

VIII. APPENDIX

NOTE: Please refer to separate reference volume containing Appendices B through J.

Appendix A. Figures

Appendix B. Scoping Materials

Appendix C. Transit Information

Appendix D. Traffic Count Summaries

Appendix E. Crash Data

Appendix F. In-Process Trips

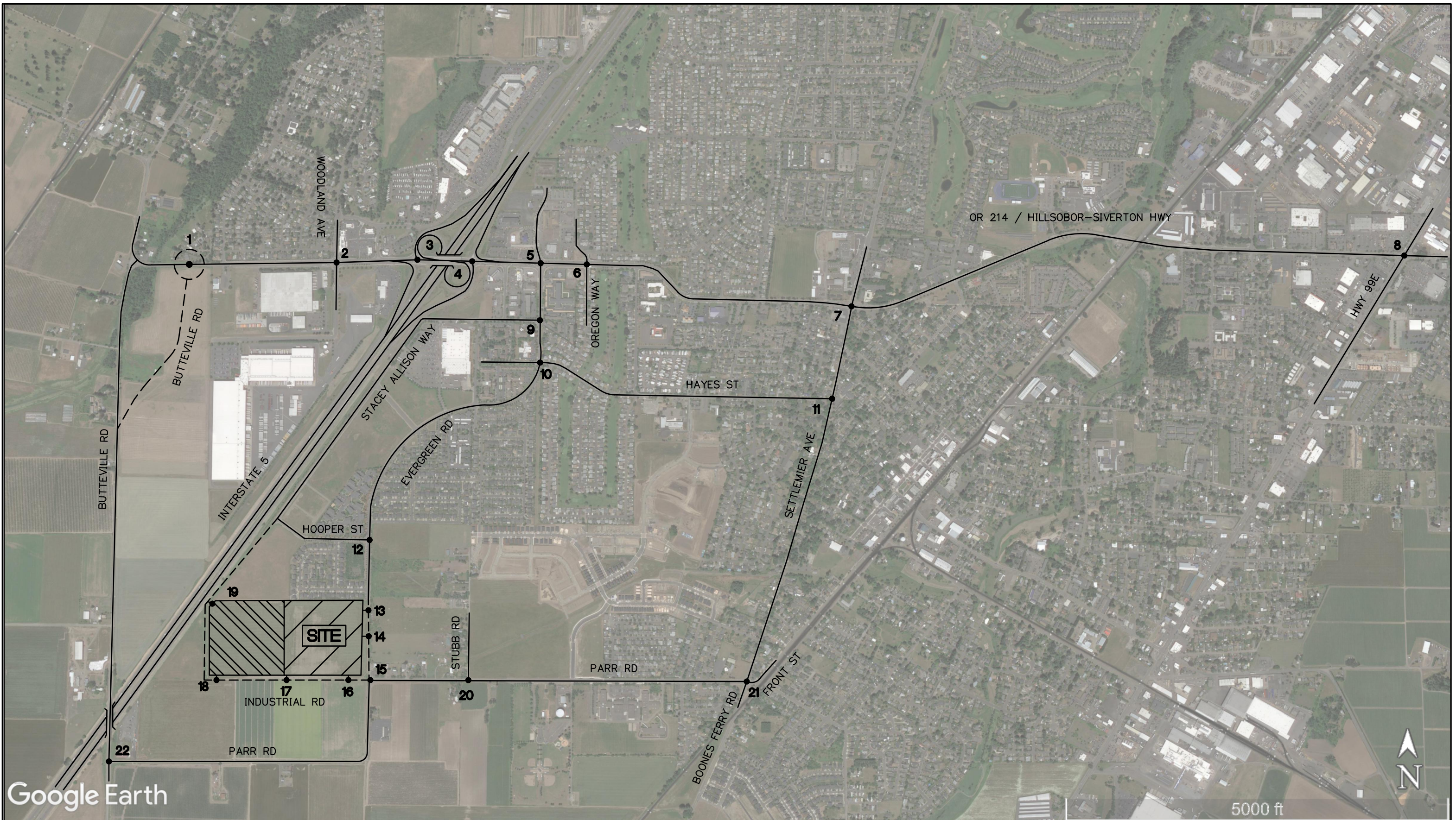
Appendix G. Signal Information

Appendix H. Operations Calculations

Appendix I. Queuing Analysis

Appendix J. Warrant Analysis

APPENDIX A
FIGURES



Google Earth

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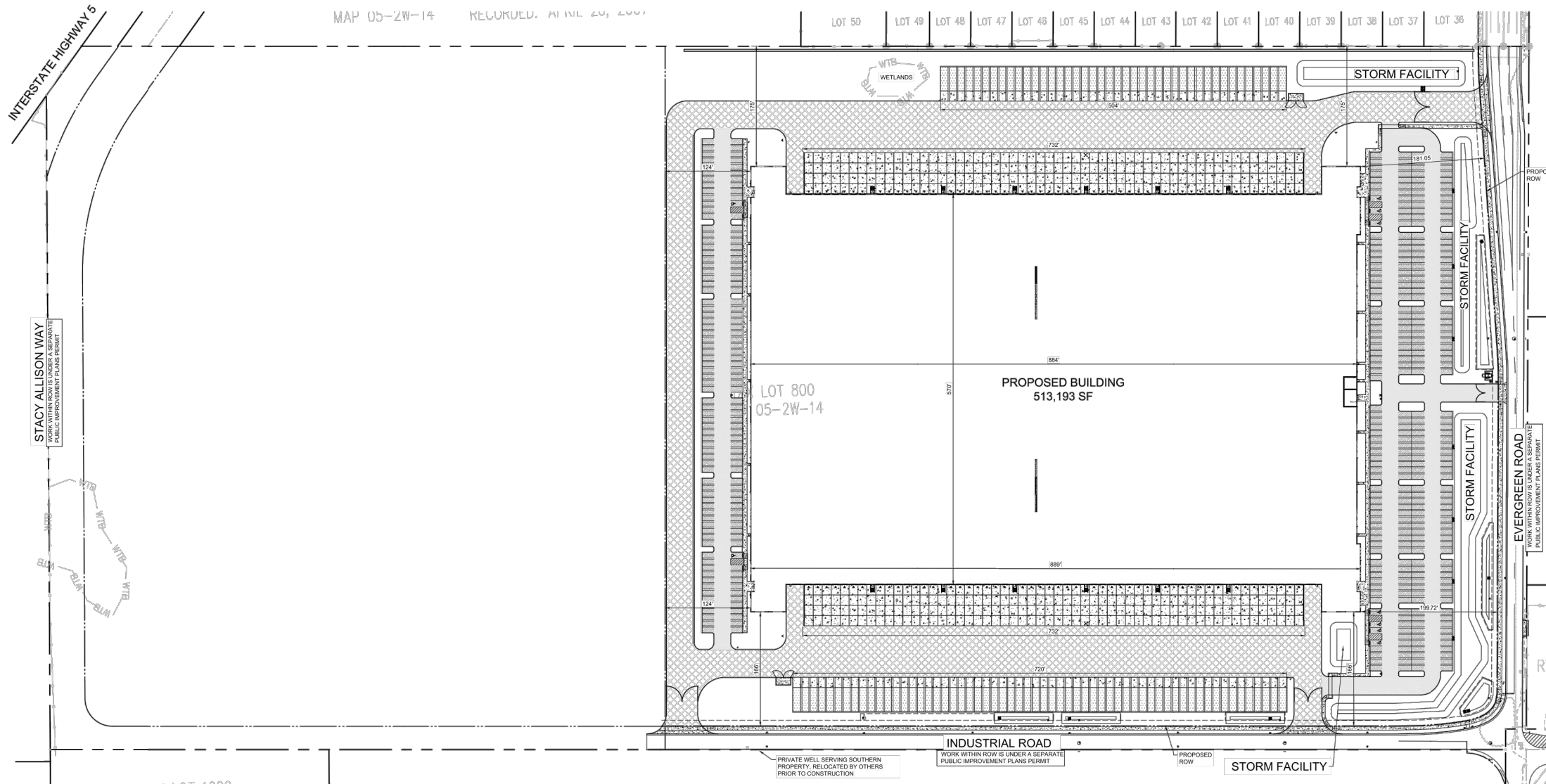
VICINITY MAP
WEISZ PROPERTY
WOODBURN, OREGON

FIGURE
1



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MAP 05-2W-14 RECORDED: APRIL 29, 2007



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REVISION SCHEDULE		
Drawn	Revised As	Issue Date

SHEET TITLE:
OVERALL SITE PLAN

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SHEET

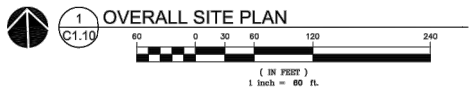
C1.10

JOB NO. **2220085.00**

SITE DATA			
	AREA (SF)	AREA (AC)	COVERAGE
GROSS PROPERTY AREA	1,288,895	29.57	
DEDICATION PROPERTY AREA	93,768	2.15	
NET PROPERTY AREA	1,194,327	27.42	
EXISTING WETLAND AREA	3,341	0.08	
NET DEVELOPMENT AREA	1,190,986	27.34	
BUILDING AREA	513,193	11.78	43.09%
PAVED AREA	490,888	11.27	41.22%
IMPERVIOUS AREA (BUILDING + PAVED AREA)	1,004,081	23.05	84.31%
LANDSCAPE AREA	186,925	4.29	15.69%
PAVED PARKING/LOADING/CIRCULATION AREA	475,256	10.91	
PARKING AREA LANDSCAPE	13,378	0.31	2.81%

