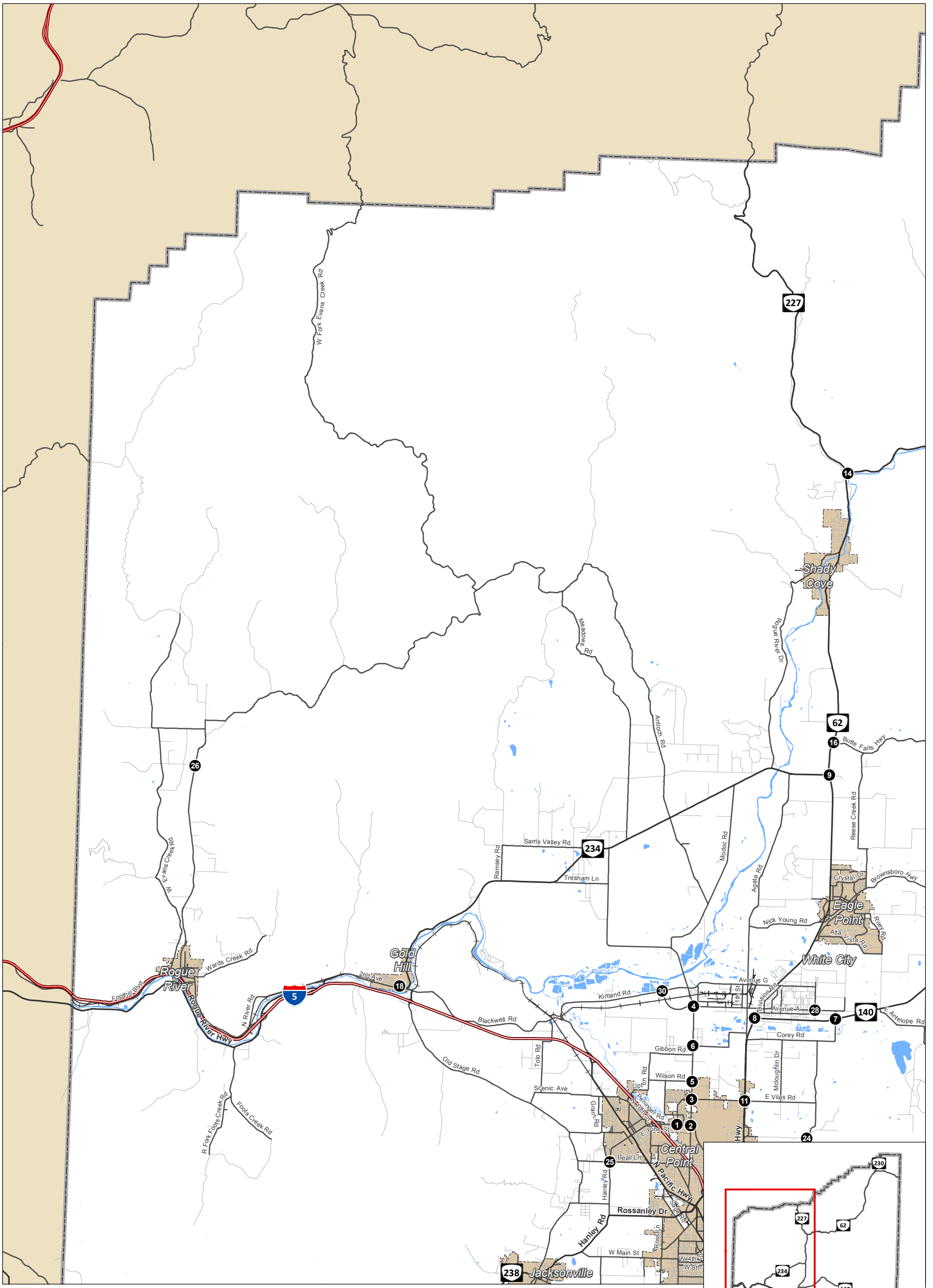
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- Study Intersections
- City Boundaries
- ⊞ County Boundary



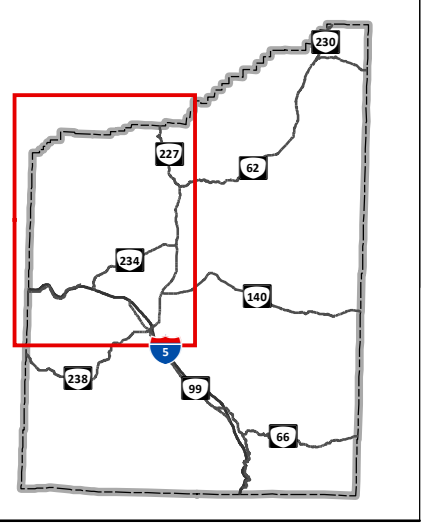
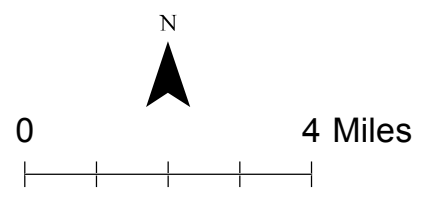
**Study Intersections
Jackson County, OR**

**Figure
1A**



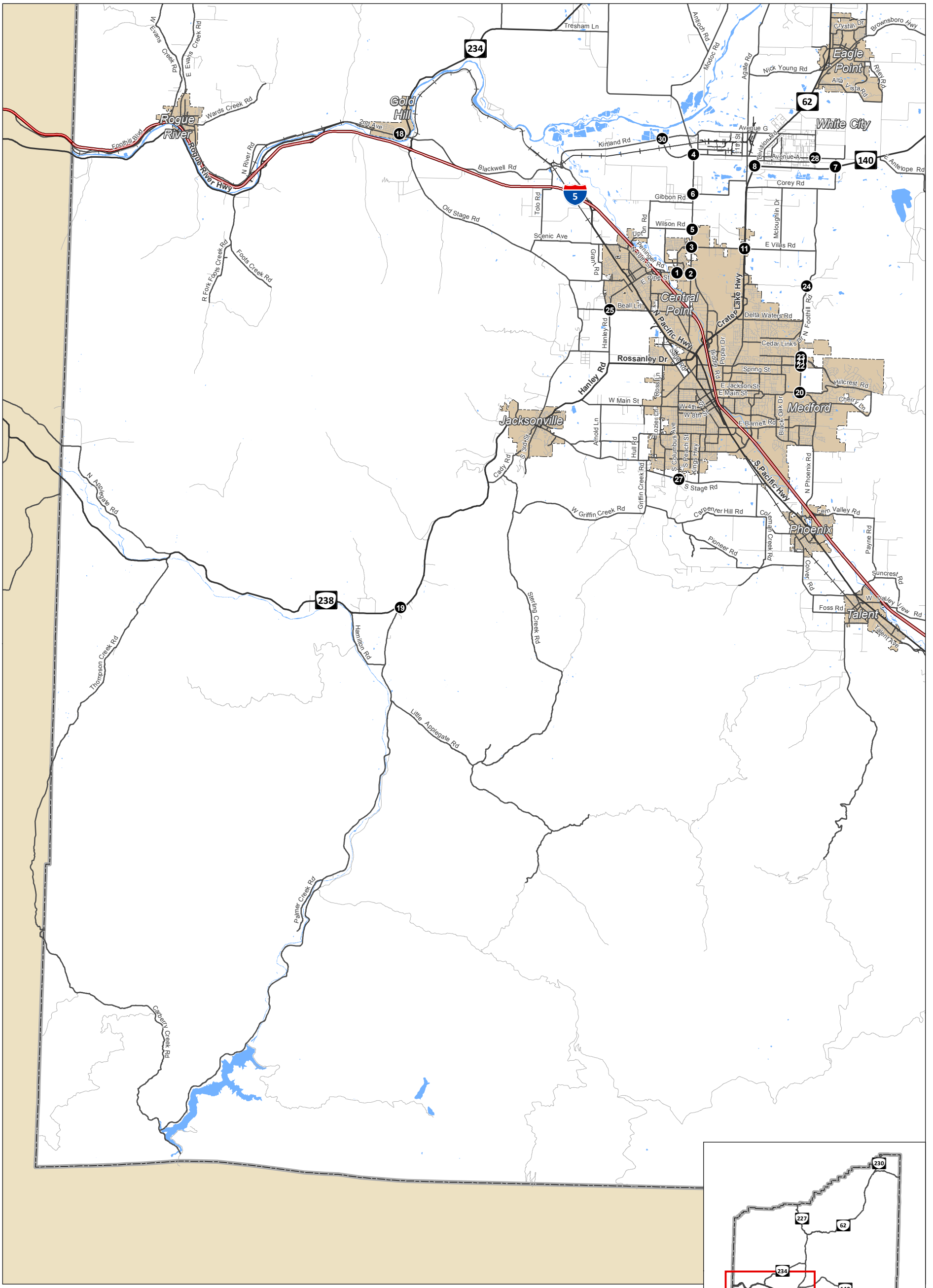
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- Study Intersections
- City Boundaries
- County Boundary

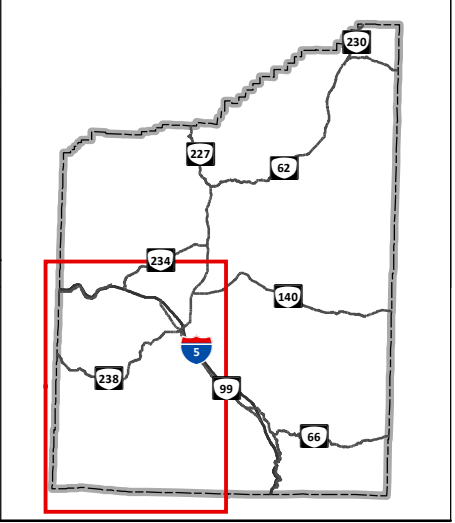
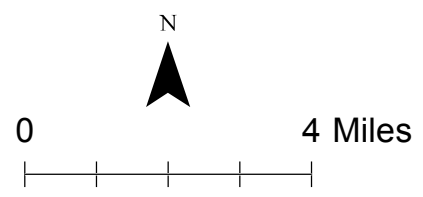


**Study Intersections
Jackson County, OR**

**Figure
1B**



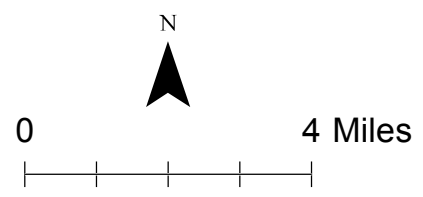
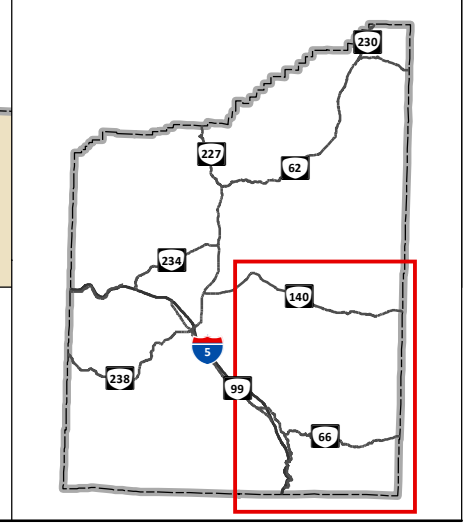
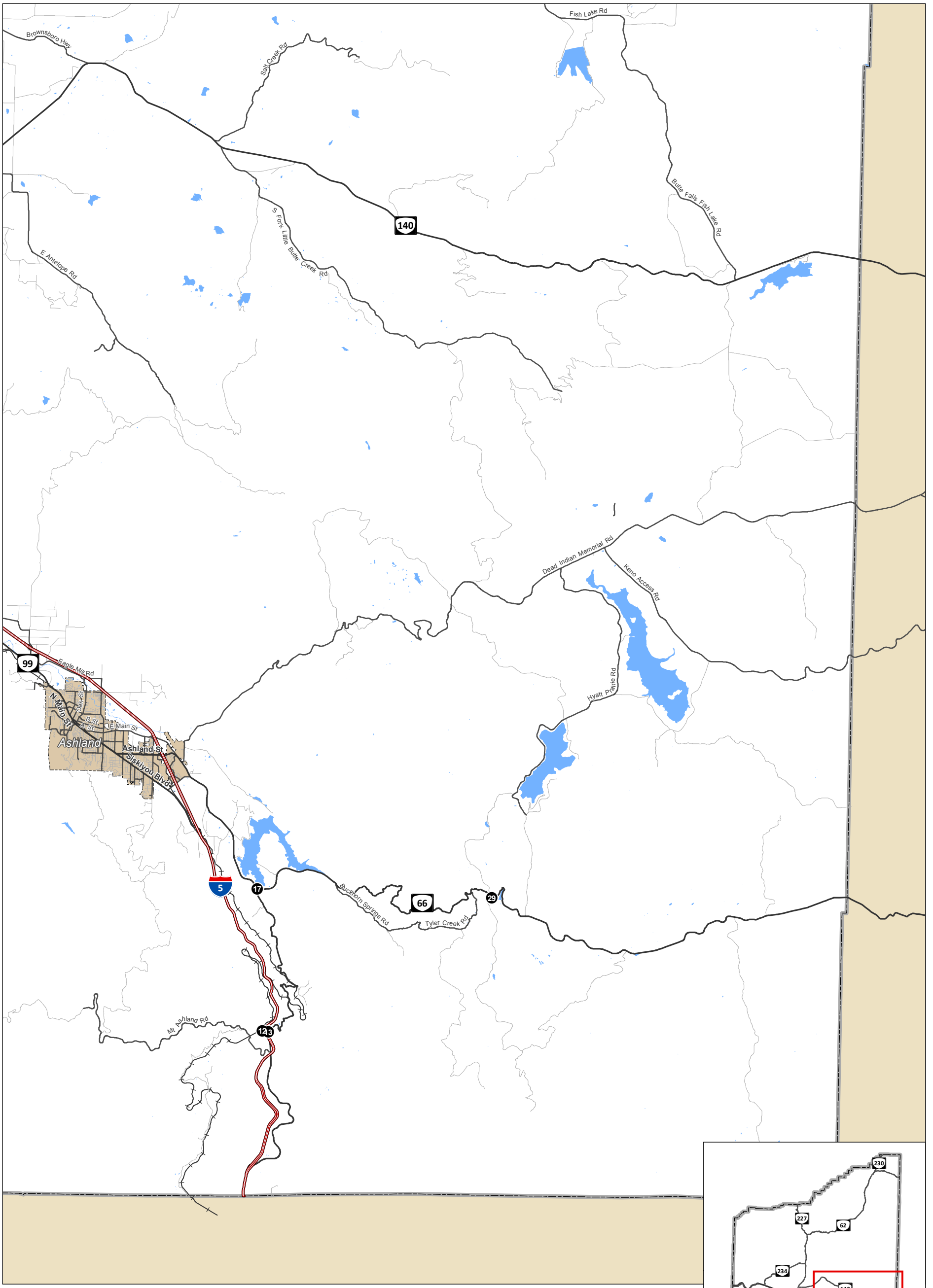
- Study Intersections
- City Boundaries
- County Boundary



**Study Intersections
Jackson County, OR**

**Figure
1C**

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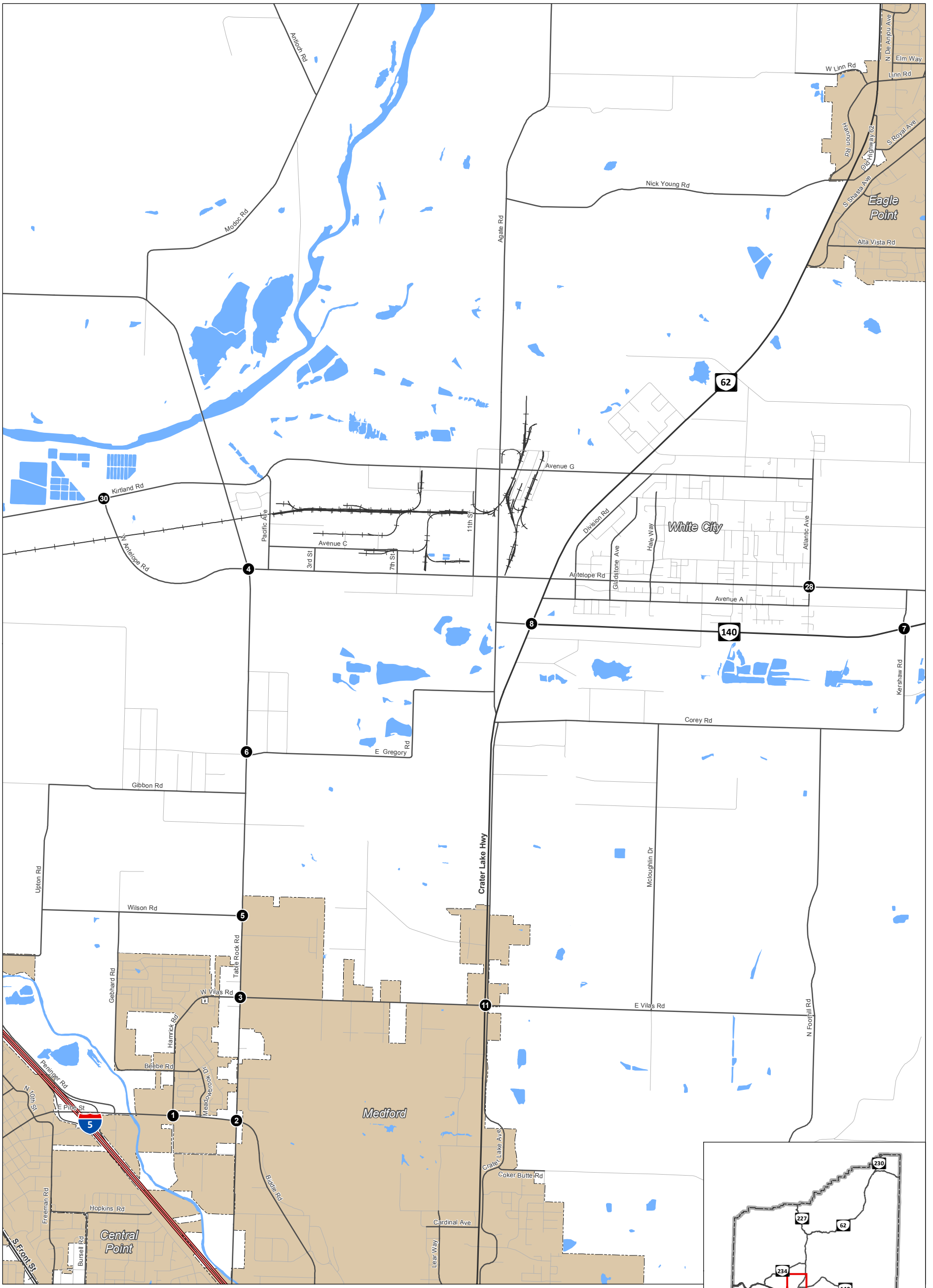


- Study Intersections
- City Boundaries
- County Boundary

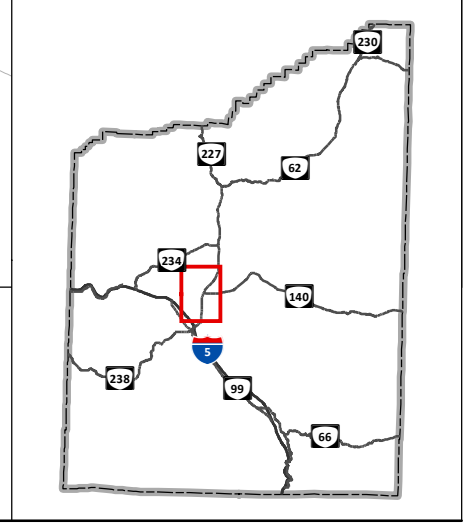
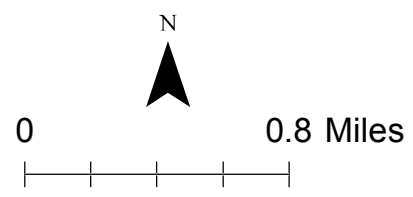
Study Intersections Jackson County, OR

Figure 1D

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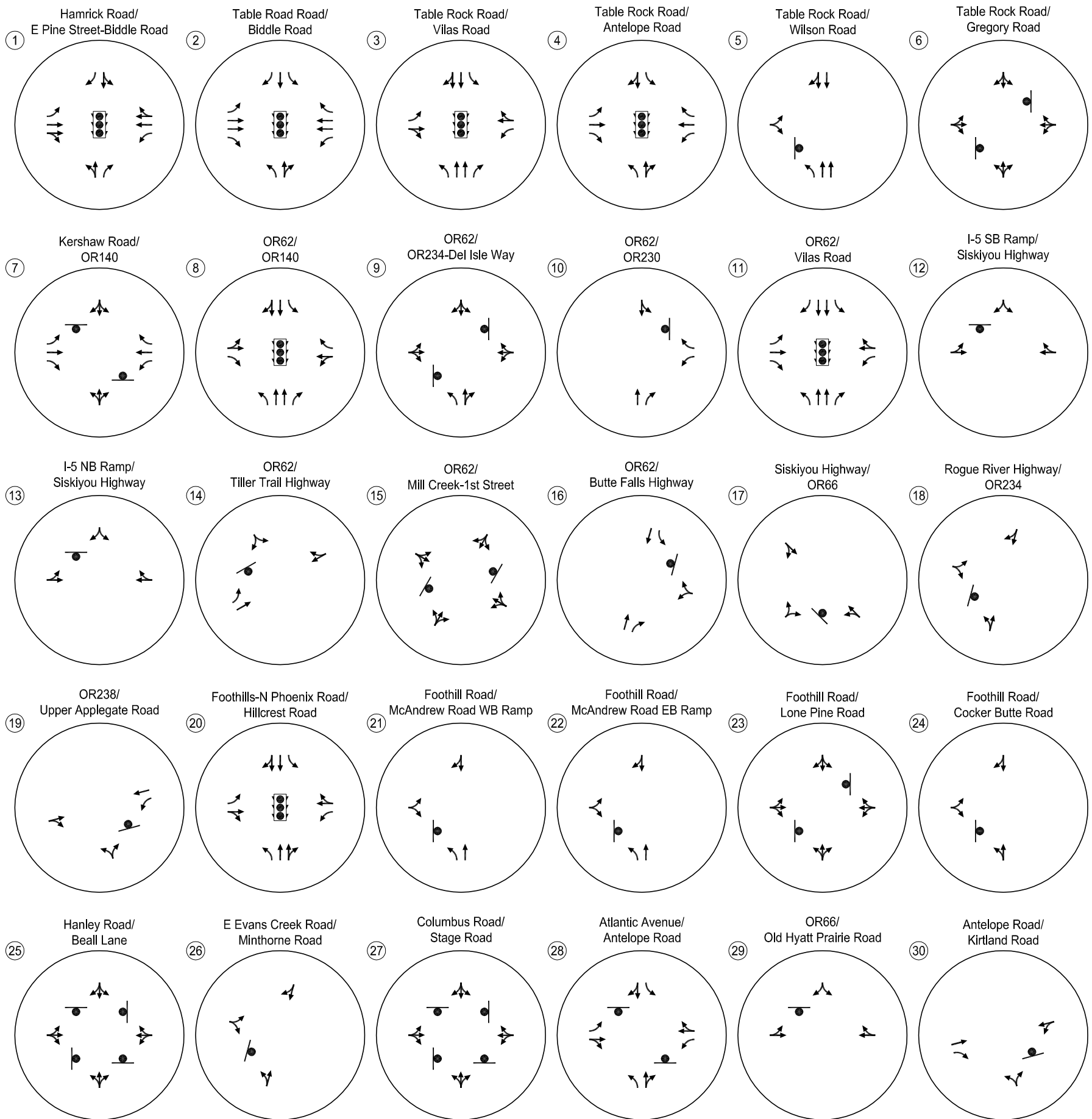
- Study Intersections
- City Boundaries
- County Boundary




Study Intersections Jackson County, OR

Figure 1E

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 - STOP SIGN
 - TRAFFIC SIGNAL

Existing Land Configurations & Traffic Control Devices
Jackson County, OR

Figure 2

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Attachment A Bicycle LTS Street Photos

BICYCLE LTS STREET PHOTOS



Bigham Broad Road – South of Eagle Point



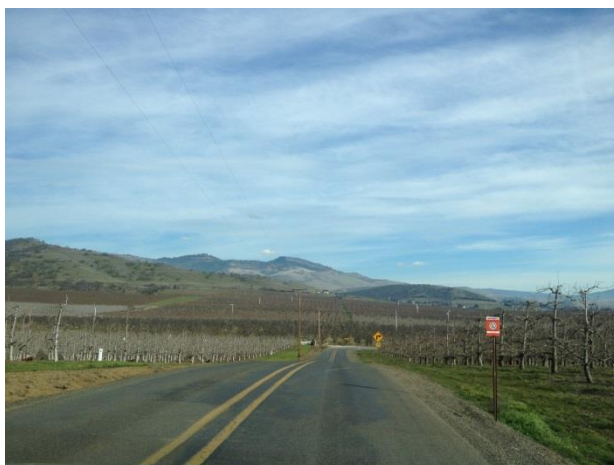
OR62 – North of Eagle Point



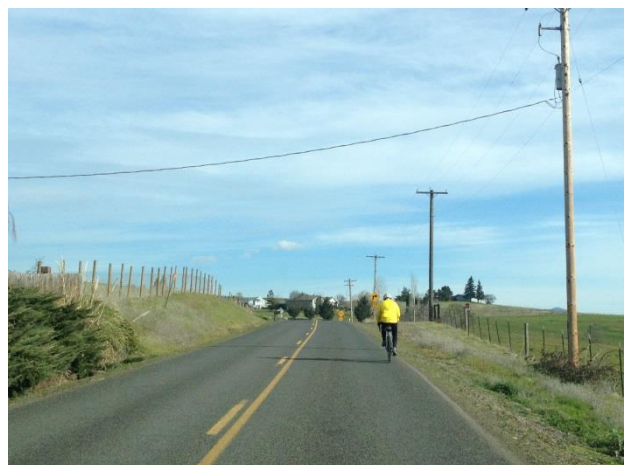
OR 234 – East of Table Rock Road



OR 234 – East of Table Rock Road



Suncrest Road – Northeast of Talent



Valley View Road – Northeast of Talent



Colver Road – South of Phoenix



Coleman Creek Road – South of Medford

Attachment C Traffic Counts

**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

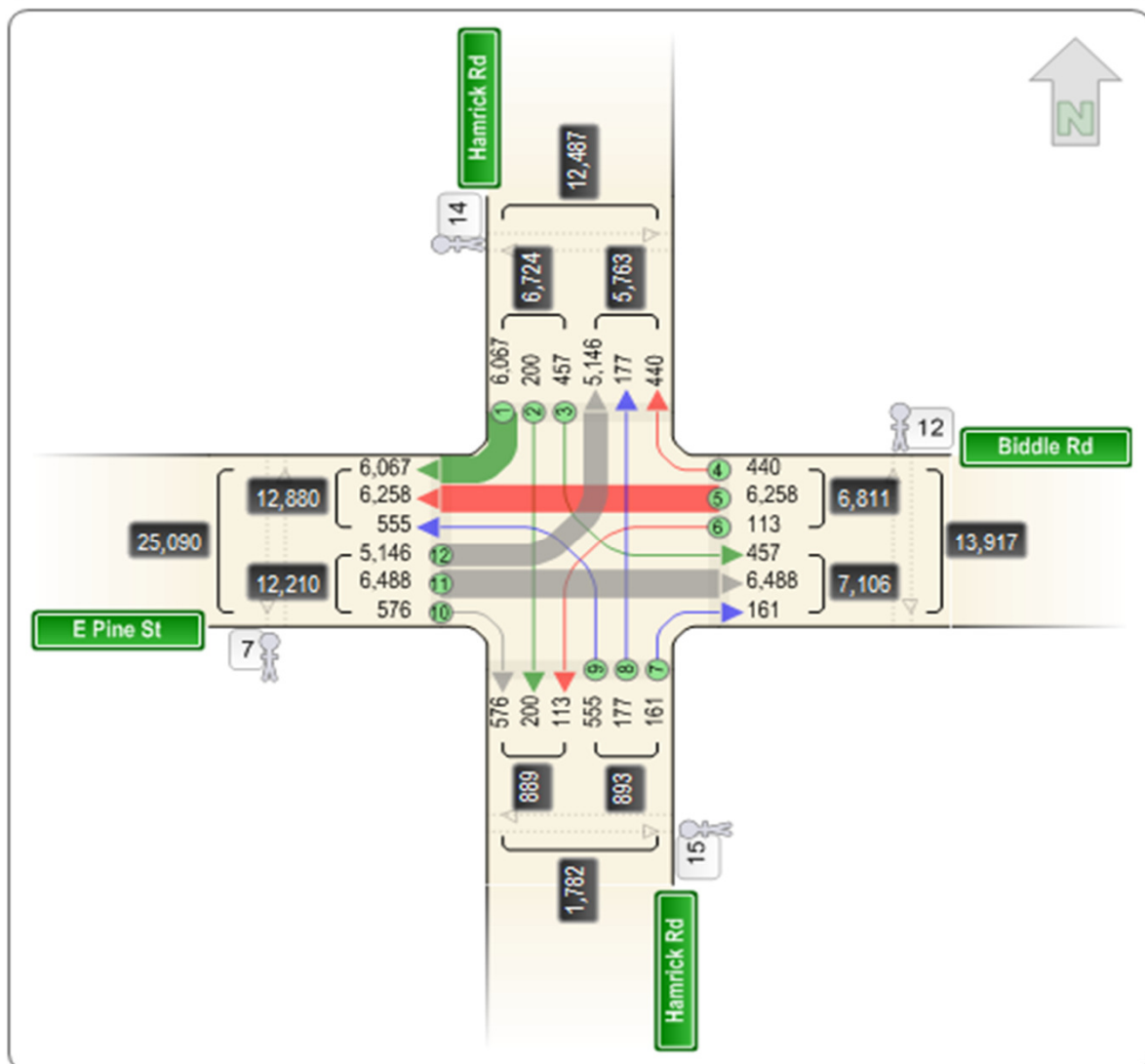
Date: 6/17/2014-6/18/2014
 Hours: 6/17/2014 6:00 AM-6/18/2014 6:00 AM
 Weather: Clear

Source

Site Number: 110041
 Mile Point: 4.00
 Street Number: 627
 Vehicle Type: Vehicles
 Crossing Flow: Pedestrians

Source Description

Location Description: E Pine St/Biddle Rd @ Hamrick Rd
 County: Jackson
 City: Central Point



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

Date: 6/17/2014-6/18/2014
Hours: 6/17/2014 6:00 AM-6/18/2014 6:00 AM

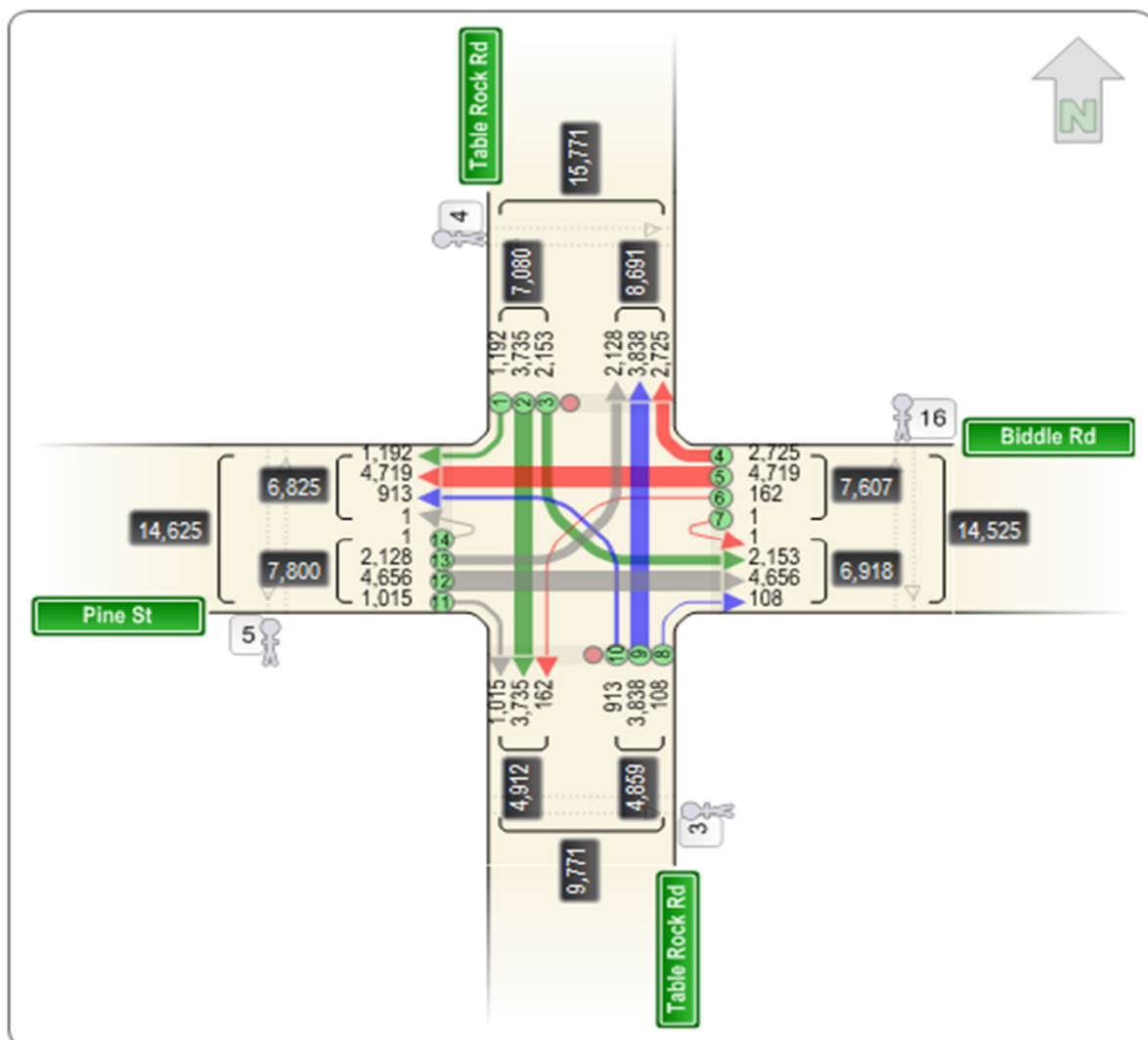
Weather:

Source

Site Number: 110042
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Table Rock Rd @ Biddle Rd
County: Jackson
City: Central Point



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

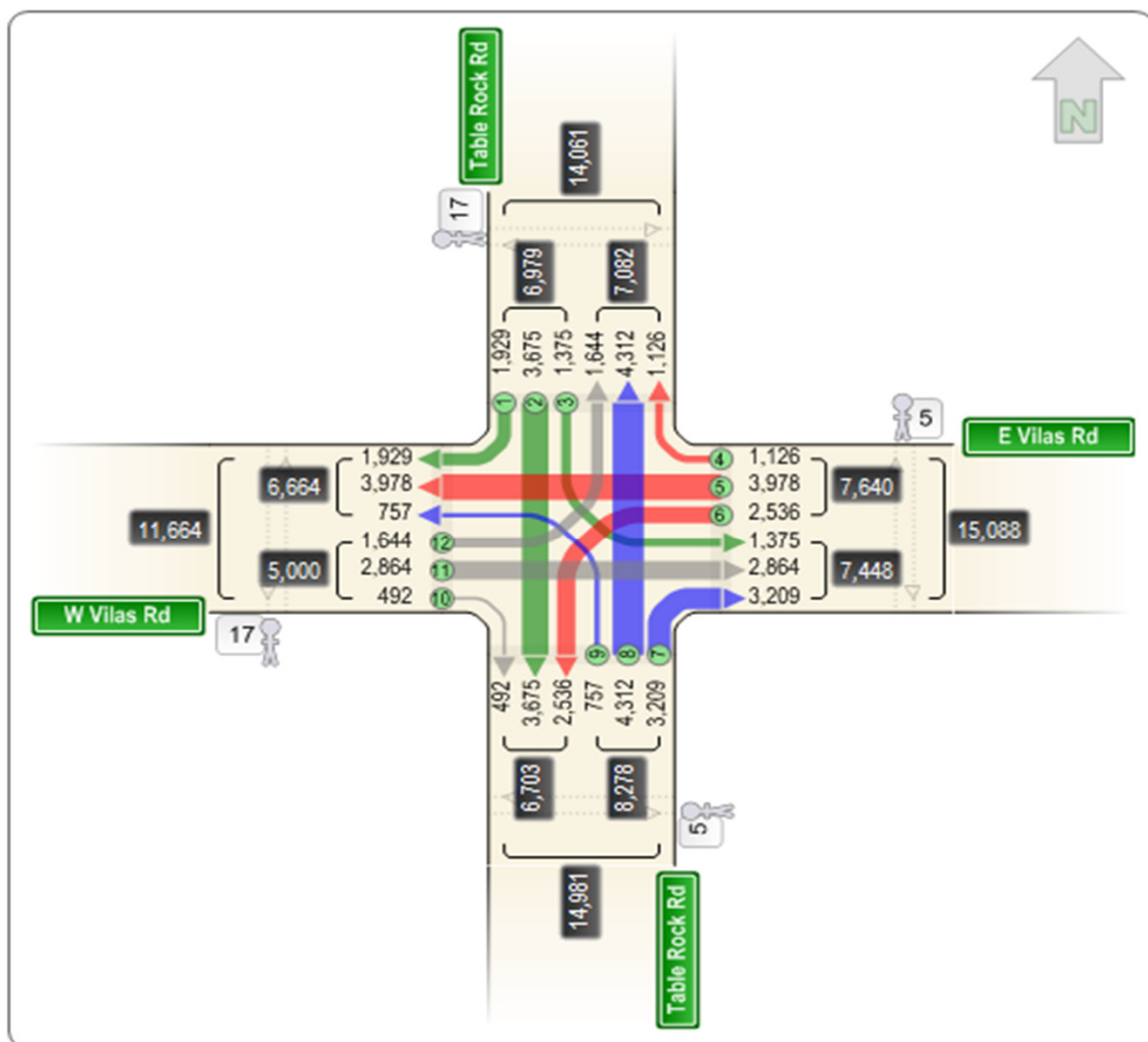
Date: 6/17/2014
Hours: 6:00 AM-10:00 PM
Weather: Clear

Source

Site Number: 110043
Street Number: 3702
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Table Rock Rd @ Vilas Rd
County: Jackson
City: Medford



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

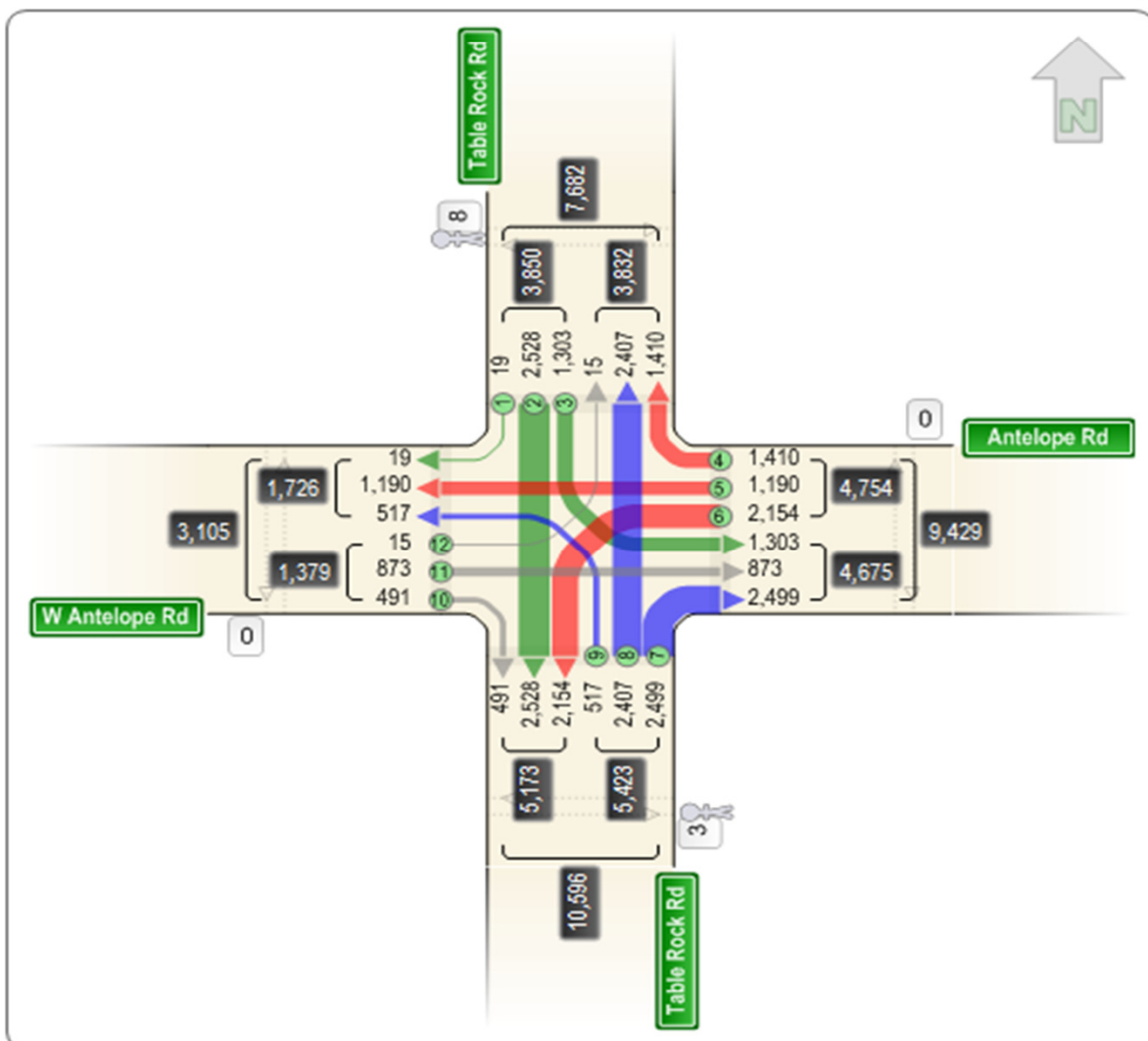
Date: 6/18/2014
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Weather:

Source

Site Number: 110044
Street Number: 3702
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Table Rock Rd @ Antelope Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

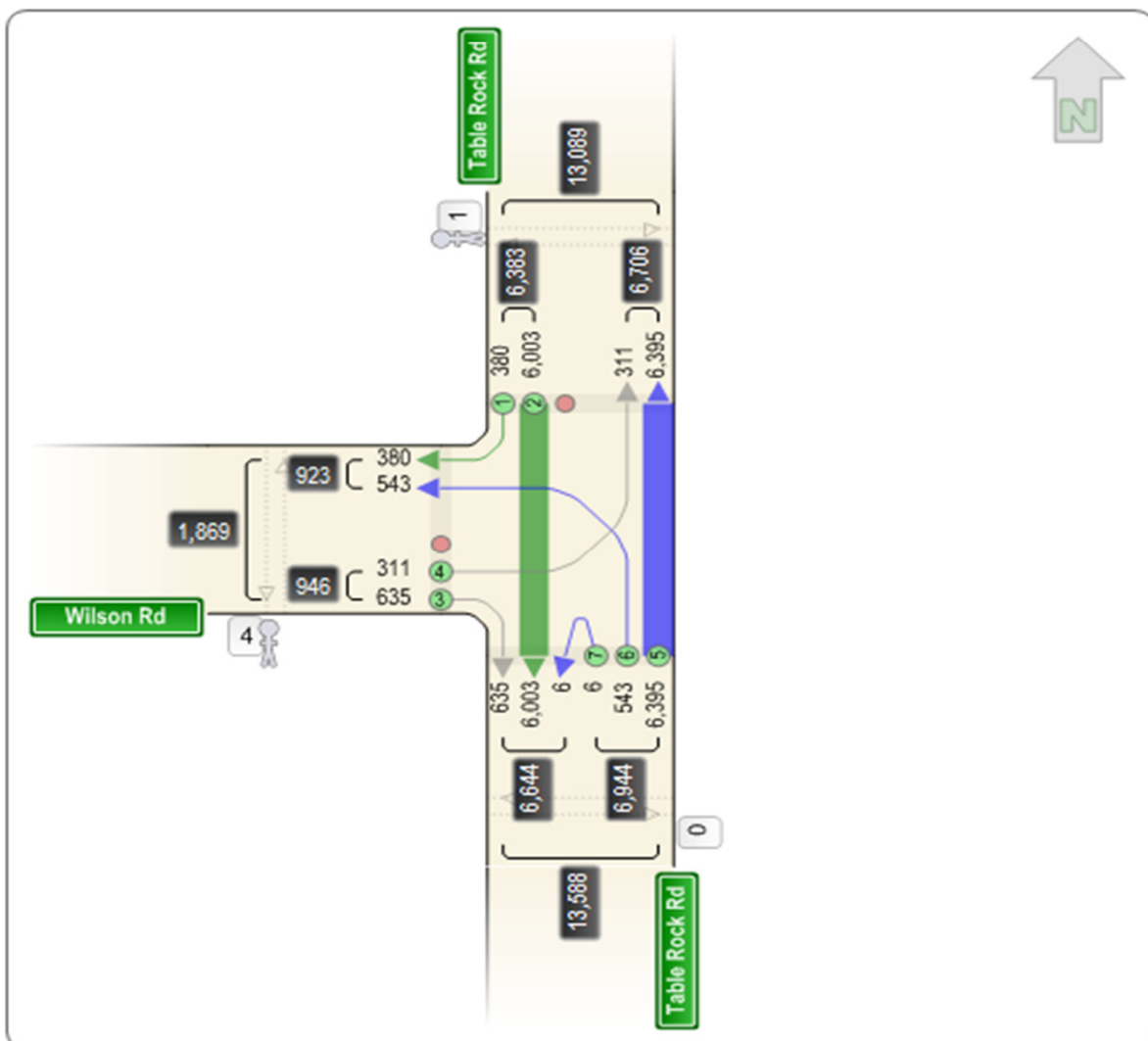
Date: 6/17/2014
Hours: 6:00 AM-10:00 PM
Weather: Cloudy

Source

Site Number: 110045
Street Number: 3702
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Table Rock Rd @ Wilson Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

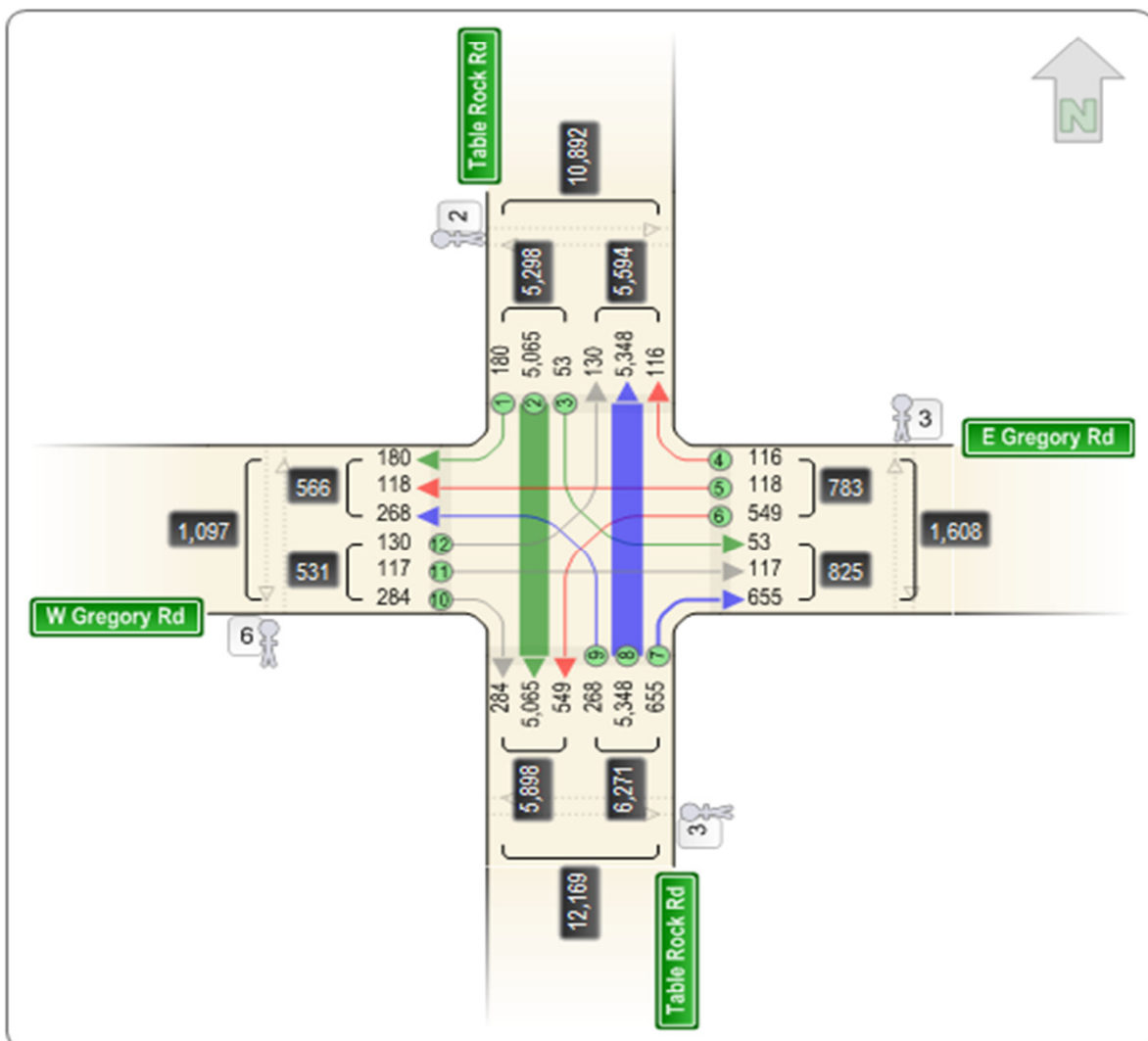
Date: 6/18/2014
Hours: 6:00 AM-10:00 PM
Weather: Clear

Source

Site Number: 110046
Street Number: 3702
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Table Rock Rd @ EW Gregory Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

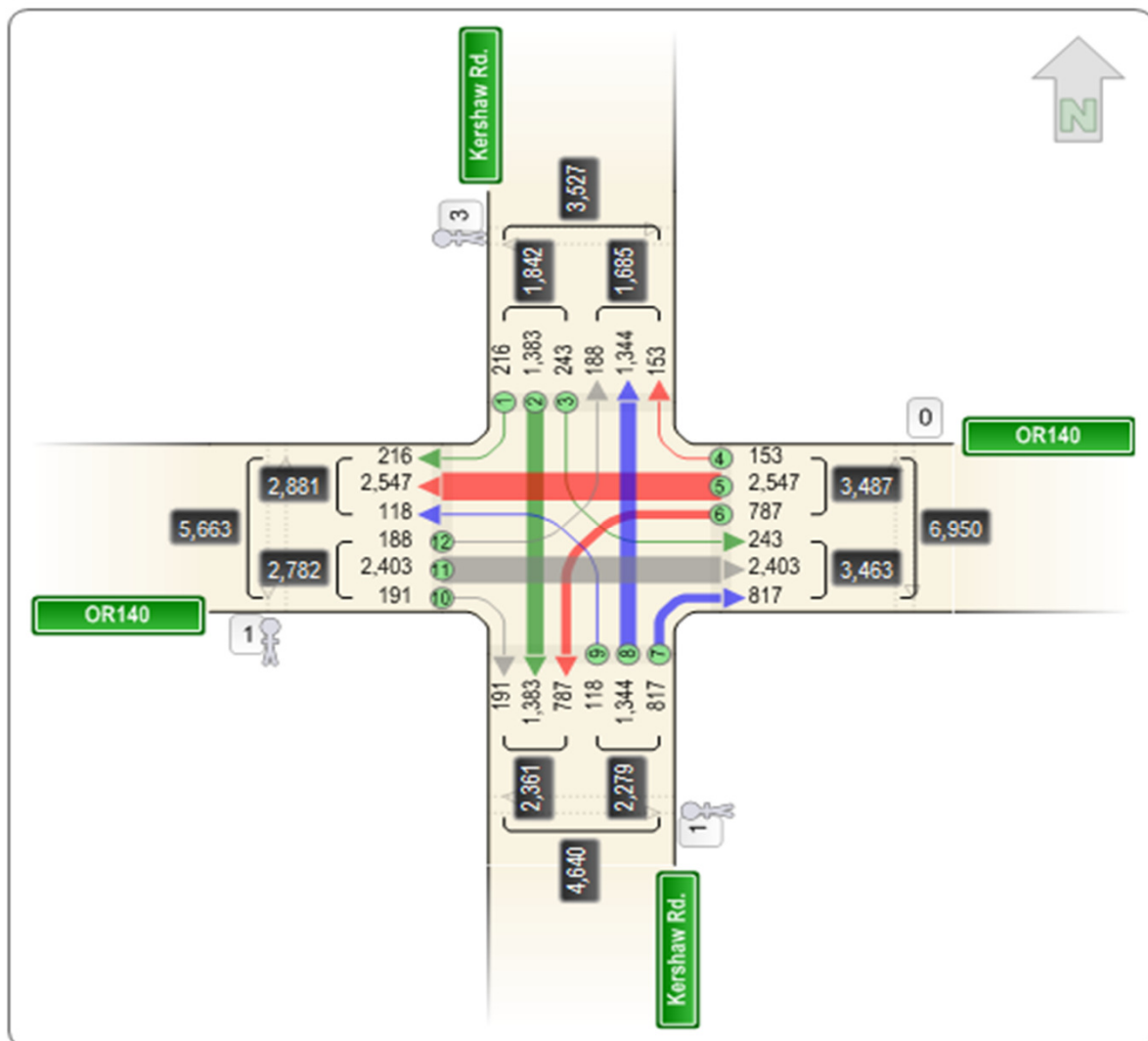
Date: 8/16/2012
Hours: 6:00 AM-10:00 PM
Weather: Cloudy

Source

Site Number: 15032012
Mile Point: 2.29
Street Number: 270
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: OR140 @ Kershaw Rd. site 4034 east leg 4033 west leg
County: Jackson
City: RURAL



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

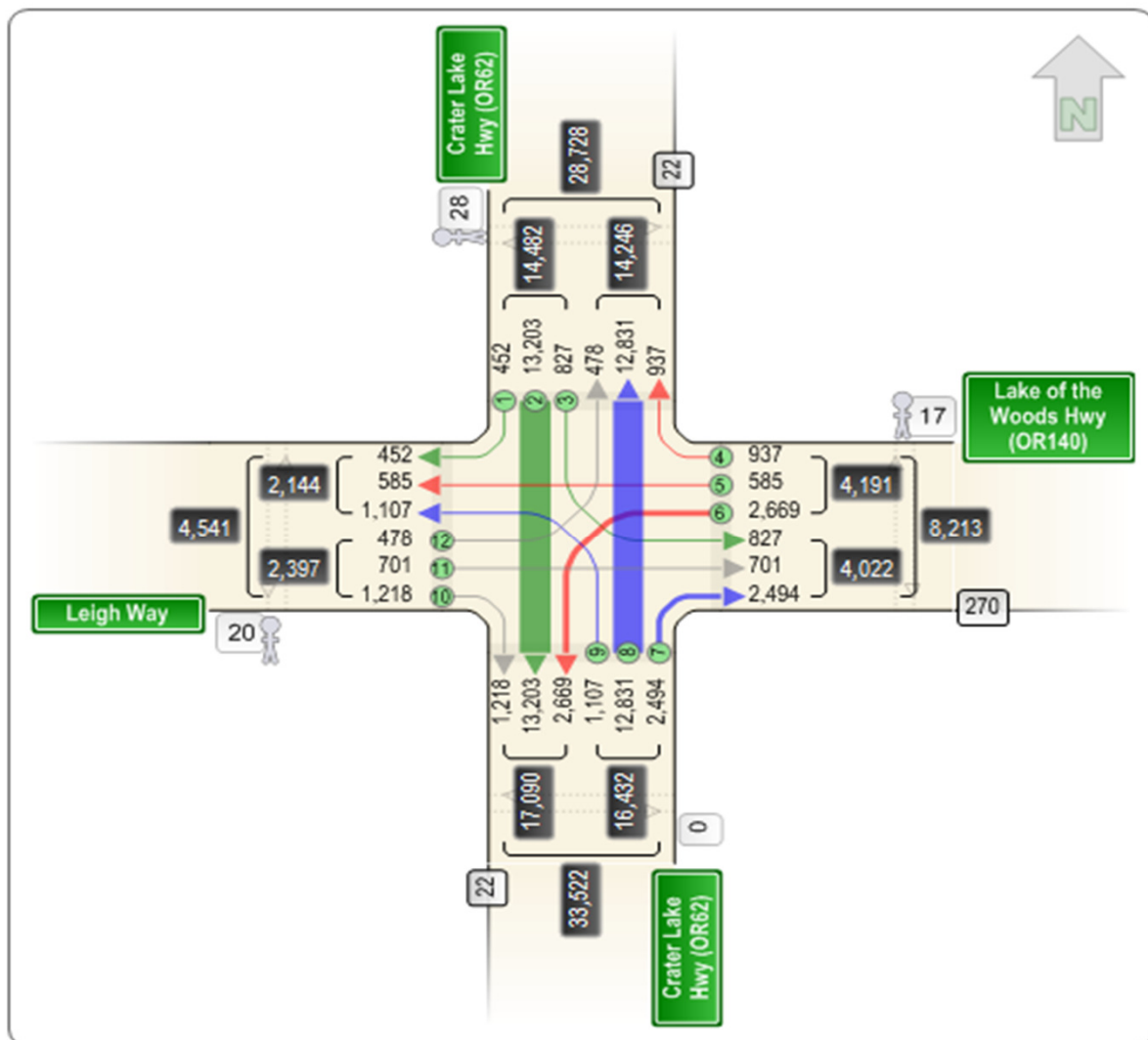
Date: 6/18/2014
Hours: 6:00 AM-10:00 PM
Weather: Clear

Source

Site Number: 110047
Mile Point: 6.03
Street Number: 022
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: CRATER LAKE HIGHWAY NO. 22 (OR62) at OR140/Leigh Way
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

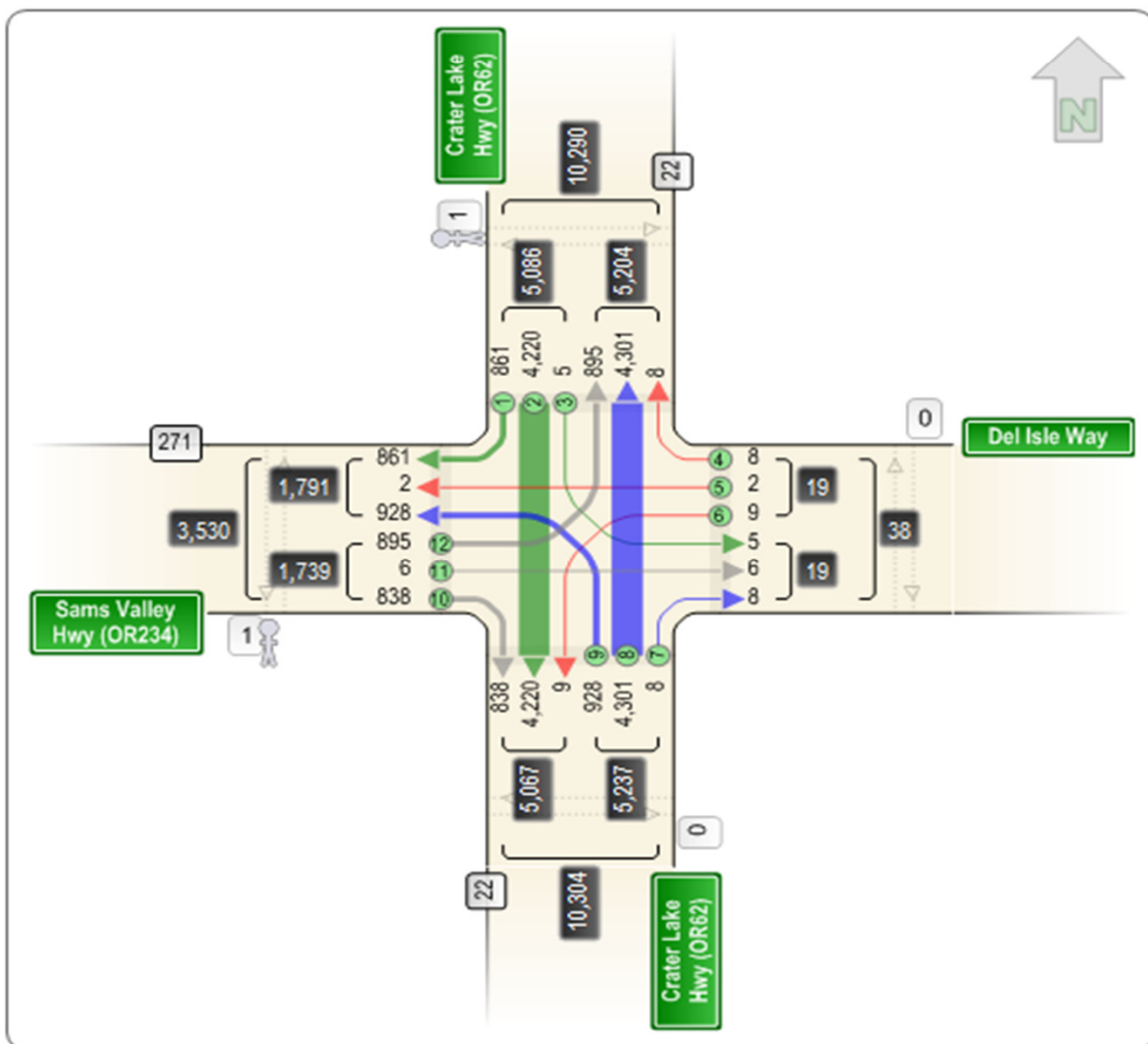
Date: 6/25/2014
Hours: 6:00 AM-10:00 PM
Weather: Cloudy