PARKING DATA	
TYPE	PROVIDED
STANDARD	431
COMPACT	-
MOTORCYCLE	-
ACCESSIBLE: STANDARD	7
ACCESSIBLE: WHEELCHAIR	2
TOTAL PARKING	440
PARKING RATIO	0.86 SPACES / 1000 SF OF BLDG
BIKE	20
TRAILER PARKING	192

* SEE NARRATIVE FOR MIN & MAX PARKING REQUIREMENTS



PAVEMENT LEGEND	
	CONCRETE DOCKS: 7 INCH NON-REINFORCED CONCRETE ON 6 INCH AGGREGATE BASE AT THE LOADING DOCKS
	DOLLY PADS: 7 INCH NON-REINFORCED CONCRETE ON 4 INCH AGGREGATE BASE
	HEAVY DUTY ASPHALT: • 5.5 INCH AC WITH 14 INCH BASE AND SUBGRADE GEOTEXTILE OR • 5.5 INCH AC WITH 4 INCH BASE AND 18 INCH CEMENT AMENDED SUBBASE
	LIGHT DUTY ASPHALT: • 4.5 INCH AC OVER 14 INCH BASE AND SUBGRADE GEOTEXTILE OR • 4.5 INCH AC OVER 4 INCH BASE OVER 14 INCH CEMENT AMENDED SUBBASE
	CAR PARKING ASPHALT: • 3 INCH AC WITH 9 INCH AGGREGATE BASE AND SUBGRADE GEOTEXTILE OR • 3 INCH AC WITH 4 INCH BASE AND 12 INCH CEMENT AMENDED SUBBASE
	CAR TRAVEL ASPHALT: • 4 INCH AC WITH 9 INCH AGGREGATE BASE AND SUBGRADE GEOTEXTILE OR • 4 INCH AC WITH 4 INCH BASE AND 12 INCH CEMENT AMENDED SUBBASE
	SIDEWALK: 8" (MIN) WIDE x 4" THICK CONCRETE AND BROOM FINISHED WITH TOOLED CONTROL JOINTS

THE SURVEY INFORMATION IS SHOWN AS A BACKGROUND SCREEN ON THIS SHEET IS SHOWN FOR REFERENCE ONLY AND IS BASED ON A SURVEY BY ARCHITECTURE ENGINEERING, INC. DATE: JUNE 2010