Source

Site Number: 110048
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: OR 62 @ OR 234/Del Isle Way
County: Jackson



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

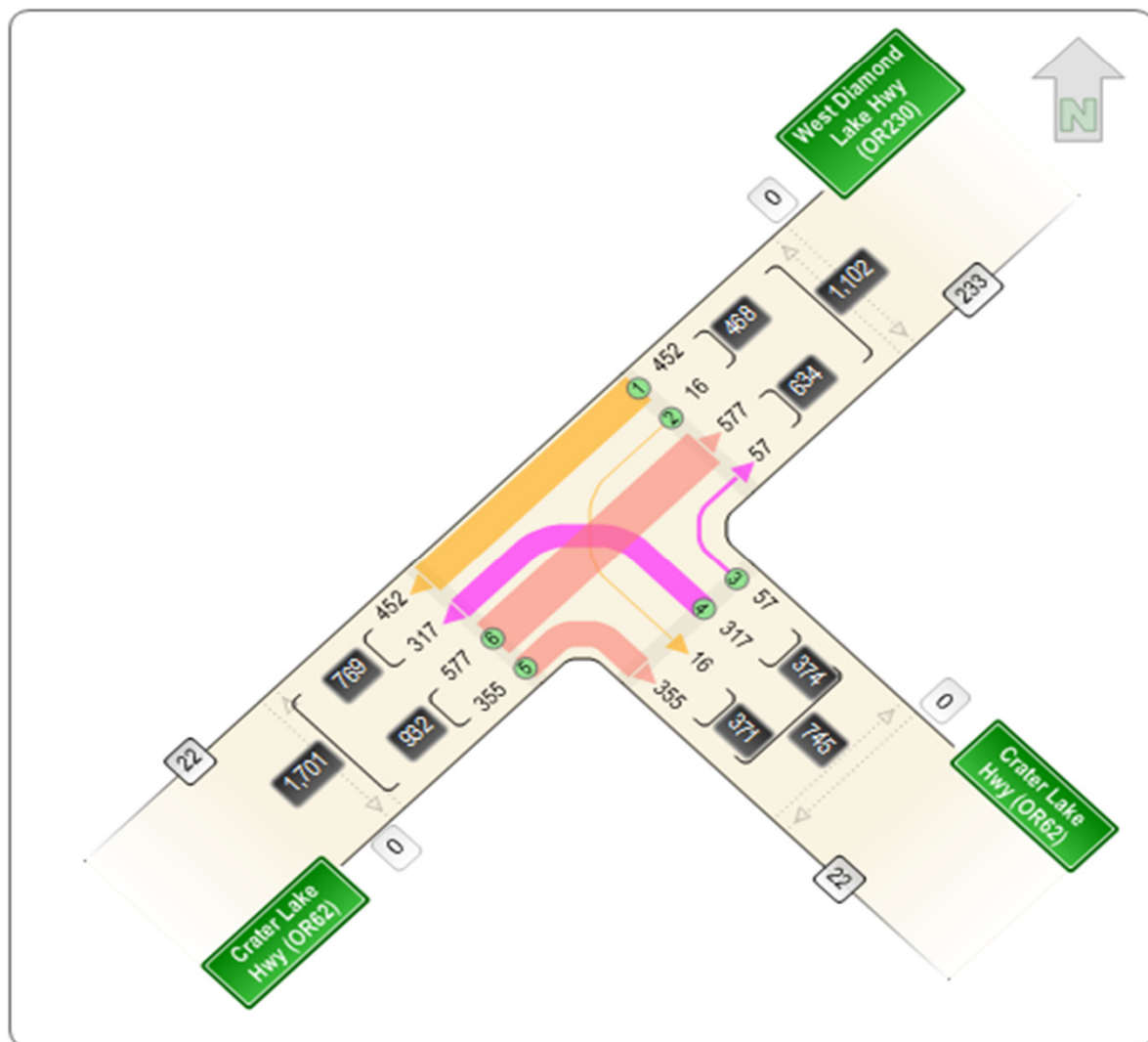
Date: 6/26/2014
Hours: 6:00 AM-10:00 PM
Weather: Rain

Source

Site Number: 110049
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: OR 62 @ OR 230
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

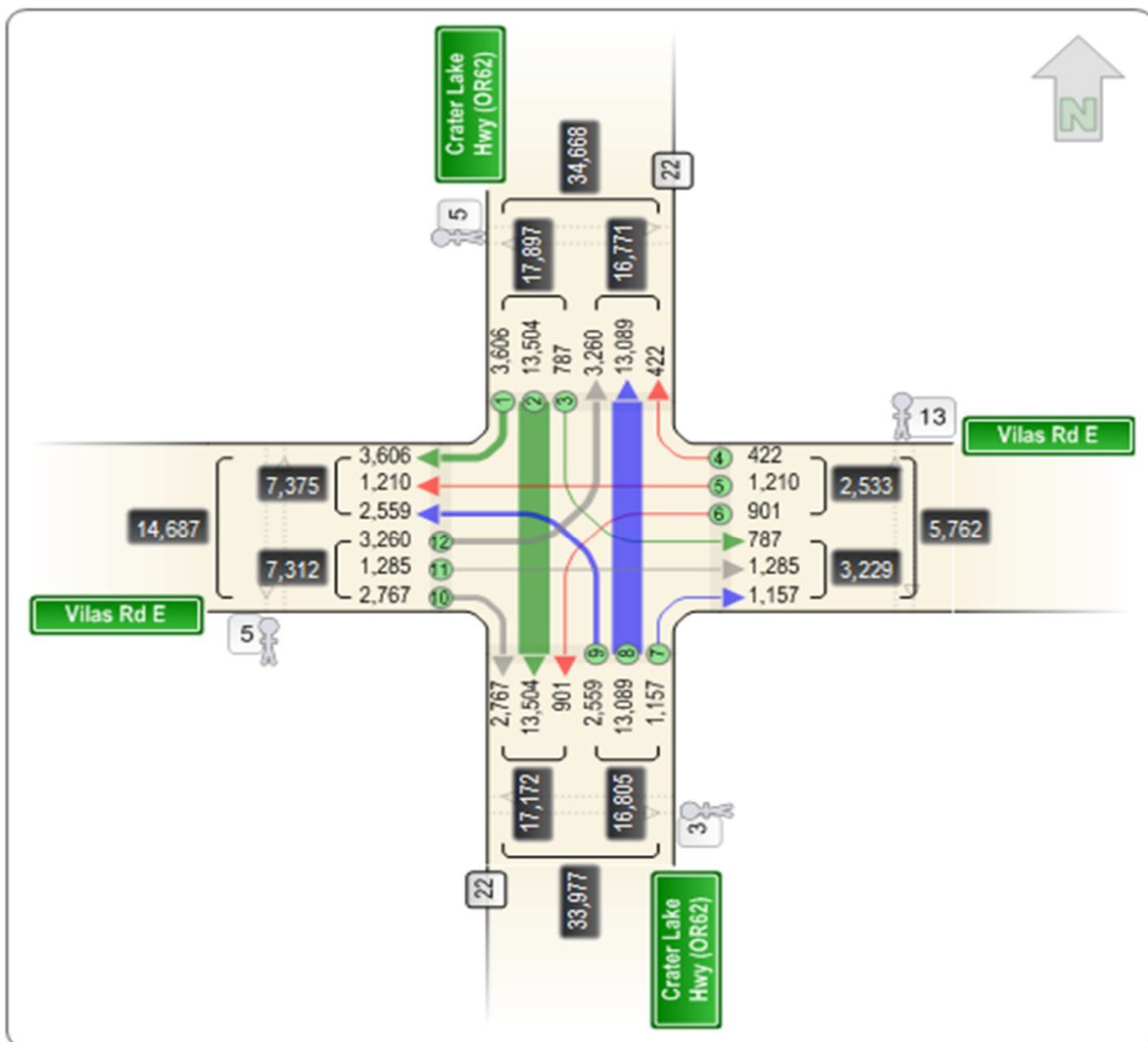
Date: 6/19/2014
Hours: 6:00 AM-10:00 PM
Weather: Clear

Source

Site Number: 110050
Mile Point: 3.65
Street Number: 022
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: CRATER LAKE HIGHWAY NO. 22 (OR62) @ Vilas Rd E
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

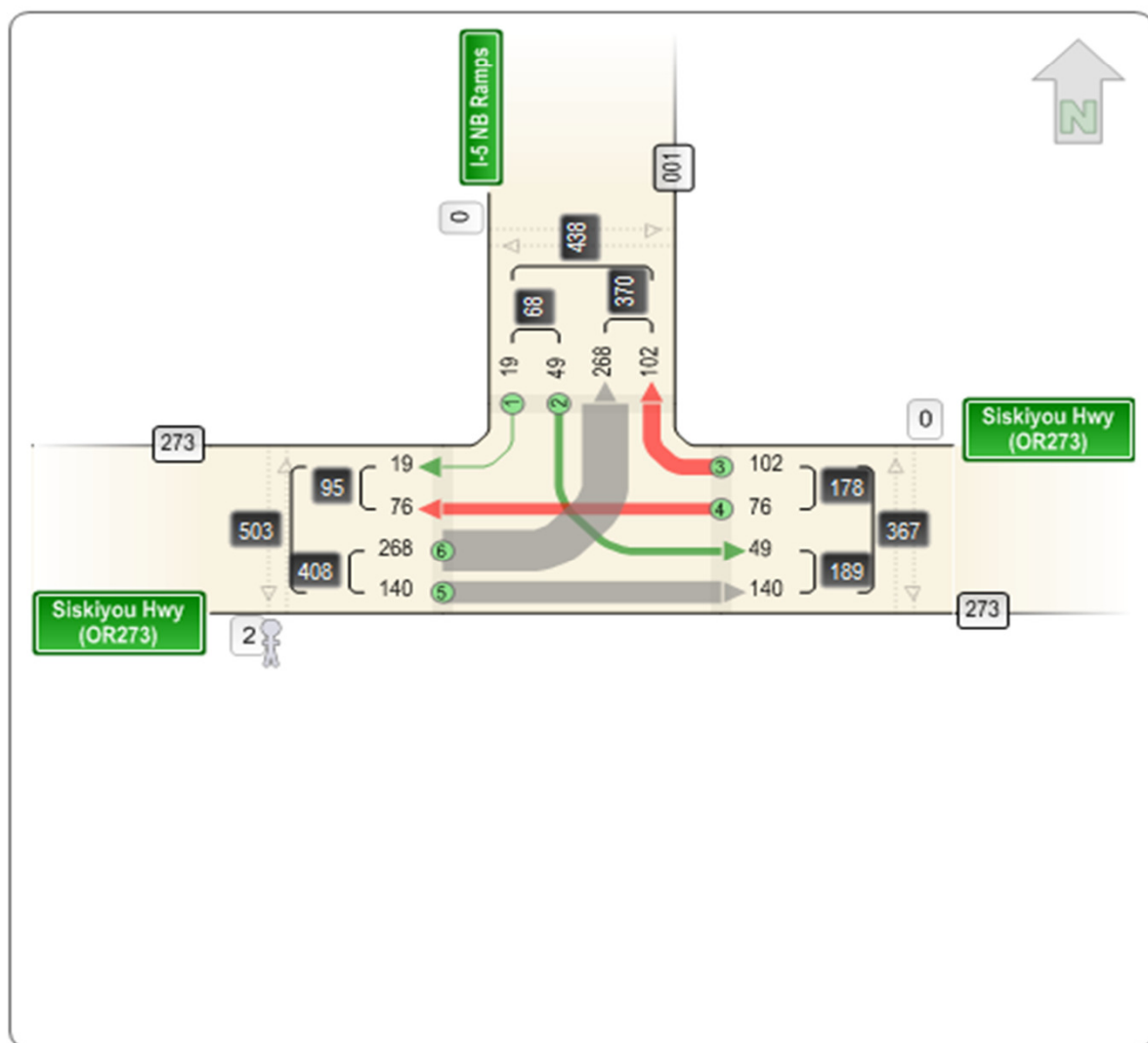
Date: 6/24/2014
Hours: 6:00 AM-10:00 PM
Weather: Clear

Source

Site Number: 110051
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: I- 5 NB Ramps @ Siskiyou Hwy
County: Jackson



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

Date: 7/7/2014
Hours: 6:00 AM-10:00 PM
Weather: Clear

Source

Site Number: 110053
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: OR62 @ Tiller Trail Hwy (OR227)
County: Jackson



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

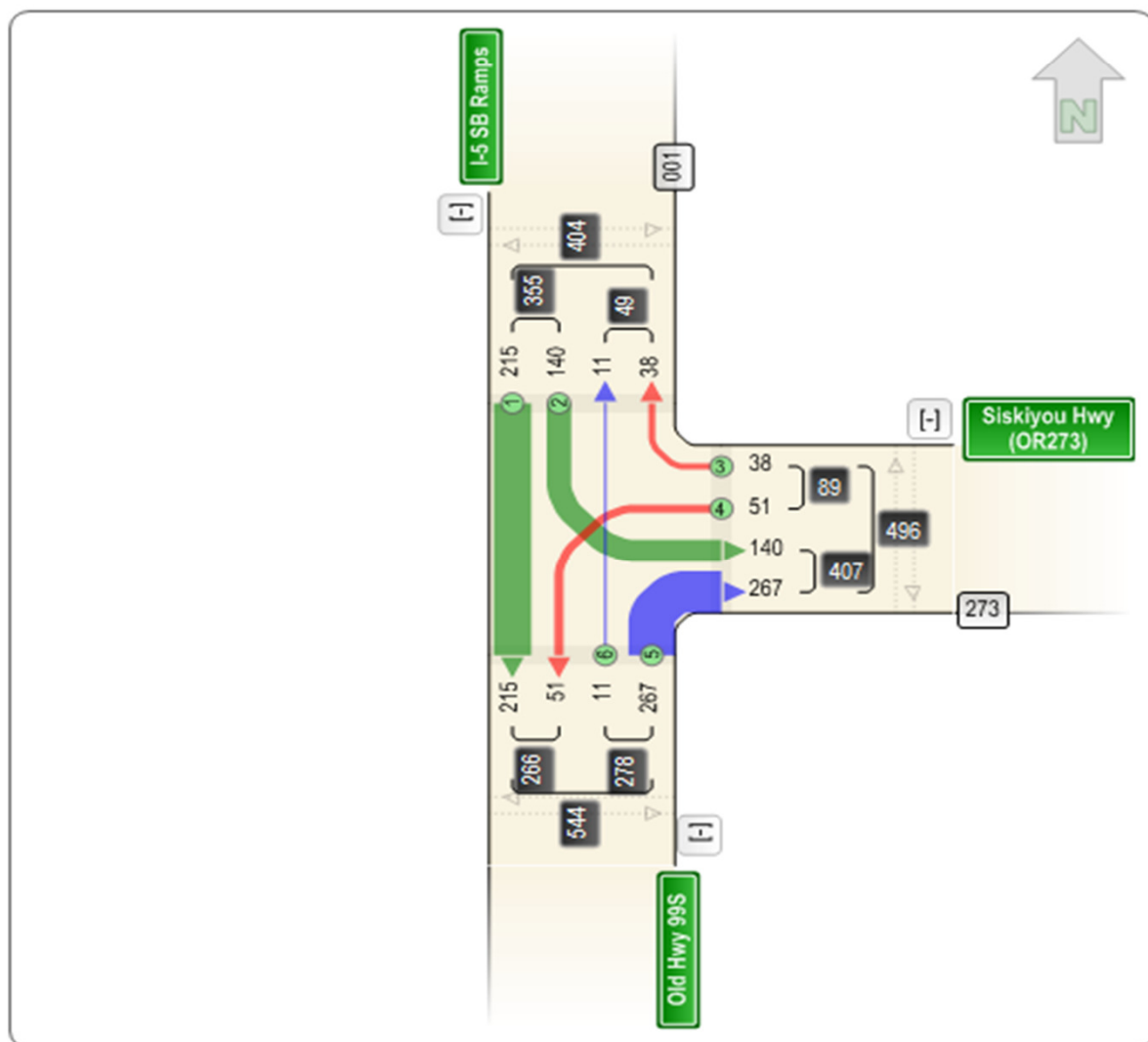
Date: 6/23/2014
Hours: 6:00 AM-10:00 PM
Weather: Clear

Source

Site Number: 110052
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Siskiyou Hwy @ I-5 SB Ramps
County: Jackson



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

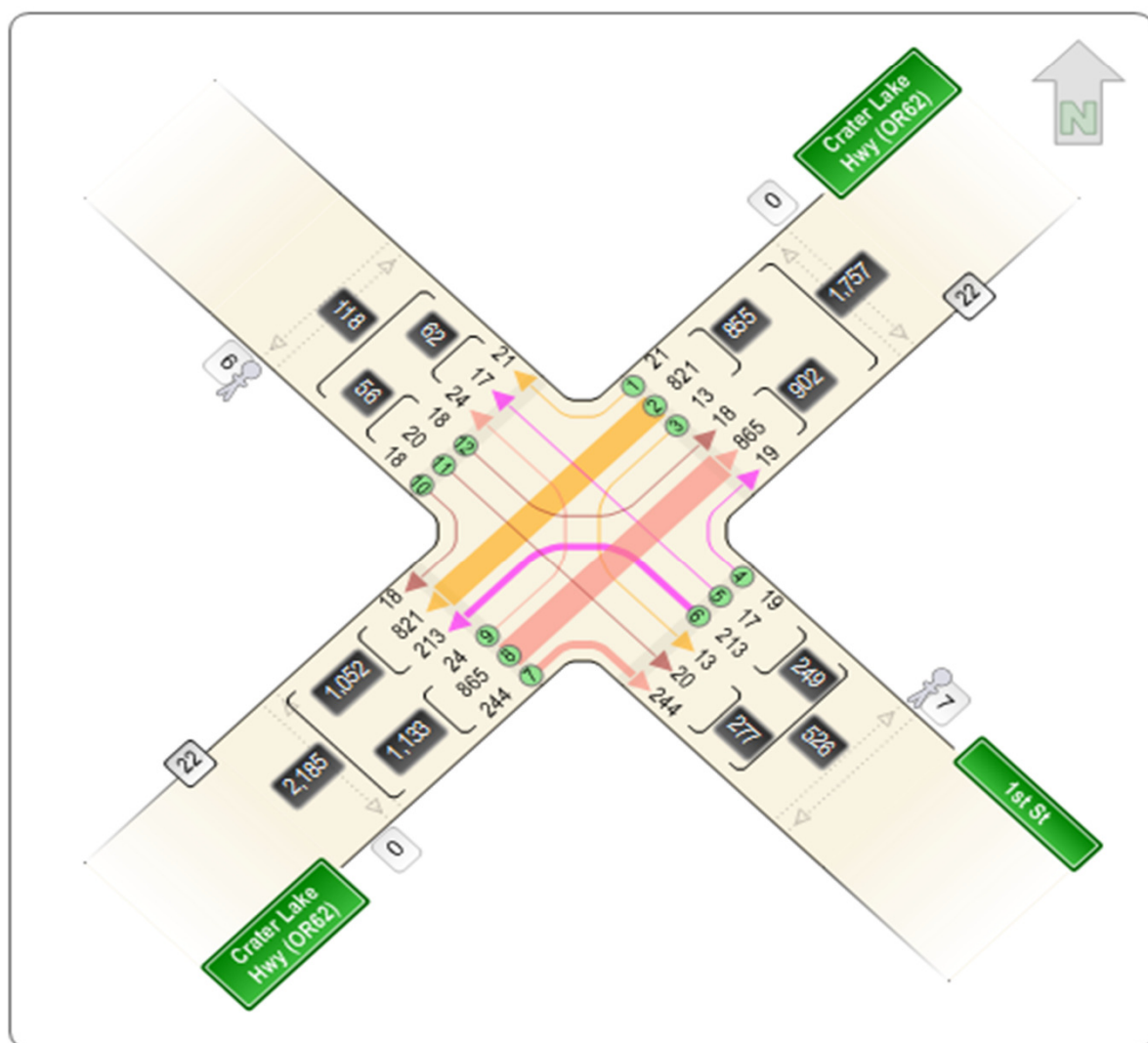
Date: 6/25/2014
Hours: 6:00 AM-10:00 PM
Weather: Rain

Source

Site Number: 110054
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: OR62 @ 1st St
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

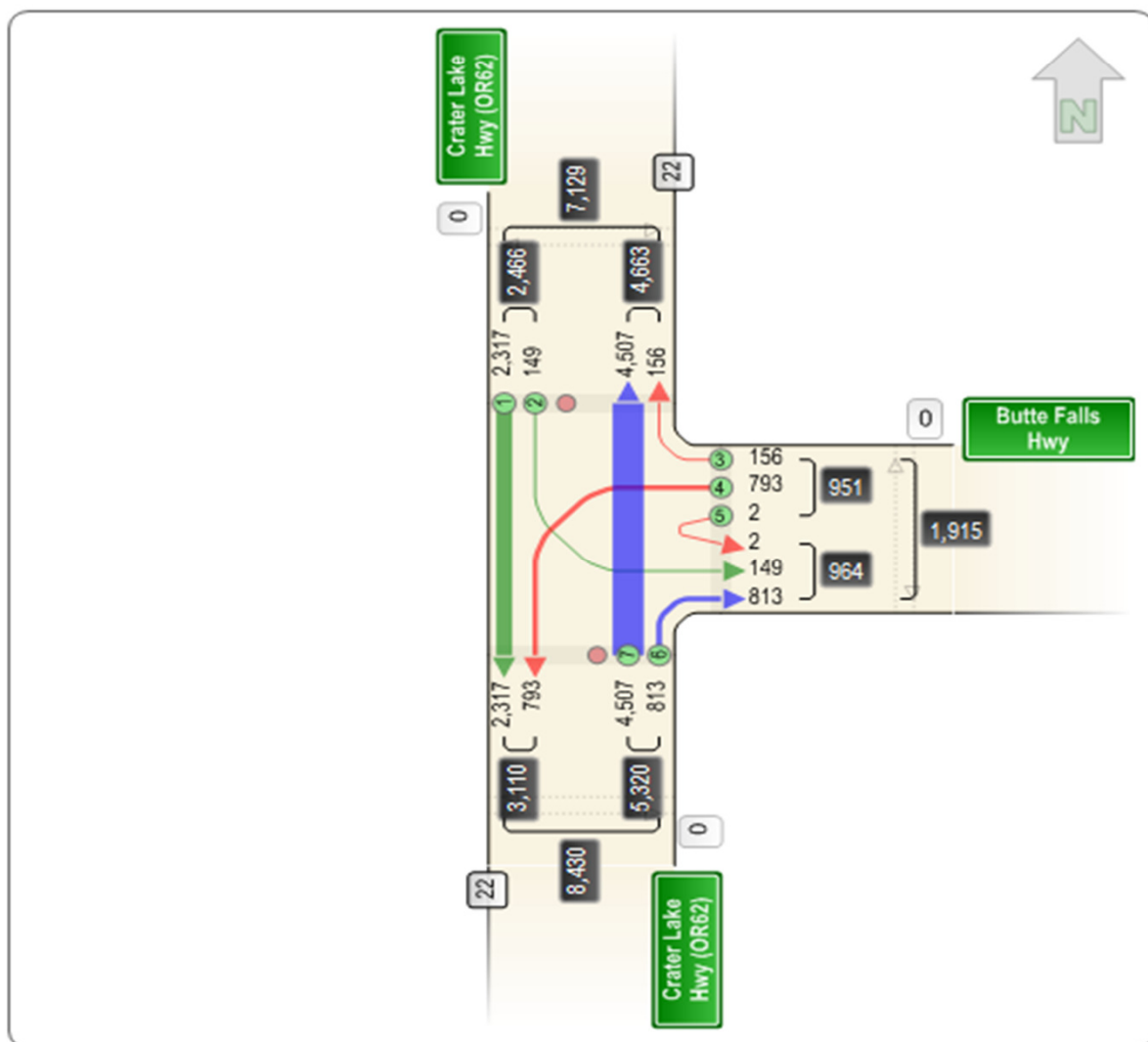
Date: 6/25/2014
Hours: 6:00 AM-10:00 PM
Weather: Cloudy;Rain

Source

Site Number: 110055
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: OR 62 @ Butte Falls Hwy
County: Jackson



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

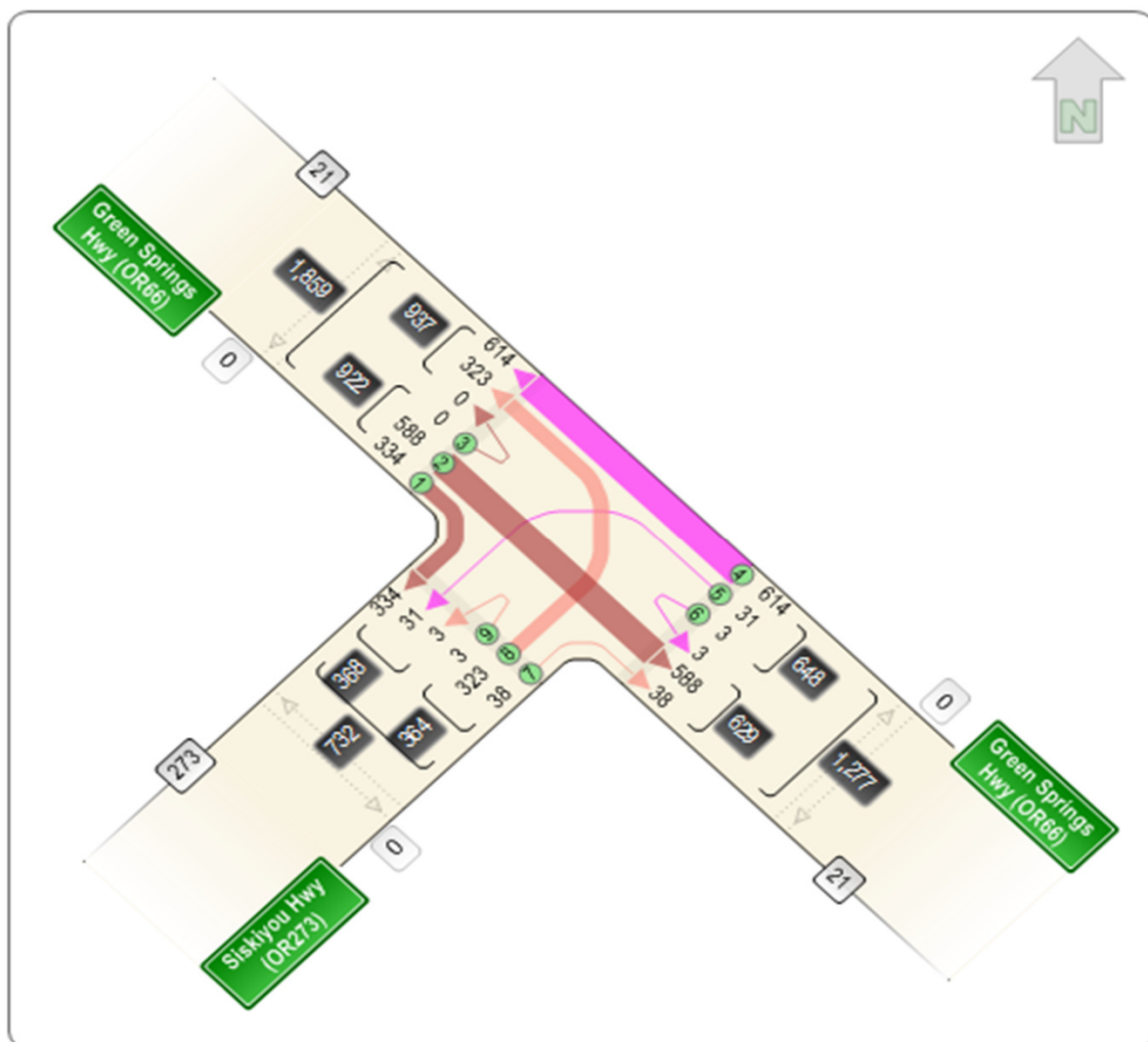
Date: 6/23/2014
Hours: 6:00 AM-10:00 PM
Weather: Cloudy

Source

Site Number: 110056
Mile Point: 6.46
Street Number: 021
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Siskiyou Hwy @ OR 66
County: Jackson



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

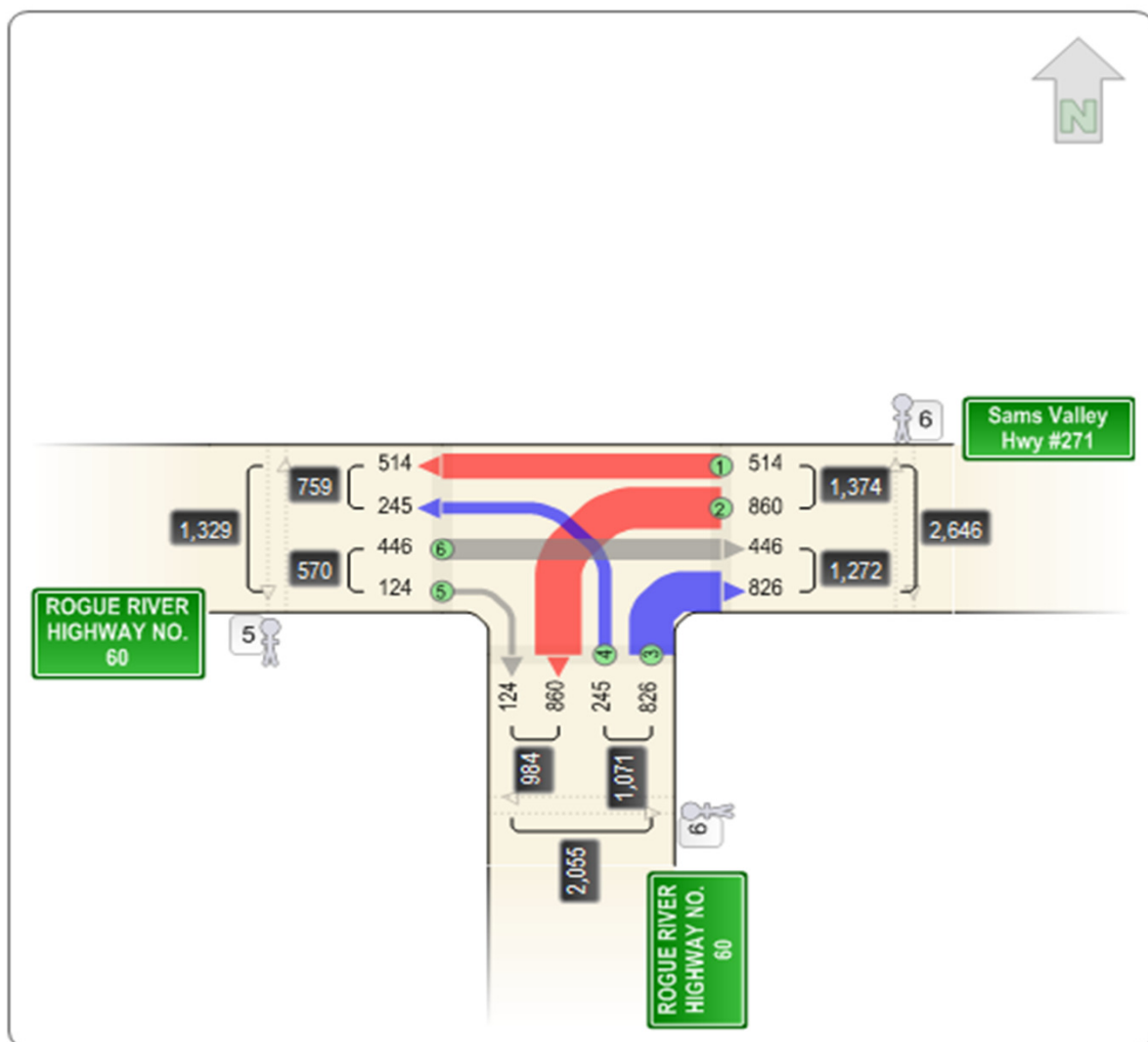
Date: 7/7/2014
Hours: 6:00 AM-10:00 PM
Weather: Clear