90% CD PROGRESS - NOT FOR CONSTRUCTION 06-23-2022



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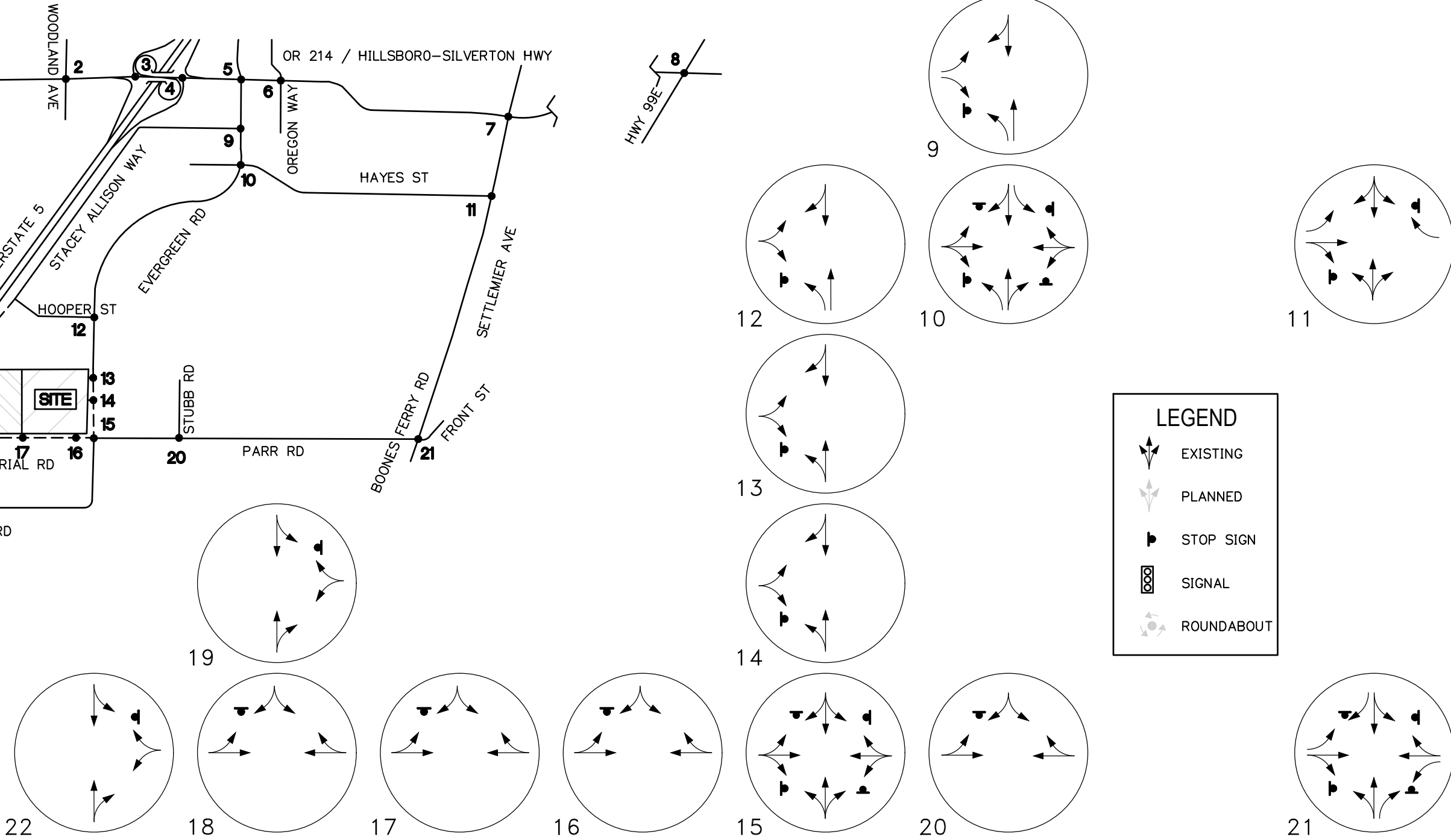
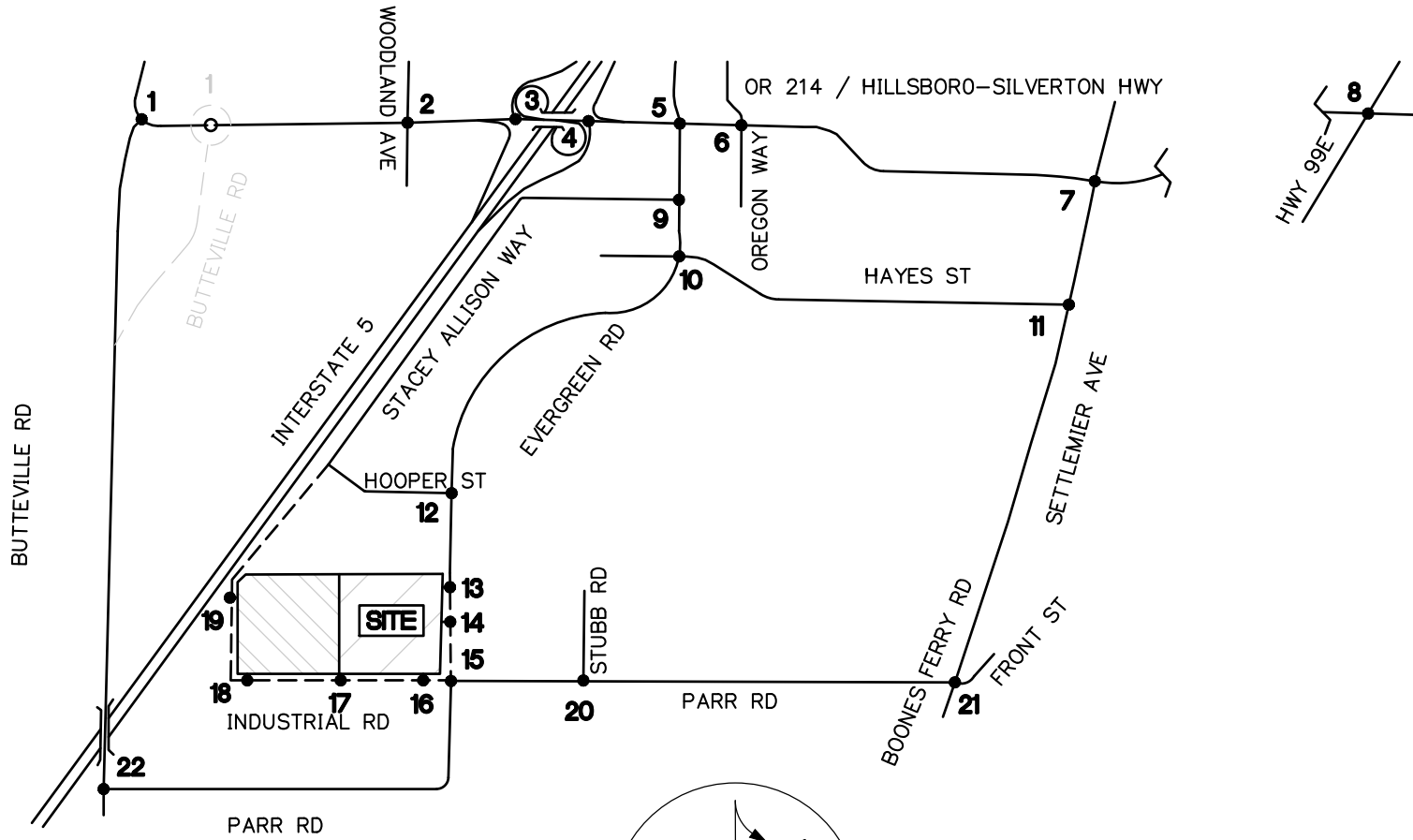
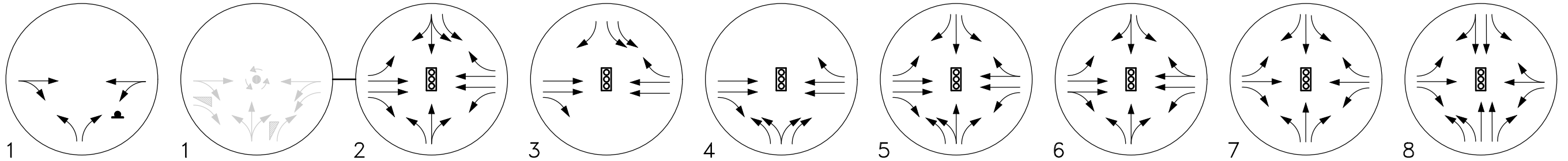
PROPOSED SITE PLAN - PHASE 1
WEISZ PROPERTY
WOODBURN, OREGON