Source

Site Number: 110057
Street Number: 060
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: ROGUE RIVER HIGHWAY NO. 60 @ OR 234
County: Jackson
City: Gold Hill



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

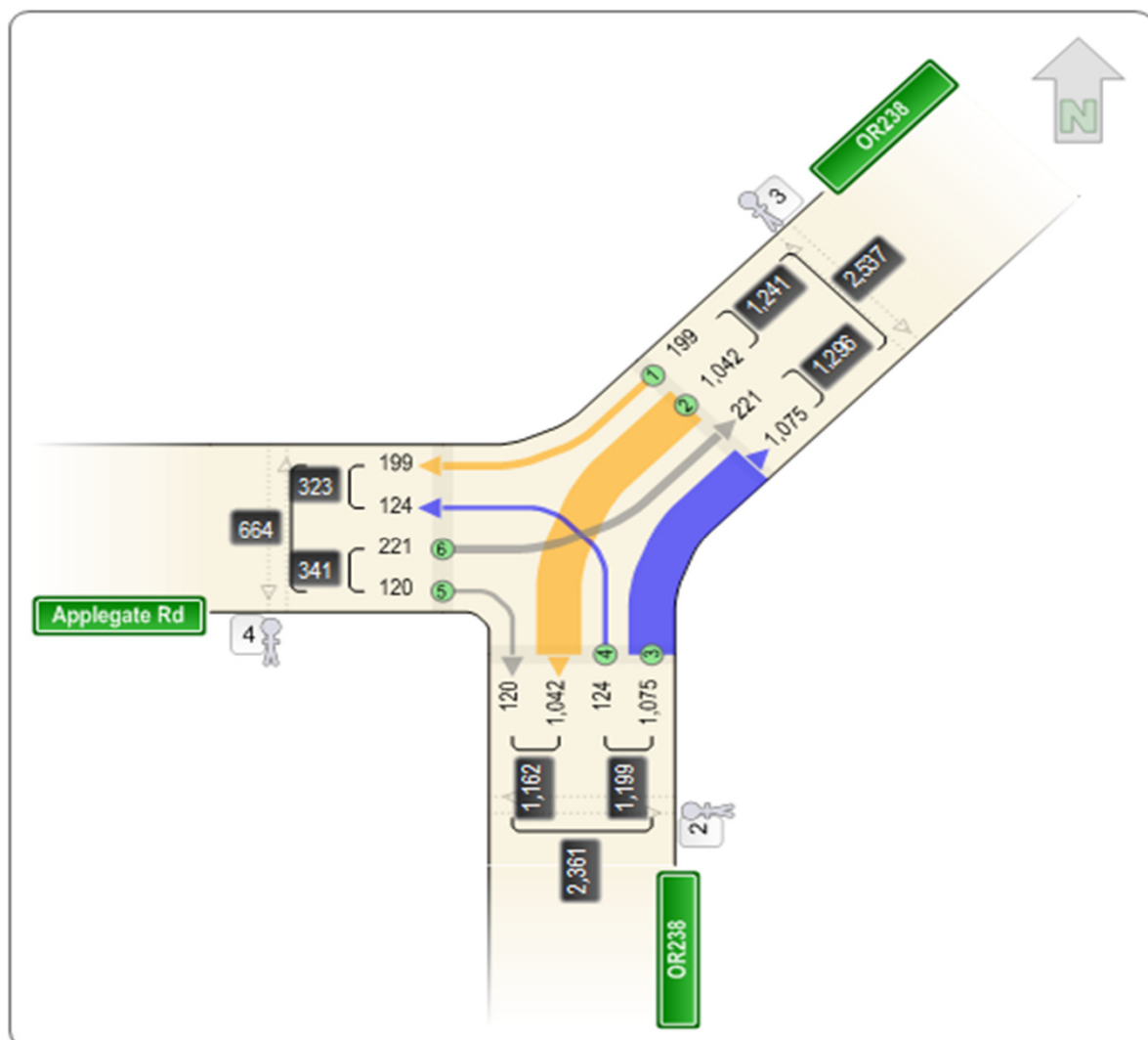
Date: 12/9/2014
Hours: 6:00 AM-10:00 PM
Weather: Cloudy

Source

Site Number: 110058
Mile Point: 18.18
Street Number: 272
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: JACKSONVILLE HIGHWAY NO. 272 (OR238) @ N Applegate Rd
County: Jackson



Transportation Development Division Transportation System Monitoring Unit Vehicular Volume

Time settings

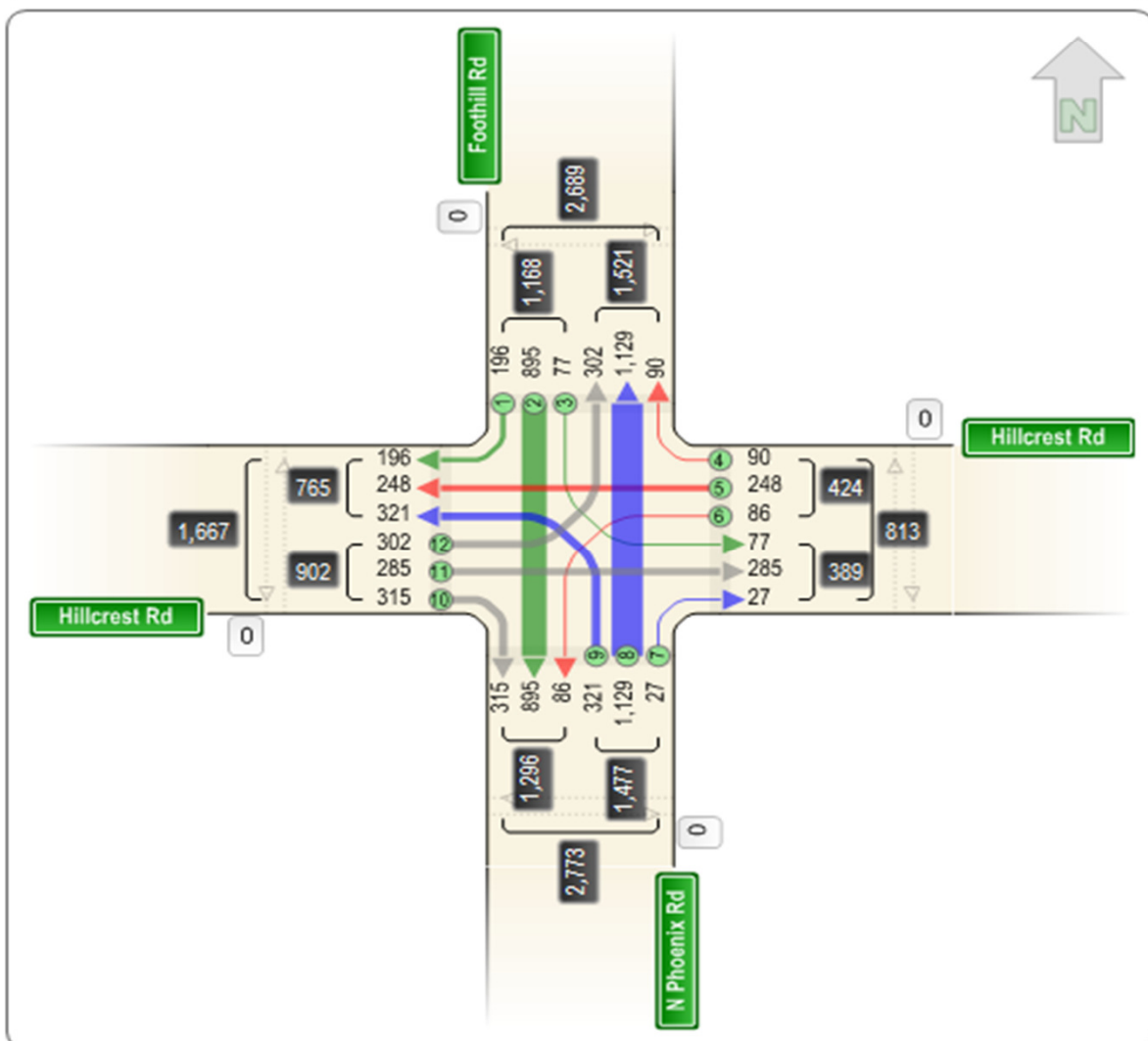
Date: 6/24/2014
Hours: 3:00 PM-6:00 PM
Weather: Clear

Source

Site Number: 110059
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Hillcrest Rd @ Foothill Rd/N Phoenix Rd
County: Jackson
City: Medford



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

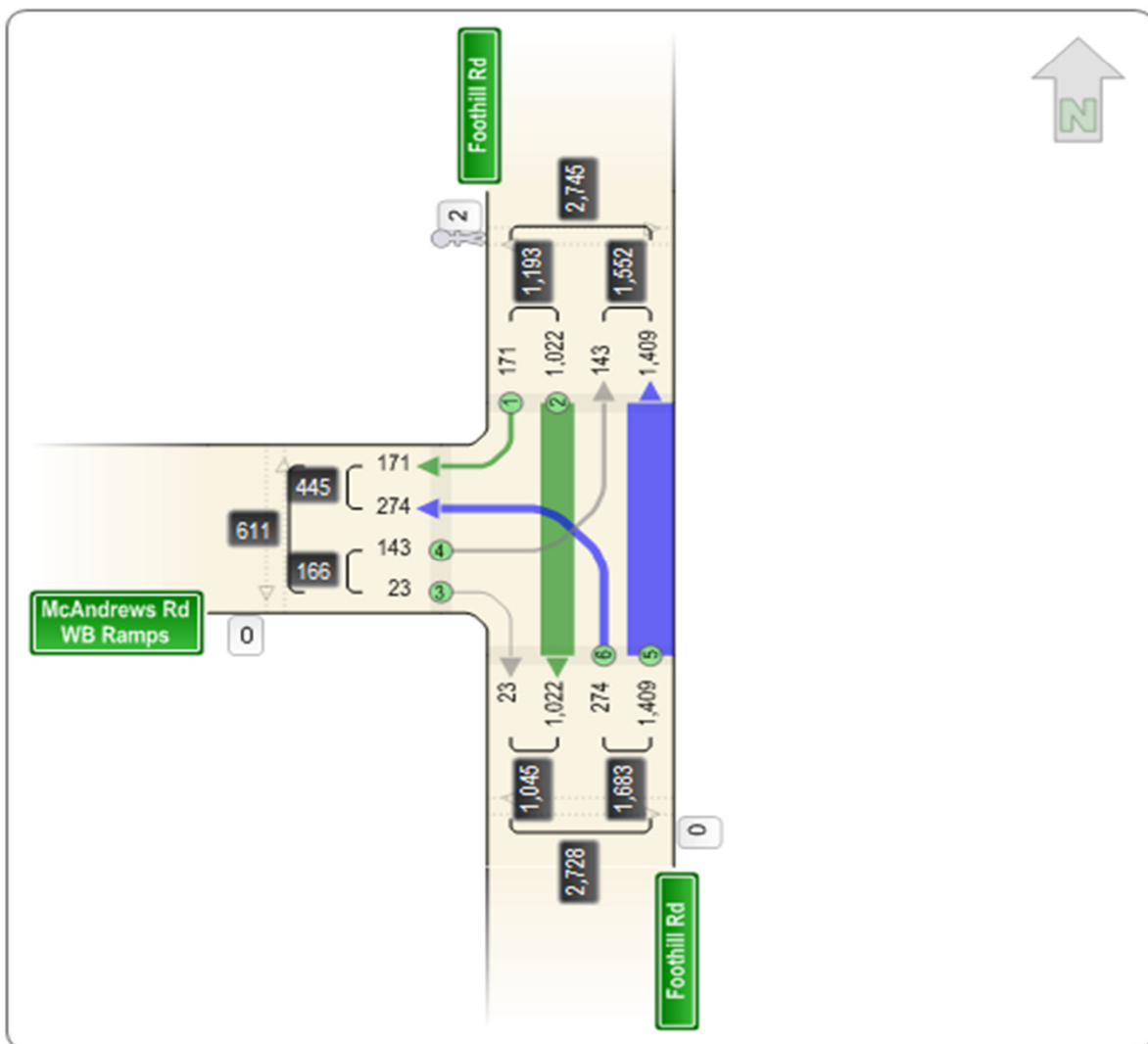
Date: 6/24/2014
Hours: 3:00 PM-6:00 PM
Weather: Clear

Source

Site Number: 110060
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: McAndrews Rd WB Ramps @ Foothill Rd
County: Jackson



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

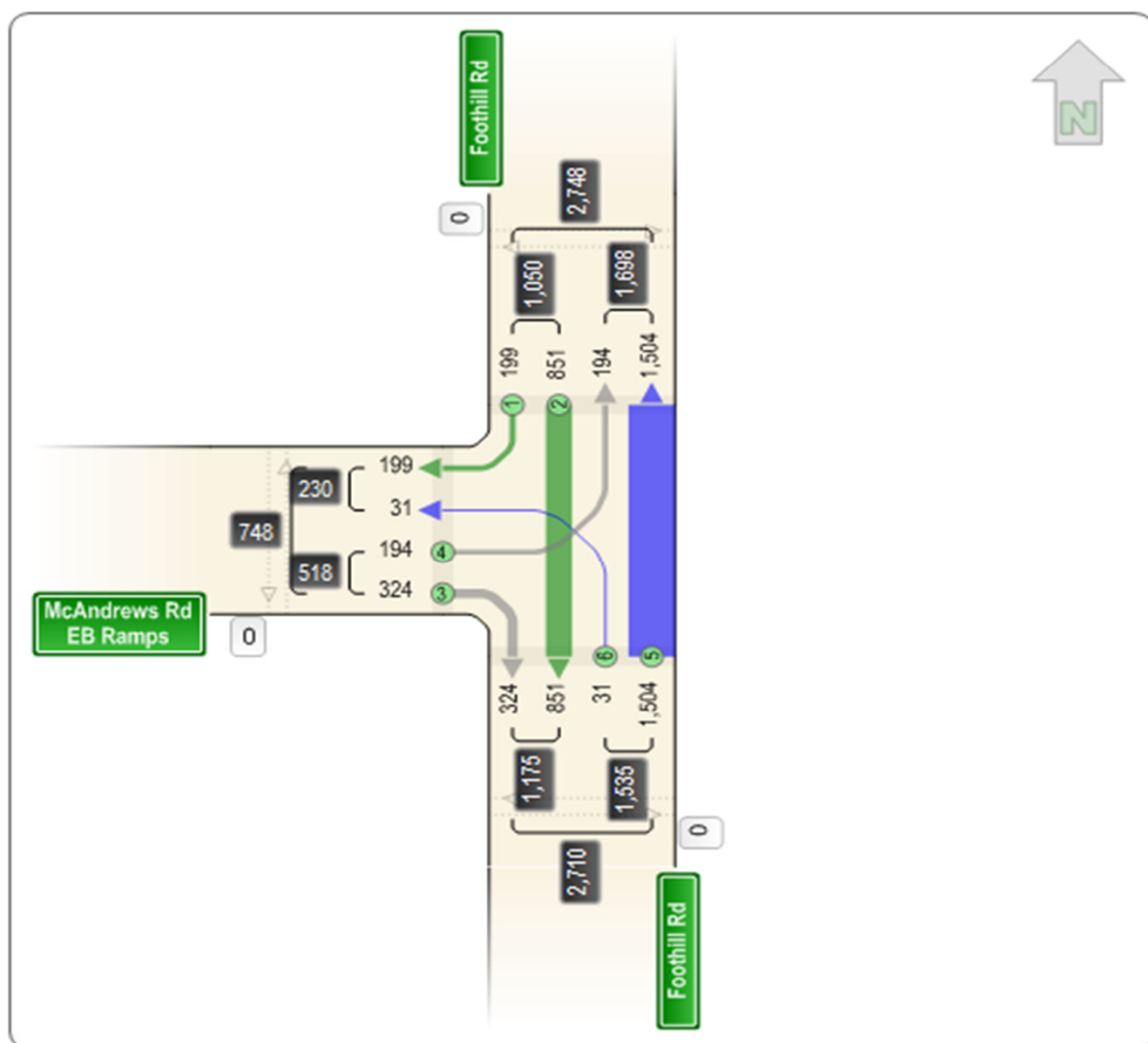
Date: 6/24/2014
Hours: 3:00 PM-6:00 PM
Weather: Clear

Source

Site Number: 110061
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: McAndrews Rd EB Ramps @ Foothill Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

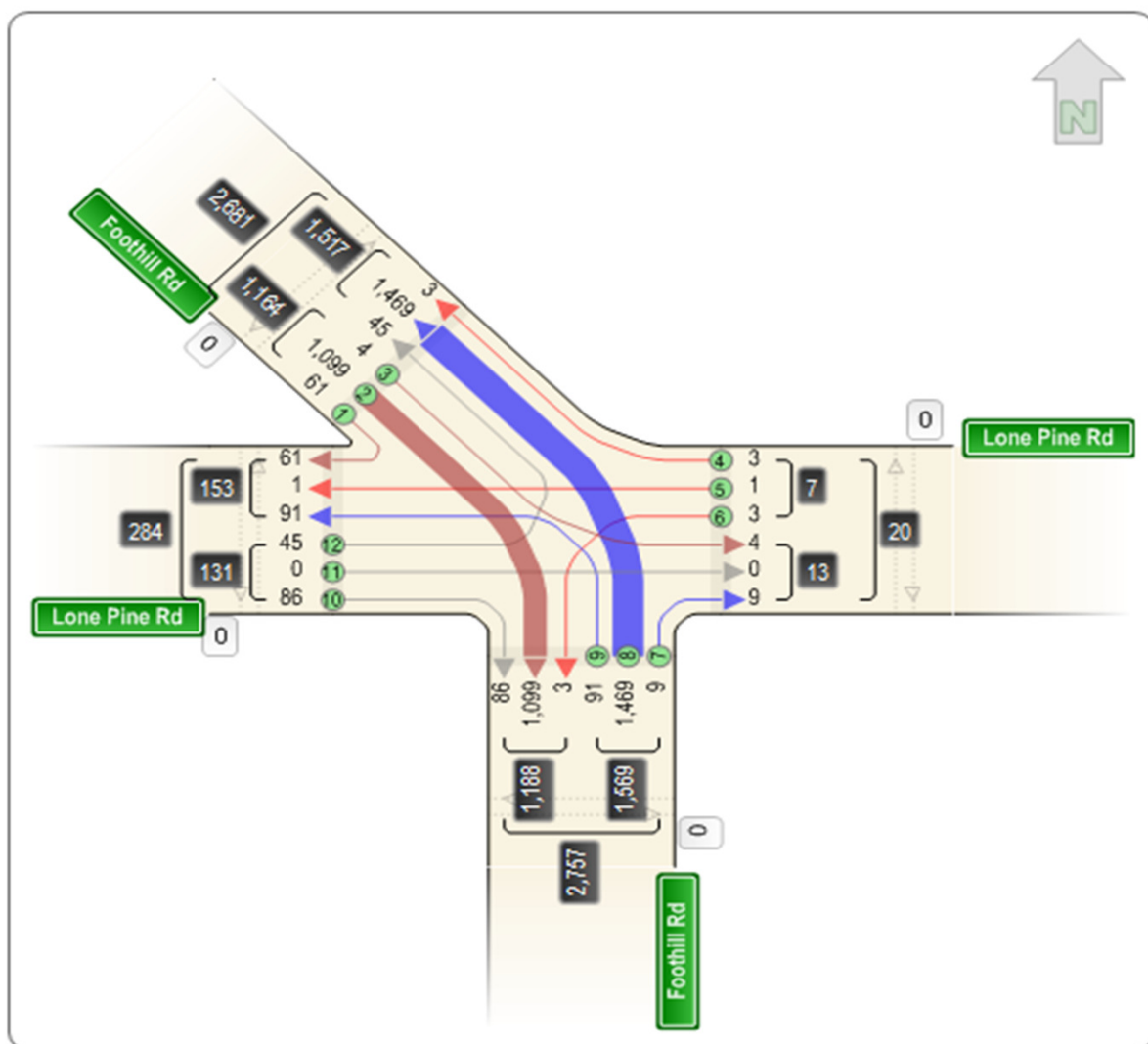
Date: 6/24/2014
Hours: 3:00 PM-6:00 PM
Weather: Cloudy

Source

Site Number: 110062
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Lone Pine Rd @ Foothill Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

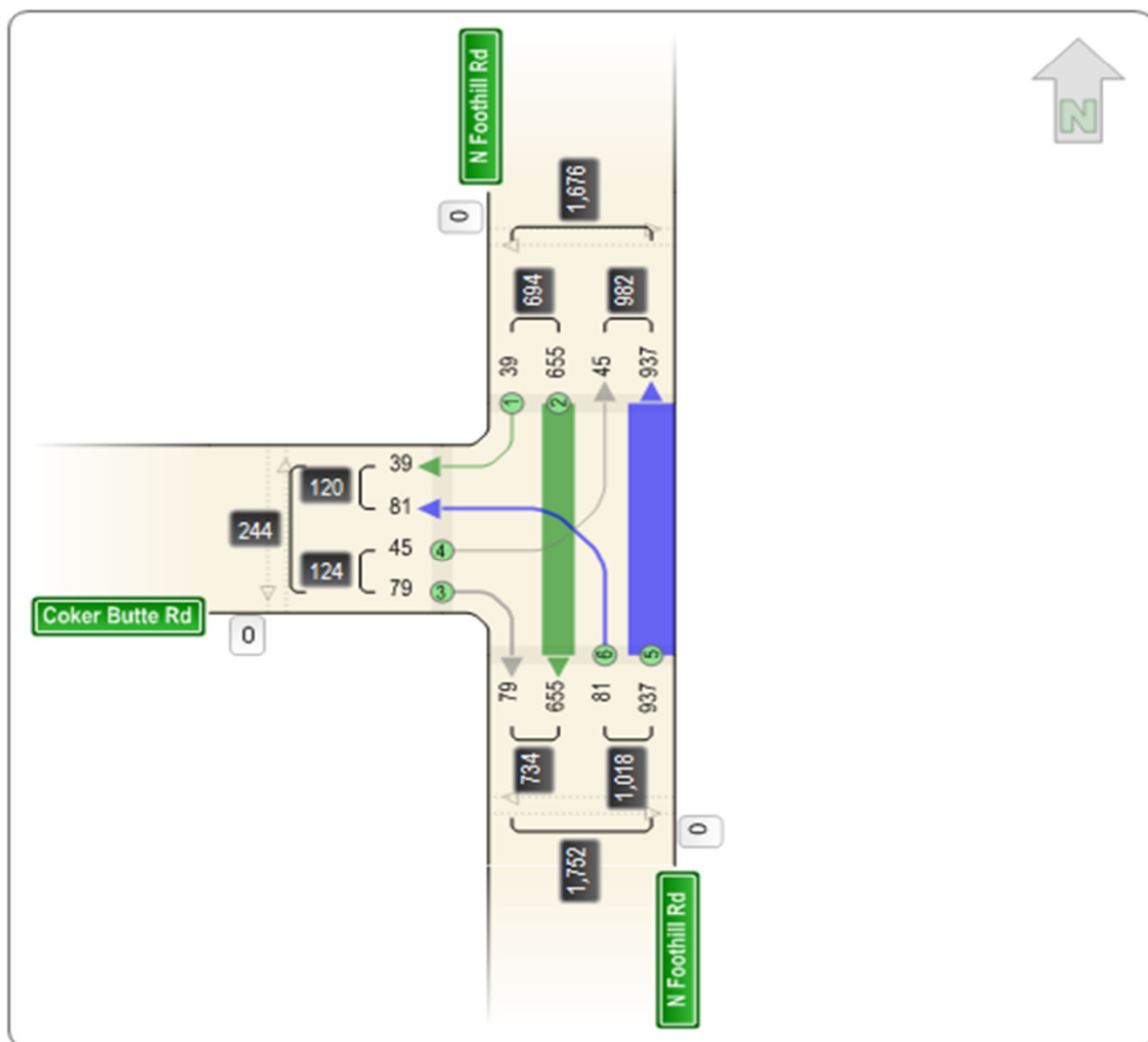
Date: 7/8/2014
Hours: 3:00 PM-6:00 PM
Weather: Clear

Source

Site Number: 110063
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Coker Butte Rd @ N Foothill Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

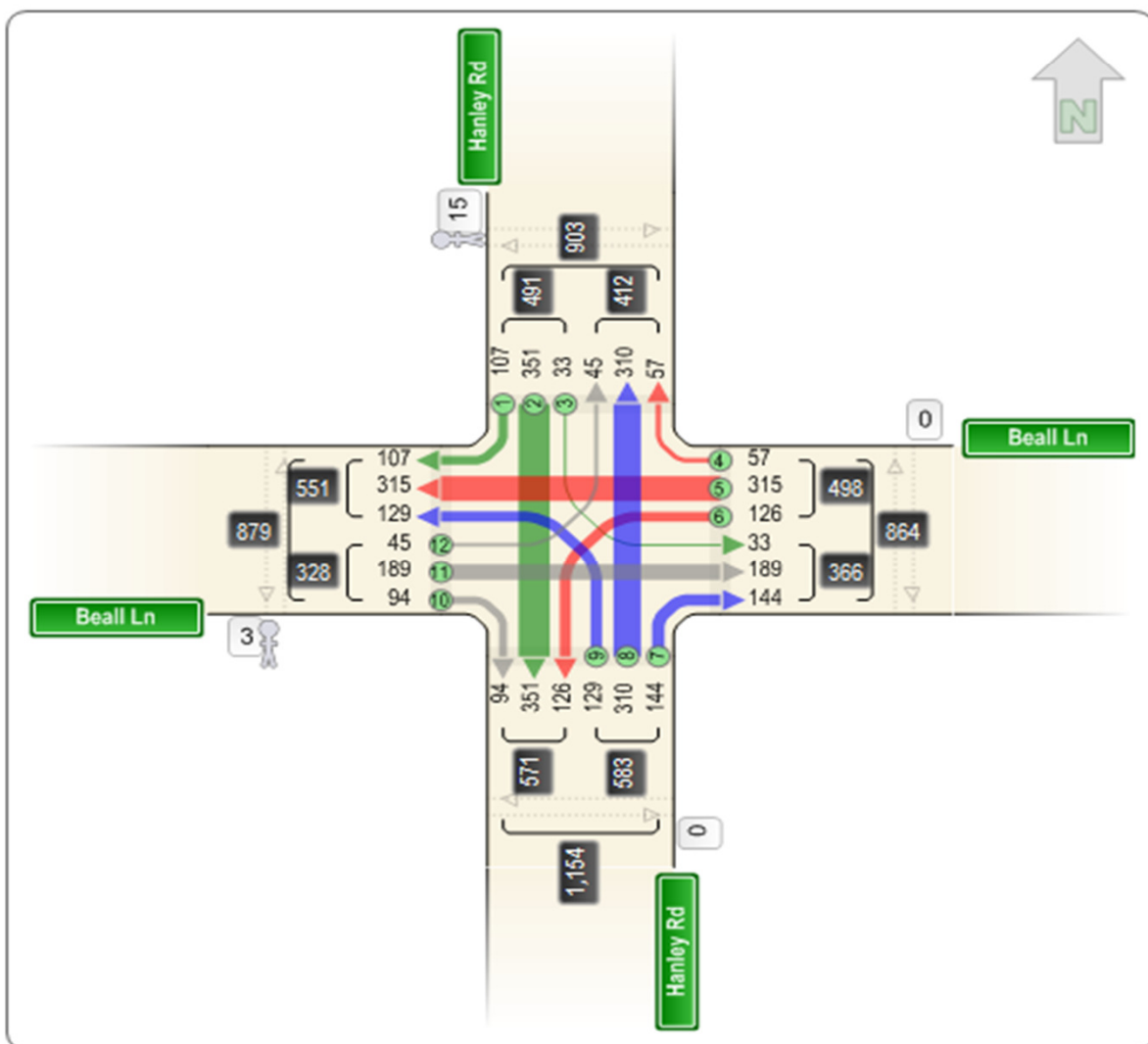
Date: 7/9/2014
Hours: 3:00 PM-6:00 PM
Weather: Clear

Source

Site Number: 110064
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Hanley Rd @ Beall Ln
County: Jackson



Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume

Time settings

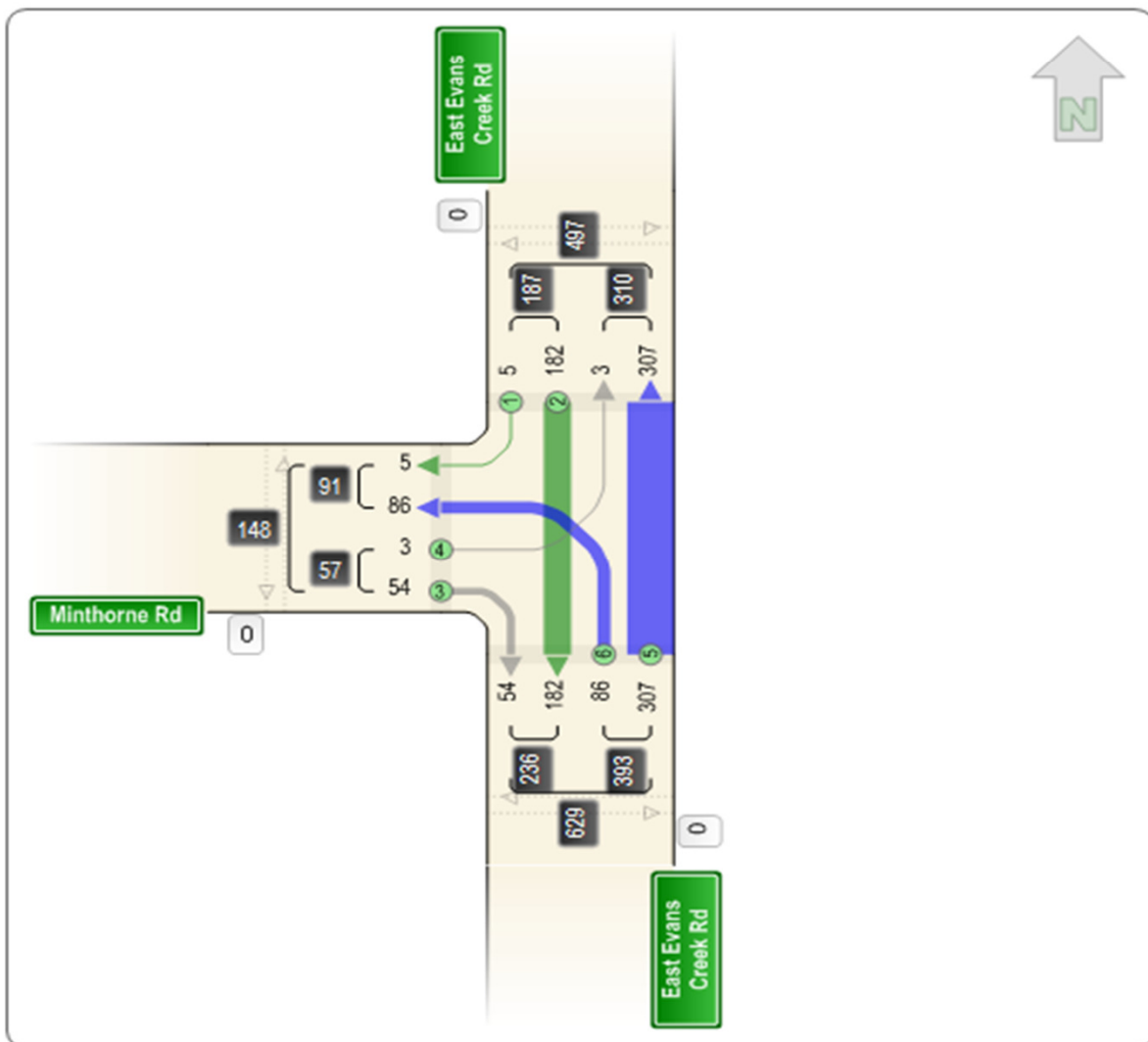
Date: 7/7/2014
Hours: 3:00 PM-6:00 PM
Weather: Clear

Source

Site Number: 110065
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: East Evans Creek Rd @ Minthorne Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

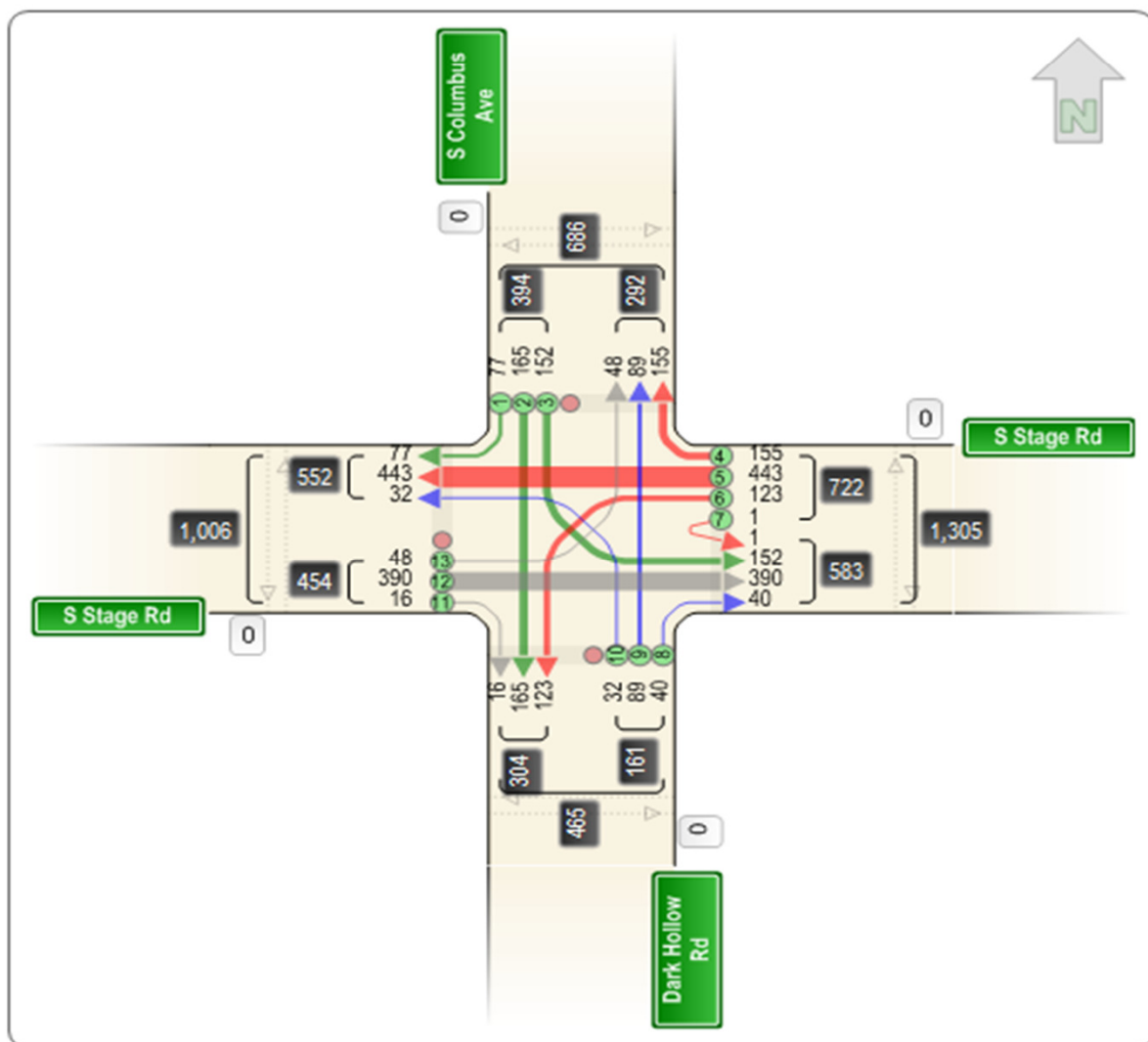
Date: 7/9/2014
Hours: 3:00 AM-6:00 AM
Weather: Cloudy

Source

Site Number: 110066
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: S Columbus Ave/Dark Hollow Rd @ S Stage Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

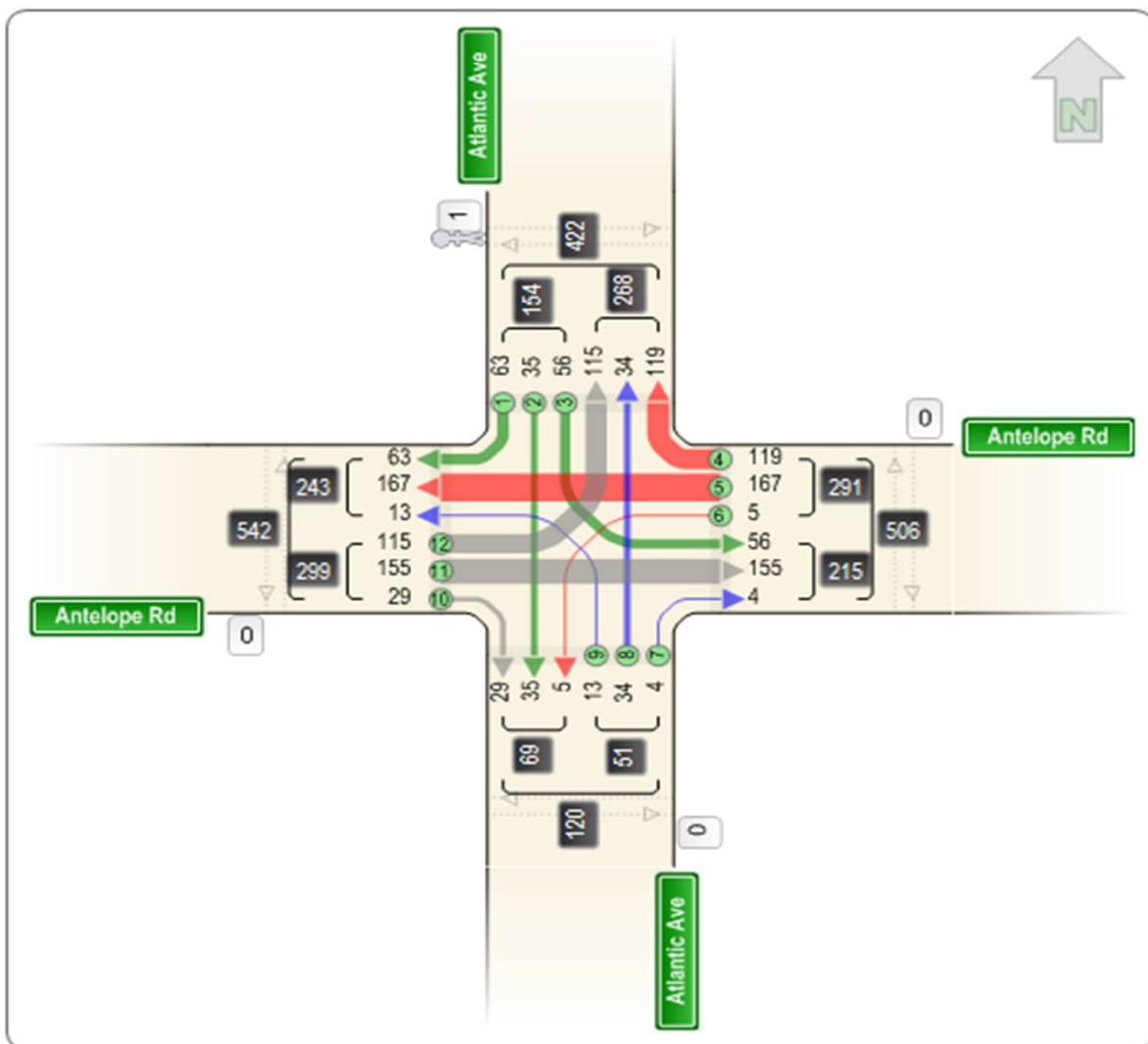
Date: 7/8/2014
Hours: 3:00 PM-6:00 PM
Weather: Cloudy

Source

Site Number: 110067
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: Antelope Rd @ Atlantic Ave
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

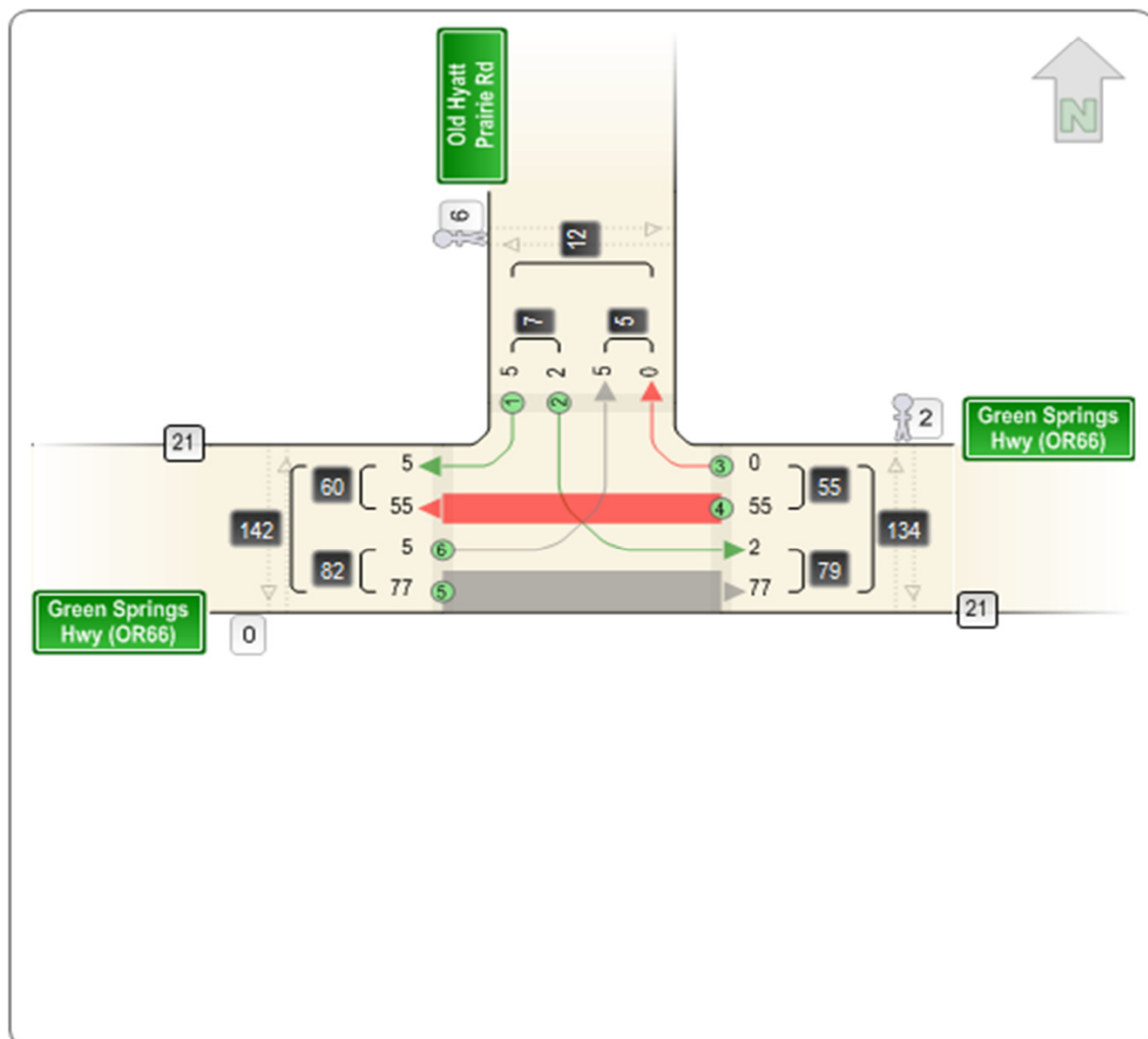
Date: 6/23/2014
Hours: 3:00 PM-6:00 PM
Weather: Clear

Source

Site Number: 110068
Street Number: 021
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: GREEN SPRINGS HIGHWAY NO. 21 (OR66) @ Old Hyatt Prairie Rd
County: Jackson



**Transportation Development Division
Transportation System Monitoring Unit
Vehicular Volume**

Time settings

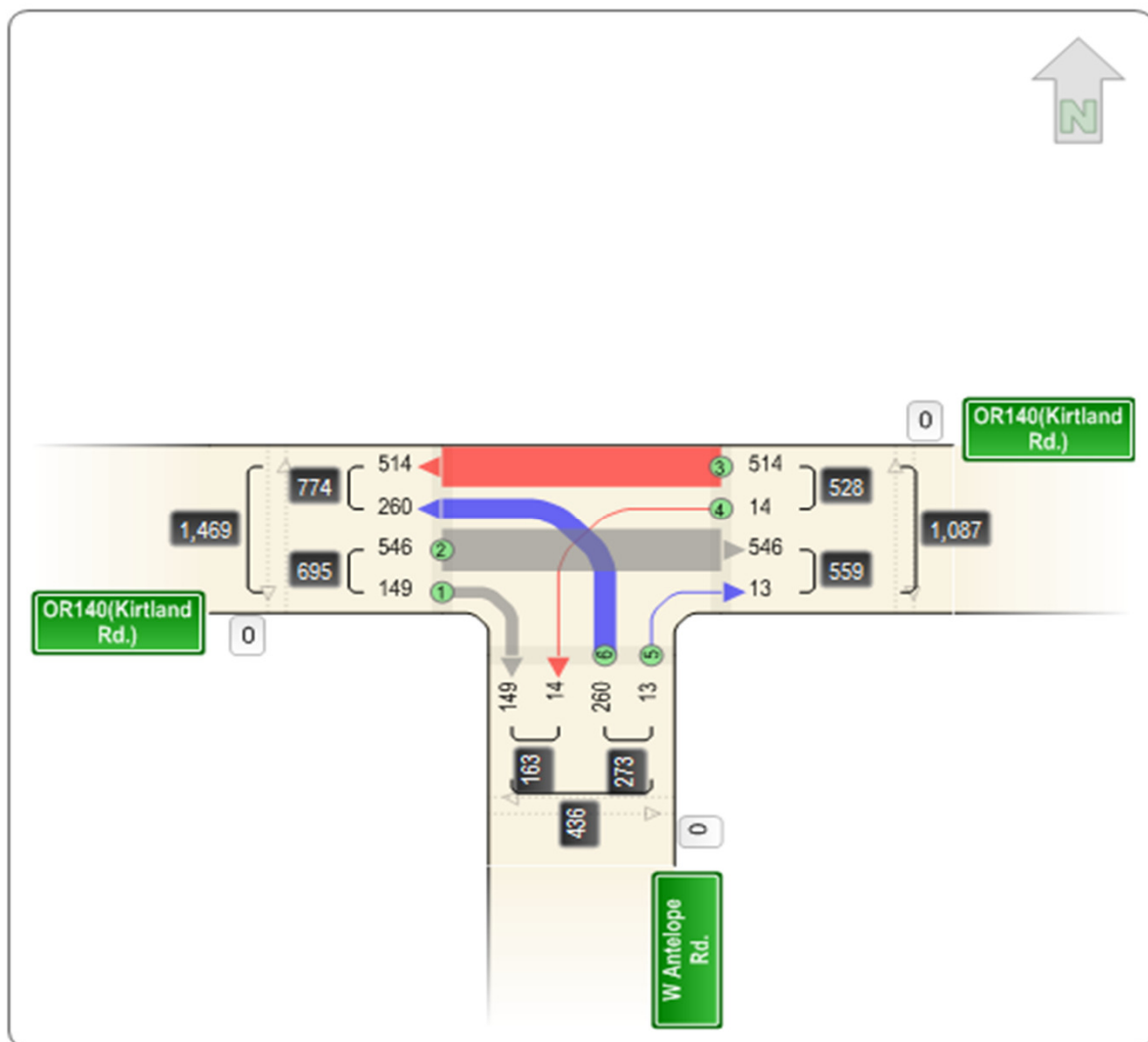
Date: 7/9/2014
Hours: 3:00 PM-6:00 PM
Weather: Clear

Source

Site Number: 15142010
Mile Point: -3.74
Street Number: 270
Vehicle Type: Vehicles
Crossing Flow: Pedestrians

Source Description

Location Description: OR140 (Kirtland Rd.) @ W Antelope Rd.
4 hr count
County: Jackson
City: RURAL



Attachment D Existing Traffic Conditions
Worksheets

2014 Existing Traffic Conditions
1: Hamrick Road & E Pine Street/Biddle Road

Weekday AM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	512	42	3	244	18	34	16	5	43	23	374
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	5.0		4.0	5.0			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1598	3192		1250	3112			1379	1240		1643	1417
Flt Permitted	0.56	1.00		0.40	1.00			0.77	1.00		0.77	1.00
Satd. Flow (perm)	947	3192		527	3112			1091	1240		1307	1417
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	470	610	50	4	290	21	40	19	6	51	27	445
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	5	0	0	139
Lane Group Flow (vph)	470	655	0	4	307	0	0	59	1	0	78	306
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	4%	2%	13%	33%	6%	0%	24%	20%	20%	0%	9%	5%
Turn Type	D.P+P	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases	6			6			8		8	4		
Actuated Green, G (s)	31.3	30.6		18.3	17.6			9.6	9.6		9.6	27.8
Effective Green, g (s)	31.3	30.6		18.3	17.6			9.6	9.6		9.6	27.8
Actuated g/C Ratio	0.58	0.56		0.34	0.32			0.18	0.18		0.18	0.51
Clearance Time (s)	4.0	5.0		4.0	5.0			4.5	4.5		4.5	
Vehicle Extension (s)	2.5	4.3		2.5	4.0			2.5	2.5		2.5	
Lane Grp Cap (vph)	708	1795		186	1006			192	218		230	724
v/s Ratio Prot	c0.17	0.21		0.00	0.10							c0.22
v/s Ratio Perm	c0.21			0.01				0.05	0.00		0.06	
v/c Ratio	0.66	0.37		0.02	0.31			0.31	0.00		0.34	0.42
Uniform Delay, d1	6.9	6.6		12.0	13.8			19.5	18.5		19.6	8.3
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2.1	0.2		0.0	0.2			0.7	0.0		0.6	0.3
Delay (s)	9.1	6.8		12.1	14.0			20.2	18.5		20.3	8.6
Level of Service	A	A		B	B			C	B		C	A
Approach Delay (s)		7.7			14.0			20.0			10.3	
Approach LOS		A			B			C			B	

Intersection Summary

HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	54.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

2014 Existing Traffic Conditions
2: Table Rock Road & Biddle Road

Weekday AM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	206	342	105	4	132	124	48	271	7	225	262	54
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0		4.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1599	3292	1458	1330	3325	1444	1630	1693		1646	1733	1153
Flt Permitted	0.65	1.00	1.00	0.46	1.00	1.00	0.45	1.00		0.34	1.00	1.00
Satd. Flow (perm)	1087	3292	1458	640	3325	1444	777	1693		596	1733	1153
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	261	433	133	5	167	157	61	343	9	285	332	68
RTOR Reduction (vph)	0	0	89	0	0	130	0	1	0	0	0	31
Lane Group Flow (vph)	261	433	44	5	167	27	61	351	0	285	332	37
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	4%	1%	2%	25%	0%	3%	2%	3%	0%	1%	1%	29%
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	6		2	2		6	4			8		4
Actuated Green, G (s)	30.4	29.6	29.6	30.4	15.4	15.4	38.1	25.1		38.1	33.5	48.5
Effective Green, g (s)	30.4	29.6	29.6	30.4	15.4	15.4	38.1	25.1		38.1	33.5	48.5
Actuated g/C Ratio	0.34	0.33	0.33	0.34	0.17	0.17	0.43	0.28		0.43	0.38	0.55
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0		4.0	6.0	4.0
Vehicle Extension (s)	1.5	4.6	4.6	1.5	4.6	4.6	1.5	3.5		1.5	3.5	1.5
Lane Grp Cap (vph)	460	1101	487	226	578	251	378	480		410	655	631
v/s Ratio Prot	c0.10	0.13		0.00	0.05		0.01	c0.21		c0.10	0.19	0.01
v/s Ratio Perm	c0.10		0.03	0.01		0.02	0.06			0.20		0.02
v/c Ratio	0.57	0.39	0.09	0.02	0.29	0.11	0.16	0.73		0.70	0.51	0.06
Uniform Delay, d1	22.8	22.6	20.2	19.2	31.8	30.8	15.2	28.7		18.1	21.1	9.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	0.4	0.1	0.0	0.5	0.3	0.1	5.9		4.1	0.7	0.0
Delay (s)	23.8	23.0	20.4	19.2	32.3	31.1	15.2	34.5		22.2	21.9	9.4
Level of Service	C	C	C	B	C	C	B	C		C	C	A
Approach Delay (s)		22.8			31.5			31.7			20.8	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Two Way Analysis cannot be performed on Signalized Intersection.

2014 Existing Traffic Conditions
3: Table Rock Road & Vilas Road

Weekday AM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	238	41	188	208	58	39	272	239	122	300	128
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	5.4		4.0	5.4		4.0	5.4	5.4	4.0	5.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	1655		1614	1589		1614	3137	1390	1614	2990	
Flt Permitted	0.42	1.00		0.36	1.00		0.40	1.00	1.00	0.54	1.00	
Satd. Flow (perm)	706	1655		615	1589		675	3137	1390	926	2990	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	187	277	48	219	242	67	45	316	278	142	349	149
RTOR Reduction (vph)	0	7	0	0	9	0	0	0	221	0	42	0
Lane Group Flow (vph)	187	318	0	219	300	0	45	316	57	142	456	0
Heavy Vehicles (%)	5%	4%	0%	3%	7%	5%	3%	6%	7%	3%	5%	9%
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Actuated Green, G (s)	29.2	18.0		29.2	20.3		23.8	14.8	14.8	23.8	21.1	
Effective Green, g (s)	29.2	18.0		29.2	20.3		23.8	14.8	14.8	23.8	21.1	
Actuated g/C Ratio	0.41	0.25		0.41	0.28		0.33	0.21	0.21	0.33	0.29	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.4	5.4	4.0	5.4	
Vehicle Extension (s)	1.5	1.5		1.5	5.1		1.5	4.5	4.5	1.5	4.5	
Lane Grp Cap (vph)	395	414		405	449		259	646	286	393	878	
v/s Ratio Prot	0.06	c0.19		0.08	c0.19		0.01	0.10		c0.05	c0.15	
v/s Ratio Perm	0.13			0.14			0.05		0.04	0.07		
v/c Ratio	0.47	0.77		0.54	0.67		0.17	0.49	0.20	0.36	0.52	
Uniform Delay, d1	14.6	25.0		20.9	22.8		19.4	25.2	23.6	19.2	21.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	7.5		0.8	5.0		0.1	1.0	0.6	0.2	0.9	
Delay (s)	14.9	32.5		21.7	27.8		19.5	26.2	24.2	19.4	22.0	
Level of Service	B	C		C	C		B	C	C	B	C	
Approach Delay (s)		26.1			25.3			24.8			21.4	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	18.8
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

2014 Existing Traffic Conditions
4: Table Rock Road & Antelope Road

Weekday AM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	66	26	107	67	54	38	110	196	67	232	2
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.4	5.4	4.0	5.4	5.4	4.0	5.4		4.0	5.4	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00	1.00	1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.90		1.00	1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1458	1377	1599	1522	1108	1539	1431		1539	1691	
Flt Permitted		1.00	1.00	0.71	1.00	1.00	0.58	1.00		0.47	1.00	
Satd. Flow (perm)		1458	1377	1191	1522	1108	934	1431		769	1691	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	76	30	123	77	62	44	126	225	77	267	2
RTOR Reduction (vph)	0	0	22	0	0	55	0	33	0	0	0	0
Lane Group Flow (vph)	0	76	8	123	77	7	44	318	0	77	269	0
Confl. Peds. (#/hr)	1						1					
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	20%	8%	4%	15%	31%	8%	8%	12%	8%	3%	50%
Turn Type	D.P+P	NA	custom	D.P+P	NA	custom	D.P+P	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		7.3	17.7	13.7	17.7	7.3	30.2	25.7		30.2	27.4	
Effective Green, g (s)		7.3	17.7	13.7	17.7	7.3	30.2	25.7		30.2	27.4	
Actuated g/C Ratio		0.12	0.28	0.22	0.28	0.12	0.48	0.41		0.48	0.44	
Clearance Time (s)		5.4	5.4	4.0	5.4	5.4	4.0	5.4		4.0	5.4	
Vehicle Extension (s)		2.5	2.5	1.5	2.5	2.5	1.5	4.8		1.5	4.8	
Lane Grp Cap (vph)		169	388	301	429	129	476	586		425	738	
v/s Ratio Prot		c0.05		c0.04	0.05		0.00	c0.22		c0.01	0.16	
v/s Ratio Perm			0.01	0.05		0.01	0.04			0.07		
v/c Ratio		0.45	0.02	0.41	0.18	0.06	0.09	0.54		0.18	0.36	
Uniform Delay, d1		25.8	16.2	21.4	17.0	24.6	8.7	14.0		9.0	11.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.0	0.3	0.1	0.1	0.0	1.7		0.1	0.6	
Delay (s)		27.2	16.3	21.7	17.2	24.8	8.7	15.7		9.1	12.4	
Level of Service		C	B	C	B	C	A	B		A	B	
Approach Delay (s)		24.1			21.1			15.0			11.7	
Approach LOS		C			C			B			B	

Intersection Summary

HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	62.7	Sum of lost time (s)	18.8
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	21	75	25	432	524	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	5	4	4	0
Mvmt Flow	21	75	25	432	524	33

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	807	279	557	0
Stage 1	541	-	-	-
Stage 2	266	-	-	-
Critical Hdwy	6.8	6.9	4.2	-
Critical Hdwy Stg 1	5.8	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	3.3	2.25	-
Pot Cap-1 Maneuver	323	724	989	-
Stage 1	553	-	-	-
Stage 2	760	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	315	724	989	-
Mov Cap-2 Maneuver	427	-	-	-
Stage 1	553	-	-	-
Stage 2	741	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	989	-	628	-	-
HCM Lane V/C Ratio	0.025	-	0.153	-	-
HCM Control Delay (s)	8.7	-	11.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection									
Int Delay, s/veh	1.7								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	4	12	37	25	8	0	8	378	33
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	8	0	0	13	8	14
Mvmt Flow	4	12	37	25	8	0	8	378	33

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	957	969	542	978	957	397	545	0	0
Stage 1	541	541	-	412	412	-	-	-	-
Stage 2	416	428	-	566	545	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.18	6.5	6.2	4.23	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.18	5.5	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.18	5.5	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.572	4	3.3	2.317	-	-
Pot Cap-1 Maneuver	239	256	544	224	260	657	971	-	-
Stage 1	529	524	-	605	598	-	-	-	-
Stage 2	618	588	-	499	522	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	231	253	543	199	257	656	970	-	-
Mov Cap-2 Maneuver	231	253	-	199	257	-	-	-	-
Stage 1	523	524	-	598	591	-	-	-	-
Stage 2	602	581	-	454	522	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	15.4	25.2	0.2
HCM LOS	C	D	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	970	-	-	399	211	1157	-	-
HCM Lane V/C Ratio	0.008	-	-	0.133	0.156	-	-	-
HCM Control Delay (s)	8.7	0	-	15.4	25.2	0	-	-
HCM Lane LOS	A	A	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.5	0	-	-

Intersection			
Int Delay, s/veh			
Movement	SBL	SBT	SBR
Vol, veh/h	0	536	8
Conflicting Peds, #/hr	1	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	4	0
Mvmt Flow	0	536	8
Major/Minor	Major2		
Conflicting Flow All	412	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1158	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1157	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Approach	SB		
HCM Control Delay, s	0		
HCM LOS			
Minor Lane/Major Mvmt			

Intersection									
Int Delay, s/veh	7.4								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	6	115	13	70	174	5	2	46	42
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	450	-	375	470	-	380	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	115	13	70	174	5	2	46	42

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	0	115	0	0	538	441	116
Stage 1	-	-	-	-	-	-	127	127	-
Stage 2	-	-	-	-	-	-	411	314	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1415	-	-	1487	-	-	457	513	942
Stage 1	-	-	-	-	-	-	882	795	-
Stage 2	-	-	-	-	-	-	622	660	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1414	-	-	1486	-	-	311	487	941
Mov Cap-2 Maneuver	-	-	-	-	-	-	311	487	-
Stage 1	-	-	-	-	-	-	878	792	-
Stage 2	-	-	-	-	-	-	419	629	-

Approach	EB	WB	NB
HCM Control Delay, s	0.3	2.1	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	618	1414	-	-	1486	-	-	505
HCM Lane V/C Ratio	0.146	0.004	-	-	0.047	-	-	0.402
HCM Control Delay (s)	11.8	7.6	-	-	7.5	-	-	16.8
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	1.9

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	10	173	20
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	10	173	20

Major/Minor **Minor2**

Conflicting Flow All	485	441	175
Stage 1	314	314	-
Stage 2	171	127	-
Critical Hdwy	7.1	6.5	6.2
Critical Hdwy Stg 1	6.1	5.5	-
Critical Hdwy Stg 2	6.1	5.5	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	496	513	874
Stage 1	701	660	-
Stage 2	836	795	-
Platoon blocked, %			
Mov Cap-1 Maneuver	422	487	873
Mov Cap-2 Maneuver	422	487	-
Stage 1	698	629	-
Stage 2	748	792	-

Approach **SB**

HCM Control Delay, s	16.8
HCM LOS	C

Minor Lane/Major Mvmt

2014 Existing Traffic Conditions
8: OR62 & OR140

Weekday AM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↕↕	↕	↕	↕↕	
Volume (vph)	16	50	81	237	47	49	46	593	107	30	1138	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes		1.00	1.00		1.00	0.99	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1491	1377		1514	1412	1630	3167	1232	1458	3251	
Flt Permitted		0.89	1.00		0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1346	1377		1124	1412	1630	3167	1232	1458	3251	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	54	87	255	51	53	49	638	115	32	1224	22
RTOR Reduction (vph)	0	0	60	0	0	37	0	0	47	0	1	0
Lane Group Flow (vph)	0	71	27	0	306	16	49	638	68	32	1245	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			4
Heavy Vehicles (%)	0%	21%	8%	5%	41%	4%	2%	5%	18%	14%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4			6			
Actuated Green, G (s)		33.6	33.6		33.6	33.6	10.7	52.2	52.2	5.2	46.7	
Effective Green, g (s)		33.6	33.6		33.6	33.6	10.7	52.2	52.2	5.2	46.7	
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.10	0.48	0.48	0.05	0.43	
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		2.5	2.5		3.0	3.0	5.0	4.7	4.7	2.5	4.7	
Lane Grp Cap (vph)		414	424		346	435	160	1516	590	69	1392	
v/s Ratio Prot							0.03	c0.20		0.02	c0.38	
v/s Ratio Perm		0.05	0.02		c0.27	0.01			0.06			
v/c Ratio		0.17	0.06		0.88	0.04	0.31	0.42	0.12	0.46	0.89	
Uniform Delay, d1		27.5	26.6		35.9	26.4	45.7	18.5	15.7	50.5	28.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	0.0		22.5	0.0	2.3	0.9	0.4	3.6	9.2	
Delay (s)		27.7	26.6		58.3	26.4	48.0	19.4	16.1	54.1	38.0	
Level of Service		C	C		E	C	D	B	B	D	D	
Approach Delay (s)		27.1			53.6			20.7			38.4	
Approach LOS		C			D			C			D	

Intersection Summary

HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	59	0	63	4	0	0	51	244	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	8	0	0	0	0	0	3	12	0
Mvmt Flow	59	0	63	4	0	0	51	244	0

Major/Minor

	Minor2			Minor1			Major1		
Conflicting Flow All	671	671	325	703	671	244	325	0	0
Stage 1	325	325	-	346	346	-	-	-	-
Stage 2	346	346	-	357	325	-	-	-	-
Critical Hdwy	7.18	6.5	6.2	7.1	6.5	6.2	4.13	-	-
Critical Hdwy Stg 1	6.18	5.5	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	6.18	5.5	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	3.572	4	3.3	3.5	4	3.3	2.227	-	-
Pot Cap-1 Maneuver	362	380	721	355	380	800	1229	-	-
Stage 1	675	653	-	674	639	-	-	-	-
Stage 2	657	639	-	665	653	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	351	364	721	314	364	800	1229	-	-
Mov Cap-2 Maneuver	351	364	-	314	364	-	-	-	-
Stage 1	647	653	-	646	612	-	-	-	-
Stage 2	630	612	-	607	653	-	-	-	-

Approach

	EB	WB	NB
HCM Control Delay, s	15.1	16.6	1.4
HCM LOS	C	C	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	1229	-	-	478	314	1334	-
HCM Lane V/C Ratio	0.041	-	-	0.255	0.013	-	-
HCM Control Delay (s)	8.1	-	-	15.1	16.6	0	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0	0	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	0	325	81
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	Free
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	7	8
Mvmt Flow	0	325	81

Major/Minor Major2

Conflicting Flow All	244	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1334	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %		-	
Mov Cap-1 Maneuver	1334	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	0
HCM LOS	

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	13	4	43	4	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	29	0	0	22
Mvmt Flow	13	4	43	4	0	30

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	73	43	43
Stage 1	43	-	-
Stage 2	30	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	936	1033	1579
Stage 1	985	-	-
Stage 2	998	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	936	1033	1579
Mov Cap-2 Maneuver	936	-	-
Stage 1	985	-	-
Stage 2	998	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	936	1033	1579	-
HCM Lane V/C Ratio	-	-	0.014	0.004	-	-
HCM Control Delay (s)	-	-	8.9	8.5	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-

2014 Existing Traffic Conditions
11: OR62 & Vilas Road

Weekday AM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	121	199	54	77	26	124	606	60	57	1060	321
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	6.0	4.5	4.5	6.0		4.5	6.0	6.0	4.5	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1539	1667	1390	1599	1684		1630	3228	1449	1662	3292	1386
Flt Permitted	0.61	1.00	1.00	0.62	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	991	1667	1390	1037	1684		1630	3228	1449	1662	3292	1386
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	245	141	231	63	90	30	144	705	70	66	1233	373
RTOR Reduction (vph)	0	0	153	0	9	0	0	0	36	0	0	70
Lane Group Flow (vph)	245	141	78	63	111	0	144	705	34	66	1233	303
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									4			2
Heavy Vehicles (%)	8%	5%	7%	4%	0%	0%	2%	3%	0%	0%	1%	5%
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases	8		4	4					2			6
Actuated Green, G (s)	31.2	24.3	39.3	31.2	13.6		15.0	56.3	56.3	8.2	49.5	49.5
Effective Green, g (s)	31.2	24.3	39.3	31.2	13.6		15.0	56.3	56.3	8.2	49.5	49.5
Actuated g/C Ratio	0.27	0.21	0.34	0.27	0.12		0.13	0.48	0.48	0.07	0.42	0.42
Clearance Time (s)	4.5	6.0	4.5	4.5	6.0		4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	4.6	4.6	2.5	4.6	4.6
Lane Grp Cap (vph)	347	347	468	310	196		209	1557	699	116	1396	587
v/s Ratio Prot	c0.11	0.08	0.02	0.01	0.07		c0.09	0.22		0.04	c0.37	
v/s Ratio Perm	c0.08		0.03	0.04					0.02			0.22
v/c Ratio	0.71	0.41	0.17	0.20	0.57		0.69	0.45	0.05	0.57	0.88	0.52
Uniform Delay, d1	37.3	40.0	27.2	32.6	48.8		48.6	20.0	16.0	52.5	30.9	24.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.0	0.6	0.1	0.2	3.0		8.4	0.4	0.1	5.1	7.4	1.3
Delay (s)	43.2	40.5	27.3	32.9	51.8		57.0	20.4	16.1	57.6	38.3	26.1
Level of Service	D	D	C	C	D		E	C	B	E	D	C
Approach Delay (s)		36.6			45.3			25.8			36.3	
Approach LOS		D			D			C			D	

Intersection Summary

HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	116.7	Sum of lost time (s)	21.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection

Int Delay, s/veh 3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	4	0	0	21	8	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	0	0	21	8	25

Major/Minor

	Minor1	Minor2	Major2
Conflicting Flow All	52	41	0
Stage 1	0	41	-
Stage 2	52	0	-
Critical Hdwy	6.4	6.5	6.2
Critical Hdwy Stg 1	-	5.5	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	962	855	1057
Stage 1	-	865	-
Stage 2	976	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	962	0	1057
Mov Cap-2 Maneuver	962	0	-
Stage 1	-	0	-
Stage 2	976	0	-

Approach

	WB	NB	SB
HCM Control Delay, s		8.5	0
HCM LOS	-	A	

Minor Lane/Major Mvmt

	NBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	1057	-	-	-
HCM Lane V/C Ratio	0.02	-	-	-
HCM Control Delay (s)	8.5	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	25	4	4	4	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	25	4	4	4	4	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	8	0	60
Stage 1	-	-	6
Stage 2	-	-	54
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1625	-	952
Stage 1	-	-	1022
Stage 2	-	-	974
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1625	-	938
Mov Cap-2 Maneuver	-	-	938
Stage 1	-	-	1022
Stage 2	-	-	959

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1625	-	-	-	938
HCM Lane V/C Ratio	0.015	-	-	-	0.004
HCM Control Delay (s)	7.2	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	24	132	112	0	16	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	60	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	132	112	0	16	36

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	112	0	292
Stage 1	-	-	112
Stage 2	-	-	180
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1490	0	703
Stage 1	-	0	918
Stage 2	-	0	856
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1490	-	692
Mov Cap-2 Maneuver	-	-	692
Stage 1	-	-	918
Stage 2	-	-	842

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1490	-	-	851
HCM Lane V/C Ratio	0.016	-	-	0.061
HCM Control Delay (s)	7.5	-	-	9.5
HCM Lane LOS	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	0.2

Intersection										
Int Delay, s/veh	2.4									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	13	0	0	17	0	9	0	39	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	50	0	0	0	0	0	0	15	18
Mvmt Flow	13	0	0	17	0	9	0	39	34

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	100	112	39	95	95	56	39	0	0
Stage 1	39	39	-	56	56	-	-	-	-
Stage 2	61	73	-	39	39	-	-	-	-
Critical Hdwy	7.6	6.5	6.2	7.1	6.5	6.2	4.1	-	-
Critical Hdwy Stg 1	6.6	5.5	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	6.6	5.5	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	3.95	4	3.3	3.5	4	3.3	2.2	-	-
Pot Cap-1 Maneuver	779	782	1038	893	799	1016	1584	-	-
Stage 1	867	866	-	961	852	-	-	-	-
Stage 2	843	838	-	981	866	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	772	782	1038	893	799	1016	1584	-	-
Mov Cap-2 Maneuver	772	782	-	893	799	-	-	-	-
Stage 1	867	866	-	961	852	-	-	-	-
Stage 2	836	838	-	981	866	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.7	9	0
HCM LOS	A	A	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1584	-	-	772	932	1540	-	-
HCM Lane V/C Ratio	-	-	-	0.017	0.028	-	-	-
HCM Control Delay (s)	0	-	-	9.7	9	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	0	39	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	28	0
Mvmt Flow	0	39	0

Major/Minor Major2

Conflicting Flow All	73	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1540	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1540	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s 0
 HCM LOS

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	47	13	137	30	4	1199
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	170	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	9	0	10	18	0	5
Mvmt Flow	47	13	137	30	4	1199

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1344	137	0
Stage 1	137	-	-
Stage 2	1207	-	-
Critical Hdwy	6.49	6.2	4.1
Critical Hdwy Stg 1	5.49	-	-
Critical Hdwy Stg 2	5.49	-	-
Follow-up Hdwy	3.581	3.3	2.2
Pot Cap-1 Maneuver	162	917	1459
Stage 1	873	-	-
Stage 2	274	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	162	917	1459
Mov Cap-2 Maneuver	236	-	-
Stage 1	873	-	-
Stage 2	273	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	281	1459	-
HCM Lane V/C Ratio	-	-	0.214	0.003	-
HCM Control Delay (s)	-	-	21.3	7.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	25	0	8	71	29	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	25	0	8	71	29	4

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	118	31	33	0
Stage 1	31	-	-	-
Stage 2	87	-	-	-
Critical Hdwy	6.4	6.2	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-
Pot Cap-1 Maneuver	883	1049	1592	-
Stage 1	997	-	-	-
Stage 2	941	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	879	1049	1592	-
Mov Cap-2 Maneuver	879	-	-	-
Stage 1	997	-	-	-
Stage 2	936	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	879	-	-
HCM Lane V/C Ratio	0.005	-	0.028	-	-
HCM Control Delay (s)	7.3	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	32	8	12	52	32	32
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	8	12	52	32	32

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	124	49	64	0
Stage 1	48	-	-	-
Stage 2	76	-	-	-
Critical Hdwy	6.4	6.2	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-
Pot Cap-1 Maneuver	876	1025	1551	-
Stage 1	980	-	-	-
Stage 2	952	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	869	1024	1550	-
Mov Cap-2 Maneuver	869	-	-	-
Stage 1	980	-	-	-
Stage 2	944	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1550	-	896	-	-
HCM Lane V/C Ratio	0.008	-	0.045	-	-
HCM Control Delay (s)	7.3	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	47	5	110	31	5	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	13	0
Mvmt Flow	47	5	110	31	5	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	47	298
Stage 1	-	-	47
Stage 2	-	-	251
Critical Hdwy	-	4.13	6.53
Critical Hdwy Stg 1	-	-	5.53
Critical Hdwy Stg 2	-	-	5.53
Follow-up Hdwy	-	2.227	3.617
Pot Cap-1 Maneuver	-	1554	671
Stage 1	-	0	948
Stage 2	-	0	766
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1554	624
Mov Cap-2 Maneuver	-	-	624
Stage 1	-	-	948
Stage 2	-	-	712

Approach	EB	WB	NB
HCM Control Delay, s	0	5.8	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	1002	-	1554	-
HCM Lane V/C Ratio	0.125	-	0.071	-
HCM Control Delay (s)	9.1	-	7.5	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0.4	-	0.2	-

2014 Existing Traffic Conditions
1: Hamrick Road & E Pine Street/Biddle Road

Weekday PM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕	↖		↕	↖
Volume (vph)	418	427	39	11	662	39	50	15	11	49	12	629
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	5.0		4.0	5.0			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.96	1.00
Satd. Flow (prot)	1614	3189		1525	3202			1470	1468		1682	1473
Flt Permitted	0.18	1.00		0.46	1.00			0.77	1.00		0.76	1.00
Satd. Flow (perm)	301	3189		735	3202			1179	1468		1333	1473
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	470	480	44	12	744	44	56	17	12	55	13	707
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	9	0	0	12
Lane Group Flow (vph)	470	519	0	12	785	0	0	73	3	0	68	695
Confl. Peds. (#/hr)	2		1	1		2						
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	3%	2%	11%	9%	3%	0%	17%	7%	0%	0%	0%	1%
Turn Type	D.P+P	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases	6			6			8		8	4		
Actuated Green, G (s)	63.1	62.1		34.2	33.2			28.6	28.6		28.6	63.0
Effective Green, g (s)	63.1	62.1		34.2	33.2			28.6	28.6		28.6	63.0
Actuated g/C Ratio	0.60	0.59		0.33	0.32			0.27	0.27		0.27	0.60
Clearance Time (s)	4.0	5.0		4.0	5.0			4.5	4.5		4.5	
Vehicle Extension (s)	2.5	4.3		2.5	4.0			2.5	2.5		2.5	
Lane Grp Cap (vph)	553	1882		246	1010			320	399		362	882
v/s Ratio Prot	c0.24	0.16		0.00	0.25							c0.47
v/s Ratio Perm	c0.27			0.02				0.06	0.00		0.05	
v/c Ratio	0.85	0.28		0.05	0.78			0.23	0.01		0.19	0.79
Uniform Delay, d1	22.5	10.5		24.1	32.6			29.7	27.9		29.4	16.0
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	11.5	0.1		0.1	4.0			0.3	0.0		0.2	4.5
Delay (s)	34.0	10.7		24.2	36.7			30.0	28.0		29.6	20.6
Level of Service	C	B		C	D			C	C		C	C
Approach Delay (s)		21.7			36.5			29.7			21.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	105.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

2014 Existing Traffic Conditions
2: Table Rock Road & Biddle Road

Weekday PM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	288	65	80	492	230	103	318	6	168	427	143
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0		4.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1599	3292	1488	1662	3325	1444	1646	1695		1646	1716	1328
Flt Permitted	0.30	1.00	1.00	0.53	1.00	1.00	0.26	1.00		0.37	1.00	1.00
Satd. Flow (perm)	508	3292	1488	927	3325	1444	446	1695		638	1716	1328
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	149	324	73	90	553	258	116	357	7	189	480	161
RTOR Reduction (vph)	0	0	51	0	0	191	0	1	0	0	0	86
Lane Group Flow (vph)	149	324	22	90	553	67	116	363	0	189	480	75
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	4%	1%	0%	0%	0%	3%	1%	3%	0%	1%	2%	12%
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	6		2	2		6	4			8		4
Actuated Green, G (s)	36.3	30.1	30.1	36.3	26.2	26.2	44.7	34.0		44.7	36.7	46.8
Effective Green, g (s)	36.3	30.1	30.1	36.3	26.2	26.2	44.7	34.0		44.7	36.7	46.8
Actuated g/C Ratio	0.36	0.30	0.30	0.36	0.26	0.26	0.44	0.34		0.44	0.36	0.46
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0		4.0	6.0	4.0
Vehicle Extension (s)	1.5	4.6	4.6	1.5	4.6	4.6	1.5	3.5		1.5	3.5	1.5
Lane Grp Cap (vph)	291	981	443	378	862	374	292	570		389	623	615
v/s Ratio Prot	c0.05	c0.10		0.01	c0.17		0.03	0.21		c0.05	c0.28	0.01
v/s Ratio Perm	0.13		0.01	0.07		0.05	0.14			0.16		0.04
v/c Ratio	0.51	0.33	0.05	0.24	0.64	0.18	0.40	0.64		0.49	0.77	0.12
Uniform Delay, d1	23.3	27.6	25.3	21.9	33.2	29.0	18.6	28.3		18.5	28.4	15.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	0.4	0.1	0.1	2.1	0.4	0.3	2.5		0.3	6.0	0.0
Delay (s)	23.9	28.0	25.3	22.0	35.3	29.5	18.9	30.7		18.8	34.5	15.4
Level of Service	C	C	C	C	D	C	B	C		B	C	B
Approach Delay (s)		26.5			32.3			27.9			27.2	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	101.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Two Way Analysis cannot be performed on Signalized Intersection.

2014 Existing Traffic Conditions
3: Table Rock Road & Vilas Road

Weekday PM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Volume (vph)	133	191	36	252	374	97	73	439	253	122	408	224
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	5.4		4.0	5.4		4.0	5.4	5.4	4.0	5.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1599	1666		1599	1645		1646	3228	1473	1662	3014	
Flt Permitted	0.21	1.00		0.36	1.00		0.22	1.00	1.00	0.33	1.00	
Satd. Flow (perm)	357	1666		613	1645		379	3228	1473	569	3014	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	148	212	40	280	416	108	81	488	281	136	453	249
RTOR Reduction (vph)	0	6	0	0	6	0	0	0	217	0	57	0
Lane Group Flow (vph)	148	246	0	280	518	0	81	488	64	136	645	0
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	4%	3%	0%	4%	2%	6%	1%	3%	1%	0%	5%	1%
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			2		6	6		
Actuated Green, G (s)	44.9	18.3		44.9	35.5		32.3	22.0	22.0	32.3	28.1	
Effective Green, g (s)	44.9	18.3		44.9	35.5		32.3	22.0	22.0	32.3	28.1	
Actuated g/C Ratio	0.47	0.19		0.47	0.37		0.34	0.23	0.23	0.34	0.29	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.4	5.4	4.0	5.4	
Vehicle Extension (s)	1.5	1.5		1.5	5.1		1.5	4.5	4.5	1.5	4.5	
Lane Grp Cap (vph)	288	317		559	608		182	739	337	308	882	
v/s Ratio Prot	0.05	c0.15		0.14	c0.31		0.02	0.15		c0.05	c0.21	
v/s Ratio Perm	0.19			0.10			0.13		0.04	0.10		
v/c Ratio	0.51	0.78		0.50	0.85		0.45	0.66	0.19	0.44	0.73	
Uniform Delay, d1	17.4	36.9		22.1	27.8		34.1	33.6	29.8	31.1	30.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	10.4		0.3	12.1		0.6	2.7	0.5	0.4	3.6	
Delay (s)	18.1	47.3		22.4	40.0		34.7	36.3	30.3	31.4	34.1	
Level of Service	B	D		C	D		C	D	C	C	C	
Approach Delay (s)		36.5			33.8			34.2			33.7	
Approach LOS		D			C			C			C	

Intersection Summary

HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

2014 Existing Traffic Conditions
4: Table Rock Road & W Antelope Road

Weekday PM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↗		↖	↗	
Volume (vph)	0	75	65	269	94	111	29	251	214	67	194	1
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.4	5.4	4.0	5.4	5.4	4.0	5.4		4.0	5.4	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1636	1444	1583	1620	1403	1498	1573		1539	1732	
Flt Permitted		1.00	1.00	0.70	1.00	1.00	0.58	1.00		0.26	1.00	
Satd. Flow (perm)		1636	1444	1163	1620	1403	922	1573		420	1732	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	91	79	328	115	135	35	306	261	82	237	1
RTOR Reduction (vph)	0	0	53	0	0	119	0	15	0	0	0	0
Lane Group Flow (vph)	0	91	26	328	115	16	35	552	0	82	238	0
Heavy Vehicles (%)	0%	7%	3%	5%	8%	6%	11%	4%	3%	8%	1%	0%
Turn Type	D.P+P	NA	custom	D.P+P	NA	custom	D.P+P	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		10.7	29.7	25.7	29.7	10.7	47.4	41.6		47.4	44.1	
Effective Green, g (s)		10.7	29.7	25.7	29.7	10.7	47.4	41.6		47.4	44.1	
Actuated g/C Ratio		0.12	0.32	0.28	0.32	0.12	0.52	0.45		0.52	0.48	
Clearance Time (s)		5.4	5.4	4.0	5.4	5.4	4.0	5.4		4.0	5.4	
Vehicle Extension (s)		2.5	2.5	1.5	2.5	2.5	1.5	4.8		1.5	4.8	
Lane Grp Cap (vph)		190	466	393	523	163	496	712		287	831	
v/s Ratio Prot		0.06		c0.14	0.07		0.00	c0.35		c0.02	0.14	
v/s Ratio Perm			0.02	c0.10		0.01	0.03			0.13		
v/c Ratio		0.48	0.05	0.83	0.22	0.10	0.07	0.78		0.29	0.29	
Uniform Delay, d1		38.0	21.4	29.9	22.7	36.3	11.1	21.2		13.3	14.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.0	13.6	0.2	0.2	0.0	6.1		0.2	0.4	
Delay (s)		39.4	21.5	43.5	22.8	36.5	11.1	27.3		13.5	14.8	
Level of Service		D	C	D	C	D	B	C		B	B	
Approach Delay (s)		31.1			37.7			26.3			14.5	
Approach LOS		C			D			C			B	

Intersection Summary

HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	91.9	Sum of lost time (s)	18.8
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	29	33	96	582	819	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	29	33	96	582	819	62

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	1333	441	881	0
Stage 1	850	-	-	-
Stage 2	483	-	-	-
Critical Hdwy	6.8	6.9	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-
Pot Cap-1 Maneuver	148	570	776	-
Stage 1	384	-	-	-
Stage 2	592	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	130	570	776	-
Mov Cap-2 Maneuver	259	-	-	-
Stage 1	384	-	-	-
Stage 2	519	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	776	-	365	-	-
HCM Lane V/C Ratio	0.124	-	0.17	-	-
HCM Control Delay (s)	10.3	-	16.9	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-	-

Intersection									
Int Delay, s/veh	3.3								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	12	8	25	42	8	4	29	432	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0	5	6	0
Mvmt Flow	12	8	25	42	8	4	29	432	100

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1343	1387	781	1353	1353	482	797	0	0
Stage 1	797	797	-	540	540	-	-	-	-
Stage 2	546	590	-	813	813	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.5	6.2	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.5	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.5	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4	3.3	2.245	-	-
Pot Cap-1 Maneuver	130	144	398	126	151	588	812	-	-
Stage 1	383	401	-	524	524	-	-	-	-
Stage 2	526	498	-	371	395	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	117	135	398	107	141	588	812	-	-
Mov Cap-2 Maneuver	117	135	-	107	141	-	-	-	-
Stage 1	363	395	-	497	497	-	-	-	-
Stage 2	487	472	-	336	389	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	28.2	59	0.5
HCM LOS	D	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	812	-	-	200	118	1046	-	-
HCM Lane V/C Ratio	0.036	-	-	0.225	0.458	0.008	-	-
HCM Control Delay (s)	9.6	0	-	28.2	59	8.5	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	2	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	8	764	33
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	3	0
Mvmt Flow	8	764	33

Major/Minor Major2

Conflicting Flow All	532	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1046	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1046	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

Intersection									
Int Delay, s/veh	6.8								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	53	267	8	8	41	174	158	65	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	450	-	375	470	-	380	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	53	267	8	8	41	174	158	65	12

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	41	0	0	267	0	0	457	430	267
Stage 1	-	-	-	-	-	-	373	373	-
Stage 2	-	-	-	-	-	-	84	57	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1581	-	-	1308	-	-	517	521	777
Stage 1	-	-	-	-	-	-	652	622	-
Stage 2	-	-	-	-	-	-	929	851	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1581	-	-	1308	-	-	462	500	777
Mov Cap-2 Maneuver	-	-	-	-	-	-	462	500	-
Stage 1	-	-	-	-	-	-	630	601	-
Stage 2	-	-	-	-	-	-	866	846	-

Approach	EB	WB	NB
HCM Control Delay, s	1.2	0.3	19.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	482	1581	-	-	1308	-	-	513
HCM Lane V/C Ratio	0.488	0.034	-	-	0.006	-	-	0.111
HCM Control Delay (s)	19.4	7.4	-	-	7.8	-	-	12.9
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.6	0.1	-	-	0	-	-	0.4

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	4	49	4
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	4	49	4

Major/Minor **Minor2**

Conflicting Flow All	469	430	41
Stage 1	57	57	-
Stage 2	412	373	-
Critical Hdwy	7.1	6.5	6.2
Critical Hdwy Stg 1	6.1	5.5	-
Critical Hdwy Stg 2	6.1	5.5	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	508	521	1036
Stage 1	960	851	-
Stage 2	621	622	-
Platoon blocked, %			
Mov Cap-1 Maneuver	437	500	1036
Mov Cap-2 Maneuver	437	500	-
Stage 1	928	846	-
Stage 2	527	601	-

Approach **SB**

HCM Control Delay, s	12.9
HCM LOS	B

Minor Lane/Major Mvmt

2014 Existing Traffic Conditions
8: OR62 & OR140

Weekday PM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↘	↕↕	↗	↘	↕↗	
Volume (vph)	49	73	95	161	36	83	106	1326	239	79	994	26
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes		1.00	1.00		1.00	0.99	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1646	1473		1582	1424	1630	3292	1385	1614	3278	
Flt Permitted		0.68	1.00		0.65	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1148	1473		1070	1424	1630	3292	1385	1614	3278	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	54	80	104	177	40	91	116	1457	263	87	1092	29
RTOR Reduction (vph)	0	0	79	0	0	69	0	0	41	0	2	0
Lane Group Flow (vph)	0	134	25	0	217	22	116	1457	222	87	1119	0
Confl. Peds. (#/hr)	2					2	2					2
Confl. Bikes (#/hr)									3			2
Heavy Vehicles (%)	0%	7%	1%	5%	12%	3%	2%	1%	5%	3%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4			6			
Actuated Green, G (s)		27.8	27.8		27.8	27.8	14.0	60.7	60.7	9.5	56.2	
Effective Green, g (s)		27.8	27.8		27.8	27.8	14.0	60.7	60.7	9.5	56.2	
Actuated g/C Ratio		0.24	0.24		0.24	0.24	0.12	0.52	0.52	0.08	0.48	
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		2.5	2.5		3.0	3.0	5.0	4.7	4.7	2.5	4.7	
Lane Grp Cap (vph)		275	353		256	341	196	1722	724	132	1588	
v/s Ratio Prot							c0.07	c0.44		0.05	0.34	
v/s Ratio Perm		0.12	0.02		c0.20	0.02			0.16			
v/c Ratio		0.49	0.07		0.85	0.06	0.59	0.85	0.31	0.66	0.70	
Uniform Delay, d1		38.0	34.1		42.1	34.1	48.3	23.7	15.7	51.7	23.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.0	0.1		22.0	0.1	7.1	5.3	1.1	10.1	2.7	
Delay (s)		39.0	34.2		64.1	34.1	55.3	29.0	16.8	61.8	26.1	
Level of Service		D	C		E	C	E	C	B	E	C	
Approach Delay (s)		36.9			55.3			28.9			28.6	
Approach LOS		D			E			C			C	

Intersection Summary

HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	80	0	71	0	0	0	111	561	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	4	0	2	0	0	0	1	1	0
Mvmt Flow	80	0	71	0	0	0	111	561	0

Major/Minor

	Minor2			Minor1			Major1		
Conflicting Flow All	1074	1074	283	1110	1074	561	283	0	0
Stage 1	291	291	-	783	783	-	-	-	-
Stage 2	783	783	-	327	291	-	-	-	-
Critical Hdwy	7.14	6.5	6.22	7.1	6.5	6.2	4.11	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	3.536	4	3.318	3.5	4	3.3	2.209	-	-
Pot Cap-1 Maneuver	196	222	756	188	222	531	1285	-	-
Stage 1	713	675	-	390	407	-	-	-	-
Stage 2	384	407	-	690	675	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	182	202	756	158	202	531	1285	-	-
Mov Cap-2 Maneuver	182	202	-	158	202	-	-	-	-
Stage 1	651	672	-	356	372	-	-	-	-
Stage 2	351	372	-	622	672	-	-	-	-

Approach

	EB	WB	NB
HCM Control Delay, s	31.4	0	1.3
HCM LOS	D	A	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	1285	-	-	283	-	1020	-
HCM Lane V/C Ratio	0.086	-	-	0.534	-	0.004	-
HCM Control Delay (s)	8.1	-	-	31.4	0	8.5	0
HCM Lane LOS	A	-	-	D	A	A	A
HCM 95th %tile Q(veh)	0.3	-	-	2.9	-	0	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	4	283	69
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	Free
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	2	5
Mvmt Flow	4	283	69

Major/Minor Major2

Conflicting Flow All	561	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1020	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %		-	
Mov Cap-1 Maneuver	1020	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	34	13	51	21	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	8	0	0	14
Mvmt Flow	34	13	51	21	0	43