FIGURE 2



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FUTURE ROUNDABOUT



LEGEND

- EXISTING
- PLANNED
- STOP SIGN
- SIGNAL
- ROUNDABOUT

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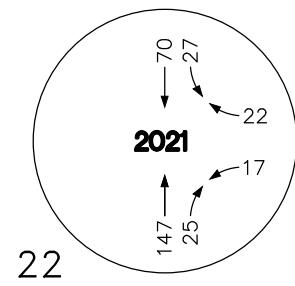
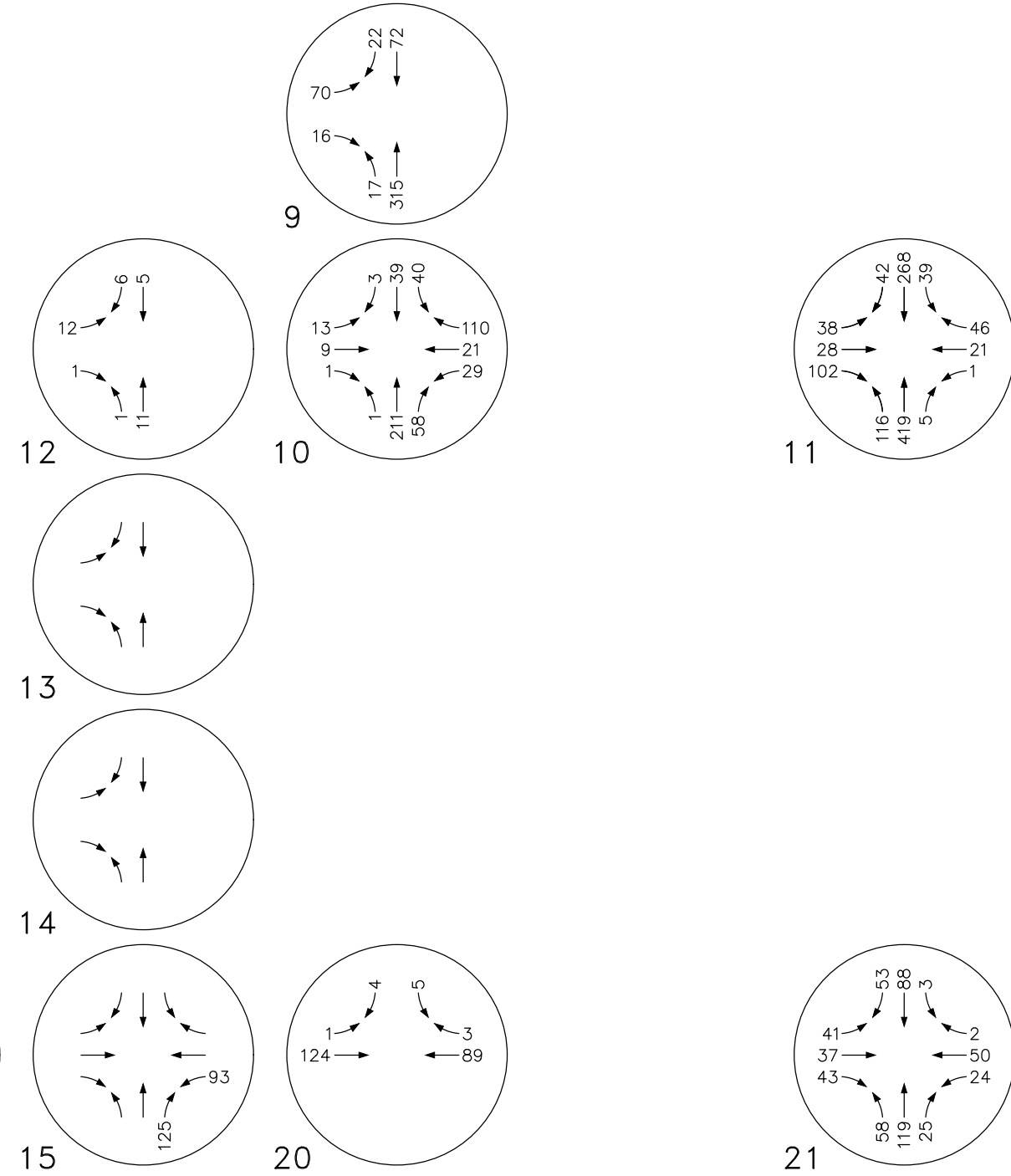
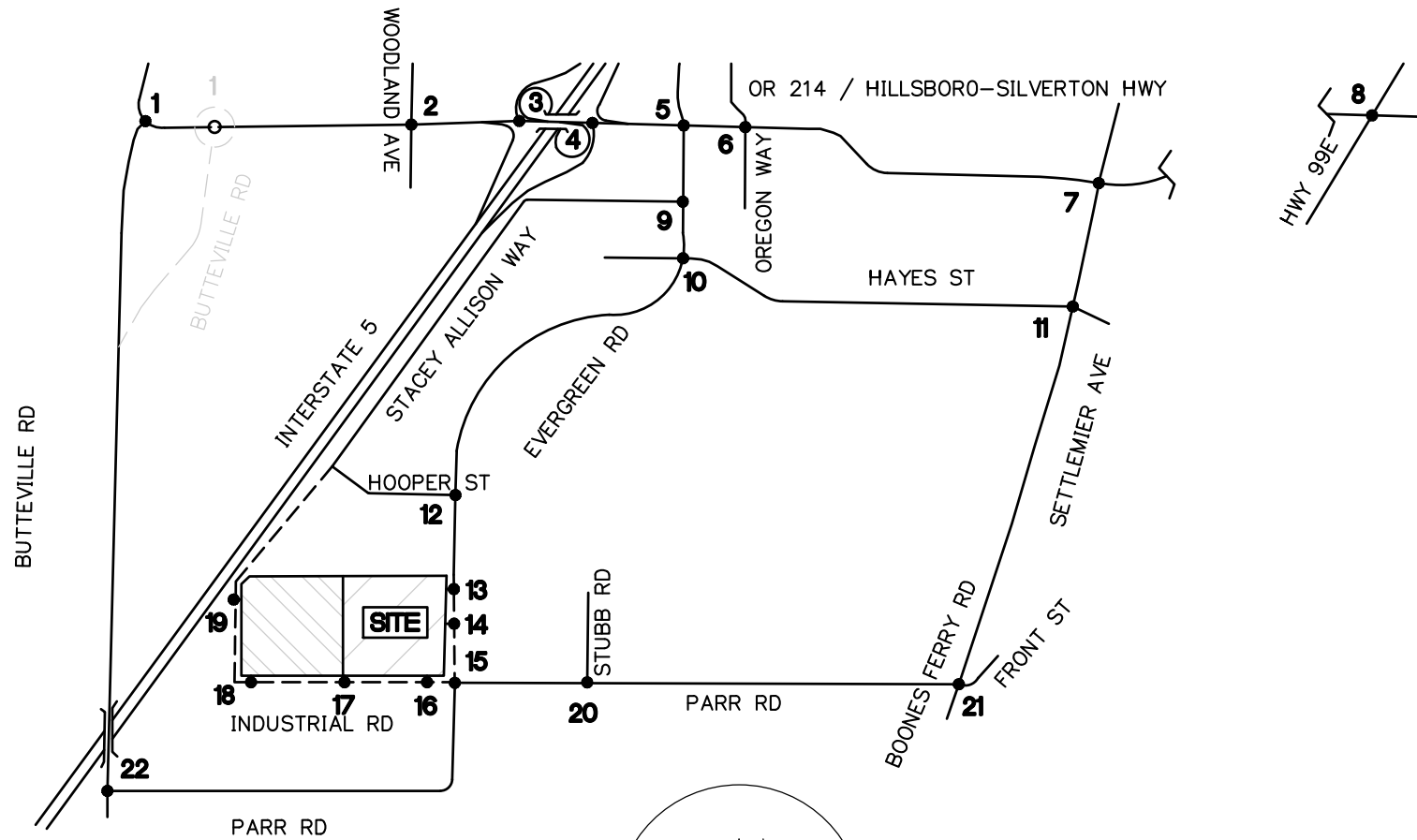
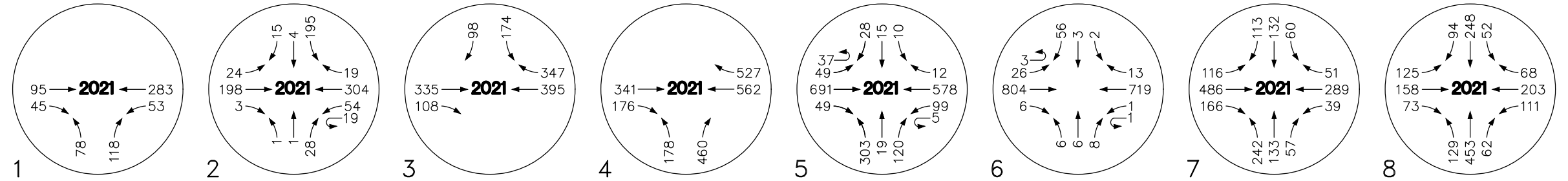
EXISTING + PLANNED TRAFFIC CONTROL DEVICES + LANE CONFIGURATIONS
WEISZ PROPERTY
WOODBURN, OREGON