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	94	51	0	0	51	0
Stage 1	51	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	911	1023	-	-	1568	-
Stage 1	977	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	911	1023	-	-	1568	-
Mov Cap-2 Maneuver	911	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	911	1023	1568	-
HCM Lane V/C Ratio	-	-	0.037	0.013	-	-
HCM Control Delay (s)	-	-	9.1	8.6	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

2014 Existing Traffic Conditions
11: OR62 & Vilas Road

Weekday PM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	295	120	224	78	126	20	239	1309	89	80	1079	299
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	6.0	4.5	4.5	6.0		4.5	6.0	6.0	4.5	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1599	1733	1473	1662	1685		1662	3292	1401	1662	3292	1396
Flt Permitted	0.48	1.00	1.00	0.63	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	803	1733	1473	1106	1685		1662	3292	1401	1662	3292	1396
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	311	126	236	82	133	21	252	1378	94	84	1136	315
RTOR Reduction (vph)	0	0	142	0	4	0	0	0	46	0	0	75
Lane Group Flow (vph)	311	126	94	82	150	0	252	1378	48	84	1136	240
Confl. Bikes (#/hr)									1			4
Heavy Vehicles (%)	4%	1%	1%	0%	2%	0%	0%	1%	4%	0%	1%	4%
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases	8		4	4					2			6
Actuated Green, G (s)	35.5	26.0	49.4	35.5	16.2		23.4	60.5	60.5	11.2	48.3	48.3
Effective Green, g (s)	35.5	26.0	49.4	35.5	16.2		23.4	60.5	60.5	11.2	48.3	48.3
Actuated g/C Ratio	0.28	0.20	0.39	0.28	0.13		0.18	0.47	0.47	0.09	0.38	0.38
Clearance Time (s)	4.5	6.0	4.5	4.5	6.0		4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	4.6	4.6	2.5	4.6	4.6
Lane Grp Cap (vph)	342	351	567	347	212		303	1553	661	145	1240	525
v/s Ratio Prot	c0.14	0.07	0.03	0.02	0.09		c0.15	c0.42		0.05	0.35	
v/s Ratio Perm	c0.11		0.03	0.05					0.03			0.17
v/c Ratio	0.91	0.36	0.17	0.24	0.71		0.83	0.89	0.07	0.58	0.92	0.46
Uniform Delay, d1	42.4	43.9	25.9	35.3	53.7		50.5	30.8	18.5	56.2	38.0	30.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.8	0.5	0.1	0.3	9.5		17.1	6.9	0.1	4.5	11.0	1.1
Delay (s)	69.2	44.4	26.0	35.5	63.2		67.6	37.7	18.6	60.8	49.0	31.2
Level of Service	E	D	C	D	E		E	D	B	E	D	C
Approach Delay (s)		49.4			53.6			41.0			46.0	
Approach LOS		D			D			D			D	

Intersection Summary

HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	128.2	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection

Int Delay, s/veh 2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	8	0	21	25	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	8	0	21	25	21

Major/Minor

	Minor1		Minor2		Major2	
Conflicting Flow All	82	0	71	21	0	0
Stage 1	0	-	71	-	-	-
Stage 2	82	-	0	-	-	-
Critical Hdwy	6.4	-	6.5	6.2	-	-
Critical Hdwy Stg 1	-	-	5.5	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	4	3.3	-	-
Pot Cap-1 Maneuver	925	-	823	1062	-	-
Stage 1	-	-	840	-	-	-
Stage 2	946	-	-	-	-	-
Platoon blocked, %						-
Mov Cap-1 Maneuver	925	-	0	1062	-	-
Mov Cap-2 Maneuver	925	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	946	-	0	-	-	-

Approach

	WB		NB		SB
HCM Control Delay, s			8.5		0
HCM LOS	-		A		

Minor Lane/Major Mvmt

	NBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	1062	-	-	-
HCM Lane V/C Ratio	0.02	-	-	-
HCM Control Delay (s)	8.5	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection

Int Delay, s/veh 7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	46	0	8	0	17	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	17	0	0	0	0
Mvmt Flow	46	0	8	0	17	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	8	0	100
Stage 1	-	-	8
Stage 2	-	-	92
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1625	-	904
Stage 1	-	-	1020
Stage 2	-	-	937
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1625	-	879
Mov Cap-2 Maneuver	-	-	879
Stage 1	-	-	1020
Stage 2	-	-	911

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1625	-	-	-	935
HCM Lane V/C Ratio	0.028	-	-	-	0.027
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	88	180	216	16	28	40
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	60	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	88	180	216	16	28	40

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	216	0	216
Stage 1	-	-	216
Stage 2	-	-	356
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1366	-	485
Stage 1	-	-	825
Stage 2	-	-	713
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1365	-	454
Mov Cap-2 Maneuver	-	-	454
Stage 1	-	-	825
Stage 2	-	-	667

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1365	-	-	618
HCM Lane V/C Ratio	0.064	-	-	0.11
HCM Control Delay (s)	7.8	-	-	11.5
HCM Lane LOS	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	0.4

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	0	21	0	0	0	47	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	8	0	0	0	6	0
Mvmt Flow	0	0	0	21	0	0	0	47	34

Major/Minor

	Minor2			Minor1			Major1		
Conflicting Flow All	164	181	100	164	166	64	102	0	0
Stage 1	100	100	-	64	64	-	-	-	-
Stage 2	64	81	-	100	102	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.18	6.5	6.2	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.18	5.5	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.18	5.5	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.572	4	3.3	2.2	-	-
Pot Cap-1 Maneuver	805	717	961	787	730	1006	1503	-	-
Stage 1	911	816	-	932	846	-	-	-	-
Stage 2	952	832	-	892	815	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	805	717	961	787	730	1006	1503	-	-
Mov Cap-2 Maneuver	805	717	-	787	730	-	-	-	-
Stage 1	911	816	-	932	846	-	-	-	-
Stage 2	952	832	-	892	815	-	-	-	-

Approach

	EB	WB	NB
HCM Control Delay, s	0	9.7	0
HCM LOS	A	A	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1503	-	-	-	787	1529	-	-
HCM Lane V/C Ratio	-	-	-	-	0.027	-	-	-
HCM Control Delay (s)	0	-	-	0	9.7	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	0	98	4
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	5	0
Mvmt Flow	0	98	4

Major/Minor Major2

Conflicting Flow All	81	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1529	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1529	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s 0
 HCM LOS

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	60	17	535	73	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	170	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	1	0	0	0
Mvmt Flow	60	17	535	73	21	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	577	535	0
Stage 1	535	-	-
Stage 2	42	-	-
Critical Hdwy	6.42	6.2	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.3	-
Pot Cap-1 Maneuver	478	549	-
Stage 1	587	-	-
Stage 2	980	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	468	549	-
Mov Cap-2 Maneuver	515	-	-
Stage 1	587	-	-
Stage 2	960	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	8.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	522	1043	-
HCM Lane V/C Ratio	-	-	0.148	0.02	-
HCM Control Delay (s)	-	-	13.1	8.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	8	0	0	13	121	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	6	0	0	0
Mvmt Flow	8	0	0	13	121	75

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	172	159	196
Stage 1	159	-	-
Stage 2	13	-	-
Critical Hdwy	6.4	6.2	4.16
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.254
Pot Cap-1 Maneuver	823	892	1353
Stage 1	875	-	-
Stage 2	1015	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	823	892	1353
Mov Cap-2 Maneuver	823	-	-
Stage 1	875	-	-
Stage 2	1015	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1353	-	823	-	-
HCM Lane V/C Ratio	-	-	0.01	-	-
HCM Control Delay (s)	0	-	9.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	28	12	44	65	57	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	28	12	44	65	57	40

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	230	77	97
Stage 1	77	-	-
Stage 2	153	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	763	990	1509
Stage 1	951	-	-
Stage 2	880	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	740	990	1509
Mov Cap-2 Maneuver	740	-	-
Stage 1	951	-	-
Stage 2	854	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1509	-	801	-	-
HCM Lane V/C Ratio	0.029	-	0.05	-	-
HCM Control Delay (s)	7.5	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	5	16	151	16	16	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	5	16	151	16	16	141

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	5	323
Stage 1	-	-	5
Stage 2	-	-	318
Critical Hdwy	-	4.11	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.209	3.5
Pot Cap-1 Maneuver	-	1623	675
Stage 1	-	-	1023
Stage 2	-	-	742
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1623	612
Mov Cap-2 Maneuver	-	-	612
Stage 1	-	-	1023
Stage 2	-	-	673

Approach	EB	WB	NB
HCM Control Delay, s	0	6.7	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	1005	-	1623	-
HCM Lane V/C Ratio	0.156	-	0.093	-
HCM Control Delay (s)	9.2	-	7.4	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0.6	-	0.3	-

2014 Existing Traffic Conditions
20: N Phoenix Road/Foothill Road & Hillcrest Road

Weekday PM Peak Hour
6/16/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	177	163	150	50	104	38	158	568	9	33	414	81
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.96		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	1614		1662	1679		1646	3317		1662	3217	
Flt Permitted	0.50	1.00		0.55	1.00		0.27	1.00		0.41	1.00	
Satd. Flow (perm)	859	1614		970	1679		461	3317		720	3217	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	195	179	165	55	114	42	174	624	10	36	455	89
RTOR Reduction (vph)	0	29	0	0	13	0	0	1	0	0	15	0
Lane Group Flow (vph)	195	315	0	55	143	0	174	633	0	36	529	0
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.7	23.6		19.3	15.2		34.3	27.6		23.1	19.4	
Effective Green, g (s)	30.7	23.6		19.3	15.2		34.3	27.6		23.1	19.4	
Actuated g/C Ratio	0.42	0.32		0.26	0.21		0.47	0.38		0.32	0.27	
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	496	521		295	349		409	1254		275	854	
v/s Ratio Prot	c0.07	c0.20		0.01	0.08		c0.07	0.19		0.01	c0.16	
v/s Ratio Perm	0.10			0.04			0.13			0.03		
v/c Ratio	0.39	0.60		0.19	0.41		0.43	0.51		0.13	0.62	
Uniform Delay, d1	14.1	20.8		20.4	25.0		12.2	17.4		17.4	23.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.0		0.3	0.8		0.7	0.3		0.2	1.3	
Delay (s)	14.6	22.8		20.7	25.8		12.9	17.8		17.6	24.9	
Level of Service	B	C		C	C		B	B		B	C	
Approach Delay (s)		19.8			24.5			16.7			24.4	
Approach LOS		B			C			B			C	

Intersection Summary

HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	73.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	41	8	145	671	402	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	185	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	15	20	0	1	1	0
Mvmt Flow	41	8	145	671	402	54

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1363	402	0
Stage 1	402	-	-
Stage 2	961	-	-
Critical Hdwy	6.55	6.4	4.1
Critical Hdwy Stg 1	5.55	-	-
Critical Hdwy Stg 2	5.55	-	-
Follow-up Hdwy	3.635	3.48	2.2
Pot Cap-1 Maneuver	153	611	1168
Stage 1	648	-	-
Stage 2	352	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	134	611	1168
Mov Cap-2 Maneuver	134	-	-
Stage 1	648	-	-
Stage 2	308	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.9	1.5	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1168	-	154	-
HCM Lane V/C Ratio	0.124	-	0.318	-
HCM Control Delay (s)	8.5	-	38.9	-
HCM Lane LOS	A	-	E	-
HCM 95th %tile Q(veh)	0.4	-	1.3	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	62	137	4	753	335	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	1	1	1
Mvmt Flow	62	137	4	753	335	75

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	1096	335	335	0
Stage 1	335	-	-	-
Stage 2	761	-	-	-
Critical Hdwy	6.4	6.2	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-
Pot Cap-1 Maneuver	238	712	1236	-
Stage 1	729	-	-	-
Stage 2	465	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	237	712	1236	-
Mov Cap-2 Maneuver	237	-	-	-
Stage 1	729	-	-	-
Stage 2	463	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1236	-	438	-
HCM Lane V/C Ratio	0.003	-	0.454	-
HCM Control Delay (s)	7.9	-	19.9	-
HCM Lane LOS	A	-	C	-
HCM 95th %tile Q(veh)	0	-	2.3	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	21	0	41	4	0	4	33	671	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0
Mvmt Flow	21	0	41	4	0	4	33	671	8

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1166	1168	423	1184	1176	675	435	0	0
Stage 1	423	423	-	741	741	-	-	-	-
Stage 2	743	745	-	443	435	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-
Pot Cap-1 Maneuver	172	195	635	168	193	457	1135	-	-
Stage 1	613	591	-	411	426	-	-	-	-
Stage 2	410	424	-	598	584	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	164	186	635	152	184	457	1135	-	-
Mov Cap-2 Maneuver	164	186	-	152	184	-	-	-	-
Stage 1	584	591	-	392	406	-	-	-	-
Stage 2	387	404	-	559	584	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	18.8	21.4	0.4
HCM LOS	C	C	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1135	-	-	322	228	923	-	-
HCM Lane V/C Ratio	0.029	-	-	0.193	0.035	-	-	-
HCM Control Delay (s)	8.3	0	-	18.8	21.4	0	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.1	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	0	410	25
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	1	0
Mvmt Flow	0	410	25

Major/Minor Major2

Conflicting Flow All	679	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	923	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	923	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s 0
 HCM LOS

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	12	37	24	350	277	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	9	3	0	1	0	0
Mvmt Flow	12	37	24	350	277	12

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	681	283	289
Stage 1	283	-	-
Stage 2	398	-	-
Critical Hdwy	6.49	6.23	4.1
Critical Hdwy Stg 1	5.49	-	-
Critical Hdwy Stg 2	5.49	-	-
Follow-up Hdwy	3.581	3.327	2.2
Pot Cap-1 Maneuver	405	754	1284
Stage 1	749	-	-
Stage 2	663	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	396	754	1284
Mov Cap-2 Maneuver	396	-	-
Stage 1	749	-	-
Stage 2	648	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1284	-	617	-	-
HCM Lane V/C Ratio	0.019	-	0.079	-	-
HCM Control Delay (s)	7.9	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection												
Intersection Delay, s/veh	9.9											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	24	65	20	0	53	130	20	0	49	102	106
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	2	2
Mvmt Flow	0	24	65	20	0	53	130	20	0	49	102	106
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.2	10.2	10.2
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	22%	26%	11%
Vol Thru, %	40%	60%	64%	62%
Vol Right, %	41%	18%	10%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	257	109	203	183
LT Vol	102	65	130	114
Through Vol	106	20	20	49
RT Vol	49	24	53	20
Lane Flow Rate	257	109	203	183
Geometry Grp	1	1	1	1
Degree of Util (X)	0.336	0.159	0.286	0.247
Departure Headway (Hd)	4.708	5.252	5.07	4.867
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	756	687	700	728
Service Time	2.794	3.252	3.164	2.96
HCM Lane V/C Ratio	0.34	0.159	0.29	0.251
HCM Control Delay	10.2	9.2	10.2	9.6
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.5	0.6	1.2	1

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	20	114	49
Peak Hour Factor	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	0	3	0
Mvmt Flow	0	20	114	49
Number of Lanes	0	0	1	0

Approach

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.6
HCM LOS	A

Lane

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	20	33	126	69	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	20	33	126	69	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	261	69	0
Stage 1	69	-	-
Stage 2	192	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	732	1000	1545
Stage 1	959	-	-
Stage 2	845	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	715	1000	1545
Mov Cap-2 Maneuver	715	-	-
Stage 1	959	-	-
Stage 2	826	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1545	-	1000	-	-
HCM Lane V/C Ratio	0.021	-	0.02	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection												
Intersection Delay, s/veh	13.3											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	24	224	4	0	85	277	118	0	24	24	37
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	24	224	4	0	85	277	118	0	24	24	37
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.2	15.7	9.7
HCM LOS	B	C	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	10%	18%	60%
Vol Thru, %	28%	89%	58%	34%
Vol Right, %	44%	2%	25%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	252	480	134
LT Vol	24	224	277	45
Through Vol	37	4	118	8
RT Vol	24	24	85	81
Lane Flow Rate	85	252	480	134
Geometry Grp	1	1	1	1
Degree of Util (X)	0.137	0.365	0.629	0.222
Departure Headway (Hd)	5.786	5.211	4.841	5.959
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	621	690	749	604
Service Time	3.811	3.233	2.841	3.98
HCM Lane V/C Ratio	0.137	0.365	0.641	0.222
HCM Control Delay	9.7	11.2	15.7	10.7
HCM Lane LOS	A	B	C	B
HCM 95th-tile Q	0.5	1.7	4.5	0.8

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	81	45	8
Peak Hour Factor	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	81	45	8
Number of Lanes	0	0	1	0

Approach

SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.7
HCM LOS	B

Lane

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Intersection									
Int Delay, s/veh	4.5								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	61	65	20	0	49	37	12	4	0
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0
Mvmt Flow	61	65	20	0	49	37	12	4	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	86	0	0	85	0	0	287	283	76
Stage 1	-	-	-	-	-	-	197	197	-
Stage 2	-	-	-	-	-	-	90	86	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1523	-	-	1524	-	-	669	629	991
Stage 1	-	-	-	-	-	-	809	742	-
Stage 2	-	-	-	-	-	-	922	827	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1522	-	-	1523	-	-	617	604	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	617	604	-
Stage 1	-	-	-	-	-	-	777	712	-
Stage 2	-	-	-	-	-	-	878	827	-

Approach	EB	WB	NB
HCM Control Delay, s	3.1	0	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	617	604	1522	-	-	1523	-	-	665	775
HCM Lane V/C Ratio	0.019	0.007	0.04	-	-	-	-	-	0.062	0.057
HCM Control Delay (s)	11	11	7.5	-	-	0	-	-	10.8	9.9
HCM Lane LOS	B	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0	0.1	-	-	0	-	-	0.2	0.2

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	41	20	24
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	100	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	41	20	24

Major/Minor **Minor2**

Conflicting Flow All	267	275	69
Stage 1	68	68	-
Stage 2	199	207	-
Critical Hdwy	7.1	6.5	6.2
Critical Hdwy Stg 1	6.1	5.5	-
Critical Hdwy Stg 2	6.1	5.5	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	690	636	1000
Stage 1	947	842	-
Stage 2	807	734	-
Platoon blocked, %			
Mov Cap-1 Maneuver	665	611	999
Mov Cap-2 Maneuver	665	611	-
Stage 1	909	842	-
Stage 2	770	705	-

Approach **SB**

HCM Control Delay, s	10.3
HCM LOS	B

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	21	42	0	0	0
Conflicting Peds, #/hr	6	0	0	6	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	21	42	0	0	0

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	44	0	65
Stage 1	-	-	44
Stage 2	-	-	21
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1577	-	946
Stage 1	-	-	984
Stage 2	-	-	1007
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1569	-	943
Mov Cap-2 Maneuver	-	-	943
Stage 1	-	-	982
Stage 2	-	-	1005

Approach

	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1569	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	228	77	8	256	85	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	165	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	228	77	8	256	85	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	228
Stage 1	-	-	228
Stage 2	-	-	272
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1352
Stage 1	-	-	815
Stage 2	-	-	778
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1352
Mov Cap-2 Maneuver	-	-	530
Stage 1	-	-	815
Stage 2	-	-	773

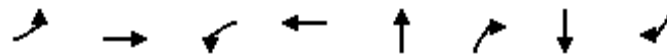
Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	530	-	-	1352	-
HCM Lane V/C Ratio	0.16	-	-	0.006	-
HCM Control Delay (s)	13.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Attachment E Queuing Worksheets

2014 Existing Traffic Conditions
 1: Hamrick Road & E Pine Street/Biddle Road

Weekday AM Peak Hour
 6/16/2015



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	470	660	4	311	59	6	78	445
v/c Ratio	0.68	0.35	0.01	0.37	0.29	0.02	0.32	0.50
Control Delay	10.9	6.9	6.3	17.3	24.9	0.2	24.6	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	6.9	6.3	17.3	24.9	0.2	24.6	5.3
Queue Length 50th (ft)	51	35	0	35	14	0	19	19
Queue Length 95th (ft)	141	120	3	82	52	0	64	85
Internal Link Dist (ft)		1047		1982	637		835	
Turn Bay Length (ft)	380		305			150		
Base Capacity (vph)	1418	3107	412	2272	693	820	831	1381
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.21	0.01	0.14	0.09	0.01	0.09	0.32

Intersection Summary

2014 Existing Traffic Conditions
 2: Table Rock Road & Biddle Road

Weekday AM Peak Hour
 6/16/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	261	433	133	5	167	157	61	352	285	332	68
v/c Ratio	0.57	0.38	0.22	0.02	0.36	0.47	0.14	0.73	0.65	0.48	0.09
Control Delay	26.5	24.2	6.2	20.0	39.3	12.1	12.1	38.9	20.5	23.5	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	24.2	6.2	20.0	39.3	12.1	12.1	38.9	20.5	23.5	1.9
Queue Length 50th (ft)	97	85	0	2	42	0	16	167	85	134	0
Queue Length 95th (ft)	178	157	31	9	79	39	34	265	134	203	10
Internal Link Dist (ft)		1982			1561			971		1160	
Turn Bay Length (ft)	450		225	75		200	100		100		
Base Capacity (vph)	534	1442	713	420	1441	715	607	734	560	805	846
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.30	0.19	0.01	0.12	0.22	0.10	0.48	0.51	0.41	0.08

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	187	325	219	309	45	316	278	142	498
v/c Ratio	0.45	0.76	0.51	0.66	0.14	0.48	0.54	0.38	0.53
Control Delay	14.5	36.5	21.0	29.8	18.3	28.7	8.3	21.6	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	36.5	21.0	29.8	18.3	28.7	8.3	21.6	23.0
Queue Length 50th (ft)	44	126	53	113	12	64	0	40	89
Queue Length 95th (ft)	87	230	101	214	37	115	53	92	156
Internal Link Dist (ft)		685		784		599			621
Turn Bay Length (ft)	85		115		90		215	90	
Base Capacity (vph)	595	859	486	687	508	1343	754	406	1097
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.38	0.45	0.45	0.09	0.24	0.37	0.35	0.45

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	76	30	123	77	62	44	351	77	269
v/c Ratio	0.34	0.07	0.37	0.19	0.23	0.08	0.56	0.16	0.35
Control Delay	31.3	0.3	21.6	19.2	3.6	7.7	17.8	8.3	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	0.3	21.6	19.2	3.6	7.7	17.8	8.3	15.1
Queue Length 50th (ft)	25	0	33	21	0	7	84	12	70
Queue Length 95th (ft)	72	0	79	56	7	23	192	35	148
Internal Link Dist (ft)	1242			1195			856		973
Turn Bay Length (ft)		150	275			100		270	
Base Capacity (vph)	779	788	1361	813	644	740	1007	706	1171
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.04	0.09	0.09	0.10	0.06	0.35	0.11	0.23

Intersection Summary



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	71	87	306	53	49	638	115	32	1246
v/c Ratio	0.17	0.16	0.88	0.10	0.30	0.40	0.17	0.32	0.85
Control Delay	26.6	1.0	61.8	0.4	49.7	20.8	7.5	56.1	36.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	1.0	61.8	0.4	49.7	20.8	7.5	56.1	36.7
Queue Length 50th (ft)	35	0	197	0	32	160	10	22	440
Queue Length 95th (ft)	67	4	#325	0	70	235	48	52	#636
Internal Link Dist (ft)	812		1016			717			800
Turn Bay Length (ft)					130		60	200	
Base Capacity (vph)	481	589	402	601	179	1584	660	240	1461
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.15	0.76	0.09	0.27	0.40	0.17	0.13	0.85

Intersection Summary

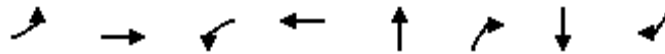
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	245	141	231	63	120	144	705	70	66	1233	373
v/c Ratio	0.69	0.40	0.34	0.19	0.62	0.68	0.45	0.09	0.48	0.89	0.57
Control Delay	43.4	45.0	4.3	29.9	60.6	64.9	22.4	3.0	64.5	41.4	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	45.0	4.3	29.9	60.6	64.9	22.4	3.0	64.5	41.4	22.5
Queue Length 50th (ft)	146	92	0	33	80	105	187	0	48	449	143
Queue Length 95th (ft)	228	161	41	68	143	173	265	16	96	#657	265
Internal Link Dist (ft)		716			680		616			610	
Turn Bay Length (ft)	150		200	50		250		90	200		90
Base Capacity (vph)	385	498	802	425	510	372	1669	791	233	1389	654
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.28	0.29	0.15	0.24	0.39	0.42	0.09	0.28	0.89	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	470	524	12	788	73	12	68	707
v/c Ratio	0.84	0.27	0.04	0.85	0.22	0.03	0.18	0.77
Control Delay	35.6	9.8	13.3	45.1	35.4	0.1	34.5	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	9.8	13.3	45.1	35.4	0.1	34.5	21.3
Queue Length 50th (ft)	228	75	3	262	39	0	36	333
Queue Length 95th (ft)	352	127	10	#410	91	0	84	500
Internal Link Dist (ft)		1047		1982	637		835	
Turn Bay Length (ft)	380		305			150		
Base Capacity (vph)	795	2328	376	1148	367	517	415	1156
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.23	0.03	0.69	0.20	0.02	0.16	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	149	324	73	90	553	258	116	364	189	480	161
v/c Ratio	0.50	0.33	0.14	0.22	0.66	0.46	0.38	0.63	0.47	0.77	0.21
Control Delay	25.2	29.4	4.4	19.8	38.4	7.0	19.0	36.8	19.7	40.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	29.4	4.4	19.8	38.4	7.0	19.0	36.8	19.7	40.0	3.2
Queue Length 50th (ft)	58	83	0	33	161	0	37	189	63	260	0
Queue Length 95th (ft)	112	140	23	72	253	60	86	372	135	#536	34
Internal Link Dist (ft)		1982			1561			971		1160	
Turn Bay Length (ft)	450		225	75		200	100		100		
Base Capacity (vph)	430	1191	597	532	1179	678	468	601	525	626	894
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.27	0.12	0.17	0.47	0.38	0.25	0.61	0.36	0.77	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	148	252	280	524	81	488	281	136	702
v/c Ratio	0.50	0.78	0.49	0.85	0.39	0.65	0.51	0.45	0.74
Control Delay	19.5	52.6	25.3	43.9	31.0	38.1	7.3	30.2	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	52.6	25.3	43.9	31.0	38.1	7.3	30.2	32.7
Queue Length 50th (ft)	45	140	94	282	30	140	0	53	180
Queue Length 95th (ft)	95	244	178	#595	66	214	65	102	274
Internal Link Dist (ft)		685		784		599			621
Turn Bay Length (ft)	85		115		90		215	90	
Base Capacity (vph)	452	624	572	618	465	1201	724	493	1171
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.40	0.49	0.85	0.17	0.41	0.39	0.28	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

2014 Existing Traffic Conditions
4: Table Rock Road & W Antelope Road

Weekday PM Peak Hour
6/16/2015



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	79	328	115	135	35	567	82	238
v/c Ratio	0.47	0.14	0.79	0.22	0.47	0.07	0.78	0.26	0.28
Control Delay	48.0	2.3	42.8	23.2	13.2	11.2	32.5	13.1	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	2.3	42.8	23.2	13.2	11.2	32.5	13.1	17.9
Queue Length 50th (ft)	50	0	156	48	0	8	263	20	83
Queue Length 95th (ft)	97	9	222	82	42	25	#488	48	156
Internal Link Dist (ft)	1242			1195			856		973
Turn Bay Length (ft)		150	275			100		270	
Base Capacity (vph)	553	605	959	599	564	650	724	489	844
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.13	0.34	0.19	0.24	0.05	0.78	0.17	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	134	104	217	91	116	1457	263	87	1121
v/c Ratio	0.49	0.24	0.85	0.22	0.59	0.83	0.34	0.58	0.71
Control Delay	42.5	7.1	69.0	7.4	60.8	30.9	14.4	65.5	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	7.1	69.0	7.4	60.8	30.9	14.4	65.5	28.3
Queue Length 50th (ft)	86	0	155	0	82	491	74	63	345
Queue Length 95th (ft)	135	39	228	37	147	#785	166	114	485
Internal Link Dist (ft)	812		1016			717			800
Turn Bay Length (ft)					130		60	200	
Base Capacity (vph)	366	540	341	516	209	1758	778	194	1590
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.19	0.64	0.18	0.56	0.83	0.34	0.45	0.71

Intersection Summary

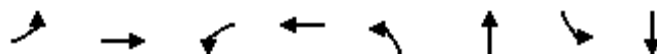
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	311	126	236	82	154	252	1378	94	84	1136	315
v/c Ratio	0.89	0.36	0.31	0.23	0.71	0.83	0.89	0.13	0.58	0.92	0.53
Control Delay	65.0	48.1	4.0	32.7	70.5	74.4	40.4	5.7	73.3	51.5	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	48.1	4.0	32.7	70.5	74.4	40.4	5.7	73.3	51.5	23.5
Queue Length 50th (ft)	223	93	2	50	124	205	544	3	70	491	128
Queue Length 95th (ft)	#367	159	51	89	199	#356	#815	38	128	#693	241
Internal Link Dist (ft)		716			680		616			610	
Turn Bay Length (ft)	150		200	50		250		90	200		90
Base Capacity (vph)	361	462	794	445	453	338	1550	706	208	1239	600
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.27	0.30	0.18	0.34	0.75	0.89	0.13	0.40	0.92	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	195	344	55	156	174	634	36	544
v/c Ratio	0.38	0.61	0.15	0.46	0.41	0.49	0.10	0.66
Control Delay	16.8	25.6	15.2	29.6	15.1	20.0	12.8	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	25.6	15.2	29.6	15.1	20.0	12.8	28.4
Queue Length 50th (ft)	50	113	13	51	40	114	8	103
Queue Length 95th (ft)	123	258	41	132	99	211	27	203
Internal Link Dist (ft)		782		845		571		507
Turn Bay Length (ft)	175		100		175		150	
Base Capacity (vph)	570	751	586	767	524	1537	581	1462
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.46	0.09	0.20	0.33	0.41	0.06	0.37

Intersection Summary

Attachment F Bicycle Level of Traffic Stress
Summary

Road	From/to	Shoulder Width	VPD	Posted Speeds (mph)	Lanes Per Direction	Bike Lane Width (ft) Left side	Bike Lane Width (ft) Right side	Parking Lane Width (ft)	Unmarked Centerline (Y/N)	LTS
W Pine St (west to east) - Highway 99 to Hanley	Hanley to Haskell St	4 to 6		35	1	4	4	0 N		3
	Haskell St to Highway 99	4 to 6		35	1	5	5	0 N		3
Hanley Road - W Pine to Rossanley	W Pine to Ross Lane	4 to 6	4848							3
	Ross Lane to Rossanley	4 to 6	5920							3
Ross Ln - Hanley to Old Stage	Hanley to Old Stage	4 to 6	3447							3
	Old Stage to Hillside Drive	4 to 6	3007							3
Old Stage Rd - Jacksonville city limits to I-5 Exit 40	Jacksonville City Limits to Ross Ln	0 to 2	2283							3
	Ross Lane to just south of Wells Fargo St (<45mph)	4 to 6		40	1	4	4	0 N		4
	just south of Wells Fargo St (40mph) to Lane Creek	0 to 2		40	1	0	0	0 N		4
	Lane Creek Road to I-5 Exit 40	0 to 2	2562							3
S Stage Rd - Highway 99 to Jacksonville	Highway 99 to Voorhies Road	4 to 6	6561							3
	Voorhier Road to Kings Highway	4 to 6	5723							3
	Kings Highway to Columbus Avenue	4 to 6	5537							3
	Columbus Avenue to Orchard Home	4 to 6	4438							3
	Orcharf Home to Griffin Creek	4 to 6	3868							3
	Vertical section (<45mph)	4 to 6		35	1	5	5	0 N		3
	Griffin Creek to Hull Road	4 to 6	4016							3
	Hull Road to Arnold Lane	4 to 6	4091							3
	Arnold Lane to Bellinger Lane	4 to 6	3236							3
	Bellinger Lane to Jacksonville	4 to 6	5151							3
W Main St	Renault to Winema(<45 mph)	4 to 6		40	1	5.5	5.5	0 N		4
	Winema to Hanley	4 to 6	8415							3
(Highway 99 Omitted as no parts are County	plus being addressed by 99 Corridor Plan)									0
N Phoenix Rd	Phoenix city limits to Barnett	4 to 6	7610							3
Foothill Rd - Hillcrest to Corey	Hillcrest to Coker Butte	0 to 2	4879							3
	Coker Butte to Corey	0 to 2	6228							3
Bigham-Brown Rd - Antelope to Alta Vista	Antelope to Dulton Road	0 to 2	2341							3
	Dulton Road to Alta Vista	0 to 2	2225							3
(Highway 62 Omitted as no parts are County)										0
E Pine St (west to east) - I-5 n/b ramps to 500' east of Table Rock	I-5 n/b ramps to Hamrick Road (<45 mph)	4 to 6		35	2	6	6	0 N		3
	Hamrick Road to Table Rock	4 to 6	14,958							3
Table Rock Road	Table Rock to 500' east of Table Rock	0 to 2	0							0
	Morningside to south touchdown	4 to 6	0							0
	southtouchdown to north touchdown	0 to 2	0							0
	north touchdown to Biddle Road	4 to 6	0							0
	Biddle Road to E Villas Road	4 to 6	17283							3
	E Villas Road to Wilson	4 to 6	18266							3
	Wilson to West Gregory	4 to 6	16933							3
	West Gregory to Antelope Road	4 to 6	14545							3
	Antelope Road to Kirtland Rd	4 to 6	8434							3
	Kirtland Road to Modoc/Bybee Ferry Road	4 to 6	7291							3
	Modoc/Bybee Ferry Road to Highway 234	0 to 2	2703							3
	Highway 62 to Foothill	0 to 2	1941							3
	Antelope Road - Kirtland to Bigham-Brown	Kirtland to Table Rock Road	4 to 6	3040						
Kirtland to Agate Road		4 to 6	13550							3
Agate Road to Hwy 62		4 to 6	8703							3
Hwy 62 to 24th St (<45 mph)		4 to 6		35	1	4	4	0 N		3
Fern Valley Rd (west to east) - Phoenix to Payne	24th Street to Bighma-Brown	4 to 6	2162							3
	N. Phoenix to Marigold Ln	0 to 2		30	1	1	1	0 N		3
Payne Rd - Fern Valley to Suncrest	Marigold Ln to Payne	0 to 2		40	1	1	1	0 N		4
	Fern Valley to Huges	0 to 2	935							2
Suncrest Rd - Payne to W Valley View	Huges o Suncrest	0 to 2	578							2
	East of Payne Road	0 to 2	391							2
W Valley View Rd - Suncrest to S Valley View	North of West Valley View Road	0 to 2	611							2
	South of Suncrest Road	0 to 2	855							2
E Valley View Rd	North of North Valley View Road	0 to 2	695							2
	S Valley View to Butler Cr	0 to 2	465							2
Butler Creek Rd	E Valley View to Eagle Mill Rd	0 to 2	0							0
Eagle Mill Rd - S Valley View to Oak	S Valley View to Bear Creek Greenway	4 to 6	4496							3
	Bear Creek Greenway to Oak	0 to 2	4489							3
Colver Rd (north to south) - Highway 99 to Phoenix City Limit	Phoenix City Limit to Pioneer (<45 mph)	4 to 6		35	1	4	5	0 N		3
	Pioneer to Adams Road	4 to 6	3054							3
	Adams Road to Front Street	4 to 6	2845							3
	Front Street to Highway 99 (<45 mph)	4 to 6		30	1	4	4	0 N		2

Attachment G Pedestrian and Bicycle Needs
Summary – Rural Areas

Rural Arterials and Collectors with Bike/Ped Deficiencies

June 16, 2015

PRIORITY	ROAD	SECTION	IMPROVEMENT TYPE
D	1st Street (Prospect)	Hwy 62 - Mill Creek	Rural Collector
D	Agate Loop	Hwy 234 - Hwy 234	Rural Collector
C	Agate Road	Linn to Highway 234	Rural Collector
D	Alta Vista Road	Bigham Brown - Riley	Rural Collector
C	Antelope/Bigham Brown	Kershaw to Alta Vista	Rural Collector
D	Antioch Road	Modoc - Sweet	Rural Collector
C	Applegate Road	Highway 238 to Carberry	Rural Collector
D	Applegate Street	Cady - City Limits	Rural Collector
C	Avenue H	Atlantic to Bigham Brown	Rural Collector
C	Beall Lane	Hanley to Old Stage	Rural Collector
C	Bellinger Lane	Hull to Stage	Rural Collector
D	Brownsboro Eagle Point Road	Reese Creek - Hwy 140	Rural Collector
D	Bursell Road	Beall - Hemlock	Rural Collector
D	Butte Falls Fish Lake Road	Laurel - Hwy 140	Rural Collector
D	Butte Falls Prospect Road	Butte Falls Fish Lake - Mill Creek	Rural Collector
D	Butte Falls Road	MP 10 - City Limits	Rural Collector
D	Cady Road	Hwy 238 - Applegate	Rural Collector
D	Camp Baker Road	Colver - Hillsinger	Rural Collector
D	Carberry Road	Applegate - MP 0.57	Rural Collector
C	Carpenter Hill Road	Voorhies to Coleman	Rural Collector
D	Cherry Lane	Mary Bee - Hillcrest	Rural Collector
D	Coker Butte Road	Springbrook - Foothill	Rural Collector
C	Coleman Creek Road	Pioneer to Voorhies	Rural Collector
D	Corey Road	Hwy 62 - Kershaw	Rural Collector
D	Crater Lake Avenue	0.61 Miles North of Vilas - Corey	Rural Collector
D	Crowfoot Road	Hwy 62 - Butte Falls	Rural Collector
D	Crowson Road	Hwy 99 - Hwy 66	Rural Collector
D	Dark Hollow Road	Stage South - Pioneer	Rural Collector
D	Dead Indian Memorial Road	MP 10 - County Line	Rural Collector
D	Dodge Road	Hwy 234 - Antioch	Rural Collector
D	Downing Road	Gibbon - West Gregory	Rural Collector
D	Dry Creek Road	East Antelope - End	Rural Collector
C	Eagle Mill/Oak	South Valley View to Nevada	Rural Collector
D	East Antelope Road	Dry Creek - Wren Ridge	Rural Collector
D	East Dutton Road	Hwy 62 - Wilson	Rural Collector
C	East Evans Creek Road	City Limits to Queens Branch	Rural Collector
C	East Evans Creek Road	Queens Branch to M.P. 25	Rural Collector
D	East Evans Creek Road	Meadows - MP 25	Rural Collector
C	East Gregory Road	Table Rock to Agate	Rural Collector
B	East Vilas Road	Highway 62 to McLoughlin	Rural Collector
C	East Vilas Road	McLoughlin to Foothill	Rural Collector
D	Evans Creek Road	Meadows - Antioch	Rural Collector
D	Fern Valley Road	Meadow View - Payne	Rural Collector
D	Foothill Boulevard	City Limits - County Line	Rural Collector
A	Foothill Road	Delta Waters to Coker Butte	Rural Collector
A	Foothill Road	Coker Butte to Corey	Rural Collector
D	Foots Creek Road	Hwy 99 - North Right Fork Foots Creek	Rural Collector
D	Foss Road	City Limits - Walden	Rural Collector
D	Gebhard Road	Beebe - Wilson	Rural Collector
C	Gibbon Road	Table Rock to Upton	Rural Collector
D	Grant Road	Beall - Scenic	Rural Collector
B	Griffin Creek Road	Stage to Pioneer	Add Bike Lane on East Side
D	Griffin Creek Road	Pioneer - Griffin Lane	Rural Collector
D	Hamrick Road	Biddle - South Intersection Table Rock	Rural Collector
D	Hanley Road	Beall - Hwy 238	Rural Collector
D	Hilsinger Road	Pacific - Camp Baker	Rural Collector
D	Hyatt Prairie Road	Dead Indian - East Hyatt Lake	Rural Collector

D	Lake Creek Loop	Hwy 140 West - South Fork Little Butte	Rural Collector
D	Lampman Road	Hwy 234 - Rogue River	Rural Collector
D	Linn Road	500' West of Hwy 62 - Agate	Rural Collector
D	Little Applegate Road	Applegate - Sterling Creek	Rural Collector
C	McLoughlin/Lakeview Connection	Corey to Merry	Rural Collector
D	Meadows Road	Hwy 234 - Evans Creek	Rural Collector
D	Merry Lane	Hwy 62 - Lakeview	Rural Collector
D	Mill Creek Drive	Butte Falls Prospect - N Intersection Hwy 62	Rural Collector
D	Minthorne Road	East Evans Creek - West Evans Creek	Rural Collector
C	Modoc Road	Table Rock to Antioch	Rural Collector
D	Modoc Road	Antioch - Hwy 234	Rural Collector
D	Mount Ashland Ski Road	Old Hwy 99 - Lodge	Rural Collector
D	Mountain Avenue	Eagle Mill - Nevada	Rural Collector
C	Nick Young Road	Agate to City Limits	Rural Collector
C	North Applegate Road	Highway 238 to County Line	Rural Collector
C	North Phoenix Road	Coal Mine - State Frontage	Rural Arterial
C	North River Road	Rock Point to RR City Limit	Rural Collector
D	North Valley View Road	West Valley View - Carter	Rural Collector
D	Old Pacific Highway	Hwy 99 - Talent City Limits	Rural Collector
D	Old Sams Valley Road	Hwy 234 - Ramsey	Rural Collector
B	Old Stage Road	Winterbrook to Interstate 5	Rural Collector
D	Old Stage Road	Interstate 5 - End	Rural Collector
D	Payne Road	Suncrest - Fern Valley	Rural Collector
D	Peninger Road	Expo - Upton	Rural Collector
C	Pioneer Road	Colver to Coleman Creek	Rural Collector
C	Pioneer Road	Griffin Creek to Dark Hollow	Rural Collector
D	Pleasant Creek Road	West Evans Creek - Ditch Creek	Rural Collector
D	Pooman Creek Road	Summit - Sterling Creek	Rural Collector
D	Queens Branch Road	East Evans Creek - West Evans Creek	Rural Collector
D	Ramsey Road	Hwy 234 - Old Sams Valley	Rural Collector
D	Reese Creek Road	Barton Rd - Butte Falls	Rural Collector
C	Riley Road	Highway 140 to Stevens	Rural Collector
C	Rogue River Drive	City Limits to MP 5	Rural Collector
D	Rogue River Drive	MP 5 - Hwy 234	Rural Collector
D	Royal Avenue	500' East of Candis - Reese Creek	Rural Collector
C	Scenic Avenue	Highway 99 to Old Stage	Rural Collector
D	South Fork Little Butte Creek Road	Lake Creek Loop - Lost Creek	Rural Collector
D	South Valley View Road	Interstate 5 - West Valley View	Rural Collector
D	Sterling Creek Road	Cady - Little Applegate	Rural Collector
B	Stewart/Hull	Oak Grove to Stage	Rural Collector
D	Suncrest Road	1684' West of Hwy 99 - Payne	Rural Collector
C	Table Rock Road	M.P. 9 to Wheeler	Rural Collector
D	Table Rock Road	Wheeler - Hwy 234	Rural Collector
C	Taylor Road	Grant to Old Stage	Rural Collector
D	Thompson Creek Road	Hwy 238 - County Line	Rural Collector
D	Tiller Trail Highway	Hwy 62 - County Line	Rural Collector
D	Tresham Lane	Table Rock - Hwy 234	Rural Collector
C	Upton Road	Interstate 5 OX'ing to Gibbon	Rural Collector
C	Voorhies/Carpenter Hill/Coleman Cr.	Stage to Houston	Rural Collector
D	Wagner Creek Road	Rapp - Yank Gulch	Rural Collector
D	Walden Lane	Colver - Foss	Rural Collector
D	West Evans Creek Road	1070' North of Walnut - Queens Branch	Rural Collector
D	West Evans Creek Road	Queens Branch - Pleasant Creek	Rural Collector
D	West Fork Griffin Creek Road	Griffin Creek - Summit	Rural Collector
D	West Gregory Road	Downing - Table Rock	Rural Collector
C	West Valley View Road	Interstate 5 to Suncrest	Rural Collector
D	West Valley View Road	Suncrest - Valley View	Rural Collector
B	Wilson Road	Upton to Table Rock	Rural Collector

Attachment H Pedestrian and Bicycle Needs
Summary – UGBs

City of Ashland

Road Name	Segment of Road	County Roads Inside ...					Local Access Rd Inside...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Ashland Mine Road	City Limits - 2620' S. of Frank Hill Road			0.63							no	no	no	no	no	no
Clay Street	Frontage Rd. S. of Hwy 66 - Siskiyou Blvd	0.48									no	no	no	no	no	no
Clay Street	E. Main St. - Abbott Ave	0.48									no	no	no	no	yes	no
	Abbott Ave - Frontage Rd. N. of Hwy 66										no	no	no	no	no	yes
Clay Street	1,449' S. of Hwy Siskiyou Blvd - Dead End	0.11									no	no	no	no	no	no
Crowson Road	Hwy 99 - 185' Southwest of Benson Way		0.14								no	no	yes	yes	no	no
Crowson Road	Benson Way - 185' Southwest	0.04									no	no	yes	yes	no	no
Crowson Road	Benson Way - I-5		0.09								no	no	yes	yes	no	no
Crowson Road	I-5 - Hwy 66		0.44								no	no	yes	yes	no	no
Dead Indian Mem. Rd.	Hwy 66 - 350' Northeasterly	0.07									no	no	yes	yes	no	no
Dead Indian Mem. Rd.	350' - 600' Northeasterly of Hwy 66		0.05								no	no	yes	yes	no	no
Dead Indian Mem. Rd.	600' NE of Hwy 66 - 920' N. Emigrant Ck Rd			0.53							no	no	yes	yes	no	no
East Main Street	Hwy 66 - 500' North	0.09									no	no	yes	yes	no	no
East Main Street	500' -1415' Northwesterly of Hwy 66		0.17								no	no	yes	yes	no	no
East Main Street	1415' - 1465' Northwesterly of Hwy 66	0.01									no	no	yes	yes	no	no
East Main Street	1465' - I-5		0.54								no	no	yes	yes	no	no
East Main Street	I-5 to 175' West	0.04									no	no	yes	yes	no	no
East Main Street	175' - 700' East of Walker Street		0.62								no	no	yes	yes	no	no
Hidden Lane	Hwy 66 - 500' Northeast							0.09			no	no	no	no	no	no
Jackson Road	Hwy 99 - No Name Road		0.20								no	no	no	no	yes	yes
Jackson Road	No Name Road - 310' East			0.06							no	no	no	no	no	no
Maywood Way	Hidden Lane - 225' East							0.04			no	no	no	no	no	no
No Name Road	Jackson Road - 610' North			0.12							no	no	no	no	no	no
Pape Street	Wimer Street - 630' North							0.12			no	no	no	no	no	no
Paradise Lane	Peachey Road - 500' South	0.09									no	no	no	no	no	no
Peachey Road	Walker Avenue - Hillview Drive	0.22									no	no	no	no	no	no
Prather Street	Wimer Street - 630' North							0.12			no	no	no	no	no	no
Tolman Creek Road	Siskiyou Blvd. - South City Limits	0.55									no	no	no	no	no	no
Walker Avenue	City Limits - Iowa Street 665' South			0.13							yes	yes	no	no	yes	yes
	Iowa Street - 665' South										yes	yes	no	no	n	yes
West Jackson Road	Hwy 99 - 1075' Northwesterly		0.20								no	no	no	no	no	no
Wimer Street	City Limits - 330' West							0.06			no	no	no	no	no	no
Totals		2.18	2.45	1.47	0.00	0.00	0.00	0.43	0.00	0.00						

City of Butte Falls

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Butte Falls Road	West city limits to Oak Ave	0.63									no	no	yes	yes	yes	no
	Oak Ave to Laurel Avenue										no	no	no	no	no	no
Butte Falls-Fish Lake Rd	Broad Street to east city limits	0.31									no	no	yes	yes	no	no
Totals		0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						

City of Central Point

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Beebe Road	450' - 615' West of Hamrick Road	0.03									no	no	no	no	no	no
Biddle Road	730' - 1440' East of Hamrick Road	0.13									yes	yes	no	no	yes	yes
Boes Avenue	Teresa Way - 250' West of Raymond Way	0.14									no	no	no	no	no	no
Bursell Road	110' S of Pittview - Hemlock Avenue	0.09									no	no	yes	no	yes	no
East Pine Street	10th Street - West R/W of I-5	0.12									yes	yes	no	no	yes	yes
East Pine Street	1150' E of I-5 East R/W - Hamrick Road	0.23									yes	yes	no	no	no	no
Gebhard Road	Beebe Road - 400' Northerly	0.08									no	no	no	no	no	no
Hamrick Road	620' - 2015' West of Table Rock Road	0.26									no	no	no	no	no	yes
Hamrick Road	Biddle Road - 1250' South of Biddle Road	0.24									no	no	yes	no	no	yes
Hanley Road	400' - 1585' SW of West Pine St	0.22									no	no	yes	yes	no	no
Old Upton Road (North)	200' West of Upton Road - Raymond Way	0.14									no	no	no	no	no	no
Old Upton Road (South)	Upton Road - West I-5 R/W	0.07									no	no	no	no	yes	no
Peninger Road	2330' - 2690' NW of East Pine Street	0.07									no	no	no	no	no	no
Pittview Avenue	Bursell Road - 1220' East	0.23									no	no	no	no	no	yes
Raymond Way	Old Upton Road - 230' North of Boes Ave	0.26									no	no	no	no	no	no
Taylor Road	295' W of Silver Creek Dr - Sunland Ave	0.02									no	no	no	no	no	no
Tulane Avenue	Sunland Avenue - Carlton Avenue	0.12									no	no	no	no	no	no
Upton Road	330' - 965' NE of Peninger Road	0.12									no	no	yes	yes	no	no
West Pine Street	Glenn Way - 2410' Southwest of Glenn Way	0.46									no	no	yes	yes	no	no
Totals		3.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						

City of Eagle Point

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Alta Vista Road	Bigham-Brown Rd - 1790' East			0.34							no	no	no	no	yes	no
Alta Vista Road	1790' - 2810' Easterly of Bigham-Brown Rd	0.19									no	no	no	yes	yes	no
Alta Vista Road	2810' E of Bigham-Brown Rd - Riley Rd			0.61							no	no	no	no	no	no
Bigham-Brown Road	Alta Vista Road - 945' South				0.18						no	no	no	no	no	no
Bigham-Brown Road	945' - 2660' South of Bigham-Brown Rd					0.32					no	no	no	no	no	no
Brownsborro-Eagle Point Rd	Old Hwy 62 - 200' E of Old Hwy 62		0.04								no	no	no	no	no	no
Brownsborro-Eagle Point Rd	200' E of Old Hwy 62 - Lava/Loto Street	0.71									no	no	no	no	no	no
	Lava/Loto Street - Main Street										no	no	yes	yes	yes	no
Brownsborro-Eagle Point Rd	Napa Street - 500' E of Candis Drive	0.44									no	no	no	no	yes	no
Brownsborro-Eagle Point Rd	500' E of Candis Dr - Reese Creek Rd		0.10								no	no	no	no	no	no
Eagle Heights Drive	Stevens Road - 1345' North								0.25		no	no	no	no	no	no
Dahlia Terrace	Linn Road - 1340' North								0.25		no	no	no	no	no	no
Linn Road	500' - 730' Northwest of Hwy 62	0.04									no	no	no	no	no	no
Linn Road	730' - 1600' Northwest of Hwy 62		0.16								no	no	no	no	no	no
Linn Road	1600' NW of Hwy 62 - Dahlia Terrace				0.26						no	no	no	no	no	no
Linn Road	Dahlia Terrace - 840' W of Dahlia Terrace					0.16					no	no	no	no	no	no
No Name Road	Rolling Hills Drive - 730' South								0.14							
No Name Road	Reese Creek Rd - 1340' West								0.25							
Palima Drive	Stevens Road - 690' South			0.13							no	no	no	no	no	no
Reese Creek Road	Brownsboro-Eagle Point Rd - Barton Rd			0.48							no	no	no	no	no	no
Reese Creek Road	Barton Road - 2320' North				0.44						no	no	no	no	no	no
Riley Road	Stevens Road - 670' Southerly		0.13								no	no	no	no	no	no
Riley Road	670' - 2690' Southerly of Stevens Road				0.38						no	no	no	no	no	no
Riley Road	2690' - 2765' Southerly of Stevens Road		0.01								no	no	no	no	no	no
Riley Road	2765' - 3800' Southerly of Stevens Road				0.20						no	no	no	no	no	no
Riley Road	3800' - 5090' Southerly of Stevens Road	0.24									no	no	no	no	no	no
Riley Road	5090' S of Stevens Rd - Alta Vista Rd			0.29							no	no	no	no	no	no
Riley Road	Alta Vista Rd - 1110' South				0.21						no	no	no	no	no	no
Rolling Hills Drive	Hwy 62 - Old Medco Road West R/W								0.95		no	no	no	no	no	no
Rolling Hills Drive	Reese Creek Rd - Old Medco Rd West R/W								0.13		no	no	no	no	no	no
Second Street	East Side of Section 2 - 2560' West								0.48		no	no	no	no	no	no
Stevens Road	Robert Trent Jones Jr Bl - 696' East	0.13									no	no	no	no	no	no
Stevens Road	696' E of Robert Trent Jones - Palima Dr		0.13								no	no	no	no	no	no
Stevens Road	Palima Dr - Eagle Heights Dr				0.51						no	no	no	no	no	no
Totals		1.75	0.57	1.85	2.18	0.48	0.00	0.00	1.95	0.50						

City of Jacksonville

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Applegate Street	Graham Street to Southwest city limits	0.54									no	no	no	no	no	no
Old Stage Road	230' South to 395' North of Autumn Lane			0.12							no	no	yes	yes	no	no
Stage Road South	Wells Fargo Drive to 1,400' Southeast			0.27							no	no	yes	yes	no	no
Totals		0.54	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00						

City of Medford

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Sunset Court	Lozier Lane - 890' West						0.17									
Sunset Drive	Orchard Home Dr - 2700' Westerly	0.51														
Sunset Drive	2700' W of Orchard Home Dr - Stage Road S		0.09													
Sweet Road	Mc Andrews Road - Ross Lane North	0.26														
Sycamore Way	Eucalyptus Drive - 720' Northwest	0.14														
Table Rock Road	I-5 North R/W - 390' North	0.07														
Table Rock Road	390' North of I-5 North R/W - Schultz Road		1.16													
Table Rock Road	Schultz Road - 510' North	0.10														
Table Rock Road	510' N of Schultz Rd - 650' N of Wilson Rd		1.03													
Table Rock Road	650' - 2640' North of Wilson Road				0.38											
Thorn Oak Drive	Ross Lane North - 141' West	0.03														
Thorn Oak Drive	141' - 1320' West of Ross Lane North		0.21													
Thomas Road	Sunset Drive - 187' North		0.03													
Thomas Road	187' - 2755' North of Sunset Drive	0.49														
Thomas Road	2755' N of Sunset Drive - Stewart Avenue		0.14													
West Mc Andrews Road	60' West of Ross Lane North - 1280' West	0.23														
Westdale Place	Lozier Lane - 375' West						0.07									
Western Avenue	Mc Andrews Road - Maple Park Drive	0.09														
Yale Drive	Harvard Place - Stanford Avenue	0.15														
Totals		26.08	10.55	1.79	6.00	2.87	1.36	0.00	3.98	0.00						

City of Phoenix

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Campbell Road	North Phoenix Rd - 3450' East				0.65								N	N	N	N
Campbell Road	3450' - 4010' E of North Phoenix Road								0.11				N	N	N	N
Camp Baker Road	Colver Road - 1015' W. of Colver Road		0.19										N	N	N	N
Camp Baker Road	1015' W - 1190' W of Colver Road	0.03									N	N			N	N
Camp Baker Road	1190' W of Colver Rd - 210' W of Hilsinger Rd		0.07										N	N	N	N
Camp Baker Road	210' W - 660' W of Hilsinger Road			0.09									N	N	N	N
Colver Road	140' S of Samuel Ln - 215' S of Camp Baker Rd			0.10									Y	Y	N	N
Colver Road	215' S of Camp Baker Rd - 112' S of Jared Ct		0.06										Y	Y	N	N
Colver Road	112' S of Jared Ct - 360' N of Jared Ct.	0.09								Y	Y				N	N
Dano Drive	W Railroad R/W - 850' West					0.16							N	N	N	N
Fern Valley Road	Main Street - Bridge #10	0.13								N	N				N	N
Fern Valley Road	North Phoenix Rd - 370' East	0.07								Y	Y				N	Y
Fern Valley Road	370' E - Breckenridge Road			0.08						N	Y				N	Y
Fern Valley Road	Breckenridge Road - 750' Northeast			0.14								N	N	N	N	Y
Fern Valley Road	750 NE - 850' NE of North Phoenix Road			0.02								N	N	N	N	N
Fern Valley Road	850' NE - 1050' NE of North Phoenix Road					0.05						N	N	N	N	N
Hilsinger Road	Camp Baker Road - Pacific Lane		0.08									N	N	N	N	N
Houston Road	Colver Road - 180' W of Coral Circle	0.12								Y	Y				Y	Y
Houston Road	180' W - 290' W of Coral Circle			0.02								Y	Y	N	N	N
Houston Road	290' W of Coral Circle - Calhoun Road					0.23						Y	Y	N	N	N
No Name Road	Dano Drive - 1200' Northwest					0.23										
North Phoenix Road	515' N - 2780' Northerly of Grove Way				0.43								Y	Y	N	N
North Phoenix Road	2780' - 4840' Northerly of Grove Way					0.39							Y	Y	N	N
Northridge Terrace	Hwy 99 - Cul-De-Sac				0.36							N	N	N	Y	Y
Oak Crest Way	Hwy 99 - 220' East				0.04							N	N	N	Y	Y
Oak Crest Way	220' East - 430' East				0.02							N	N	N	Y	N
Oak Crest Way	430' East - Cul-De-Sac				0.15							N	N	N	Y	Y
Totals		0.44	0.40	0.45	1.65212	0.78	0.39	0.00	0.00	0.00						

City of Rogue River

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Blue Ridge Court	Blue Ridge Drive to 700' southwest		0.13													
Blue Ridge Drive	Wards Creek Road to 380' northwest		0.07													
East Evans Creek Road	1070' to 1410' southerly of Manzanita Dr			0.06									Y	Y	N	N
East Evans Creek Road	1410' to 5770' Southerly of Manzanita Dr		0.78										Y	Y	N	N
Fielder Lane	Foothills Blvd to 470' southwest		0.09										N	N	N	N
Foothills Blvd.	City limits to 2175' southwest		0.41										N	N	N	N
Lloyelen Drive	West Evans Creek Road to 730' northeast		0.14										N	N	N	N
Scenic Drive	780' to 2625' east of Robbins Avenue					0.35										
Wards Creek Road	820' to 4505' northeast of North River Rd		0.70										N	N	N	N
West Evans Creek Road	1070' to 7550' northerly of Walnut Drive		1.23										Y	Y	N	N
West Lloyelen Drive	West Evans Creek Road to 1470' westerly		0.28													
West Lloyelen Drive	1470' to 2000' westerly of W. Evans Creek Rd					0.10										
Totals		0.00	3.83	0.06	0.00	0.00	0.45	0.00	0.00	0.00						

City of Shady Cove

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Indian Creek Road	Hwy 62 to 950' southeasterly	0.18									N	N			N	N
Indian Creek Road	950' to 1320' southeasterly of Hwy 62		0.07										N	N	N	N
Long Branch Road	Rogue River Drive to 2775' northwesterly			0.53									N	N	N	N
Old Ferry Road	Hwy 62 to 3200' northeasterly	0.61									N	N			N	N
Old Ferry Road	3200' to 7230' northeasterly of Hwy 62		0.76										N	N	N	N
Rogue River Drive	Long Branch Road to 640' westerly			0.12									N	N	N	N
Rogue River Drive	Long Branch Road to 1370' northeast		0.26										N	N	N	N
Rogue River Drive	1370' NE of Long Branch Rd to Hwy 62	1.39									N	N			N	N
Sawyer Road	295' to 925' northwesterly of Rogue River Dr						0.12						N	N	N	N
Totals		2.18	1.09	0.65	0.00	0.00	0.12	0.00	0.00	0.00						

City of Talent

Road Name	Segment of Road	County Roads Inside ...					Local Access Rds Inside ...				Bike Lanes		Shoulders		Sidewalks	
		City	UGB	UGB*	UR	UR*	UGB	UGB*	UR	UR*	North/West	South/East	North/West	South/East	North/West	South/East
Colver Road	Hwy. 99 to No Name Road		0.33								Y	Y			N	Y
Colver Road	No Name Road to end of reserve				0.38						Y	Y			N	N
Foss Road	UGB to 350' west				0.07								N	N	N	N
Hilltop Road	West Hilltop Road to 475' Southeast					0.09							N	N	N	N
No Name Road	Colver Road to South				0.19											
Old Pacific Hwy.	Talent Ave. to Hwy. 99				0.67								N	N	N	N
Rapp Lane	Rapp Road to 1,350' South				0.26								N	N	N	N
Suncrest Road	Autumn Ridge to I-5		0.24										N	N	N	Y
West Valley View Rd.	I-5 to 1020' southeast of Suncrest Road		0.62										N	N	N	N
Wagner Creek Road	Rapp Road to 450' West of Rapp Road	0.09									N	N			N	N
Wagner Creek Road	450' West of Rapp Rd. to 775' SW		0.15										N	N	N	N
Totals		0.09	1.34	0.00	1.57	0.00	0.09	0.00	0.00	0.00						