FIGURE 3

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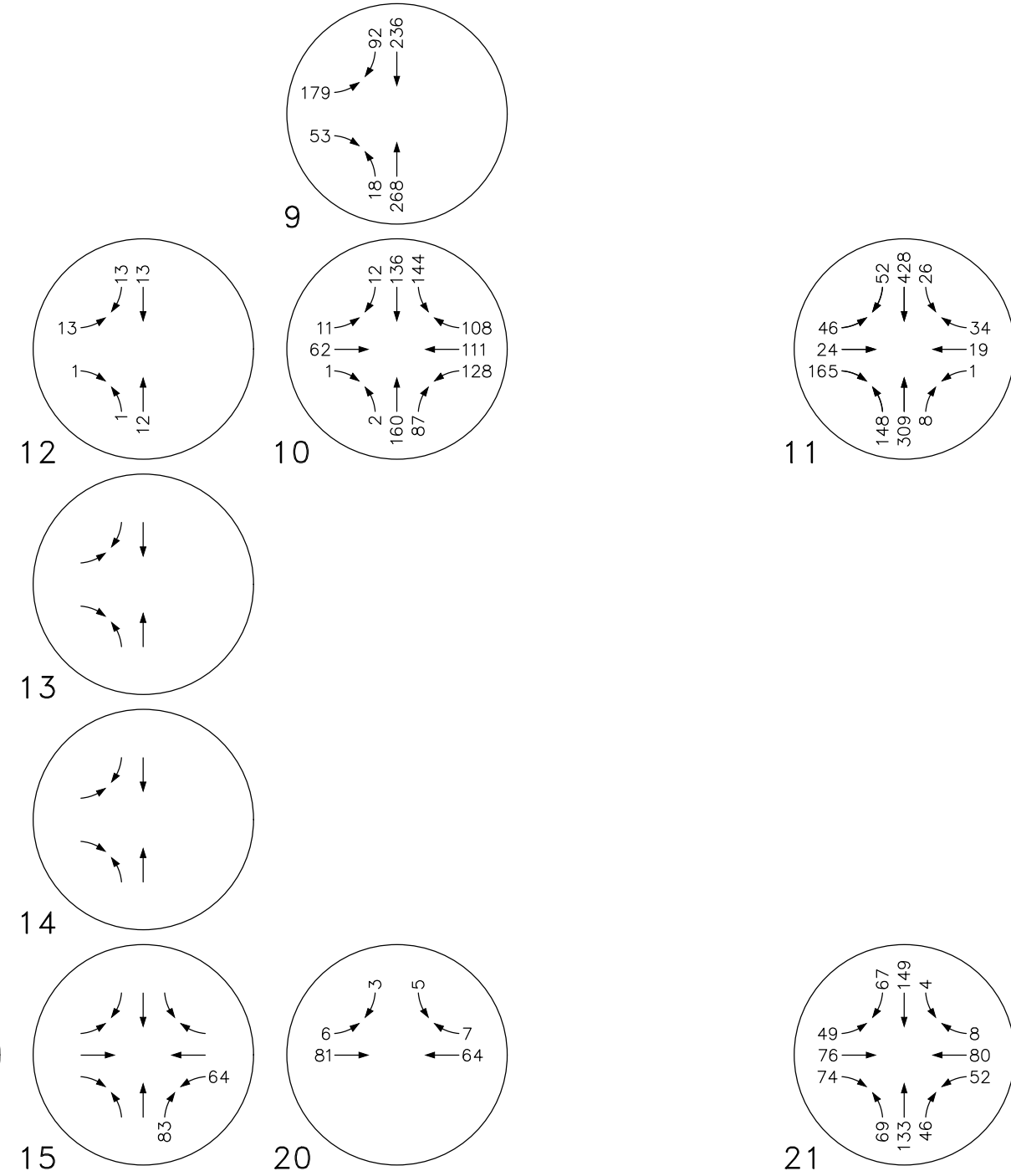
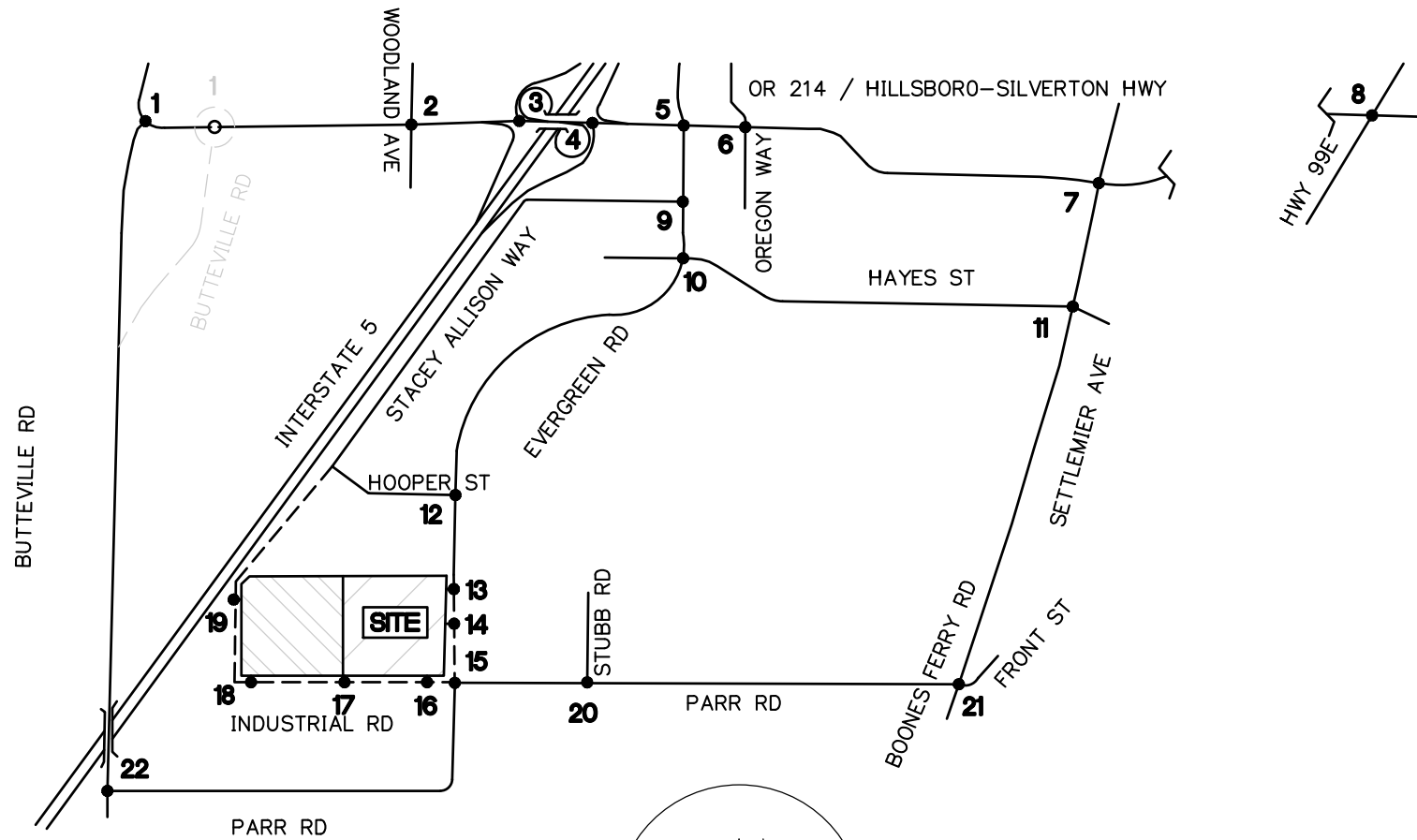
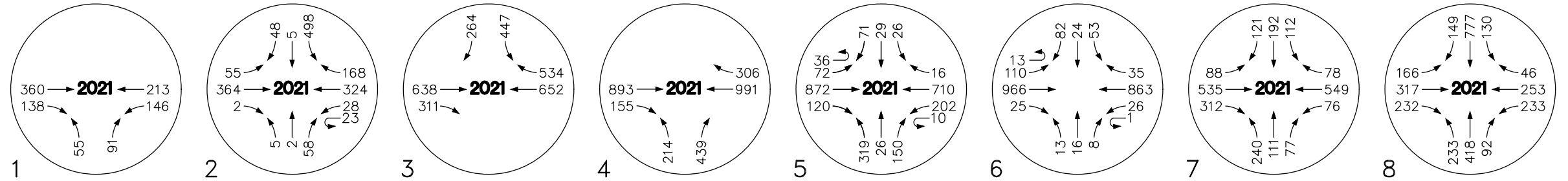
2022 BASE YEAR VOLUMES
AM PEAK HOUR

WEISZ PROPERTY
WOODBURN, OREGON

FIGURE
4A



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NOTE: An adjustment of 1% was applied to 2021 traffic counts to account for one year of growth.

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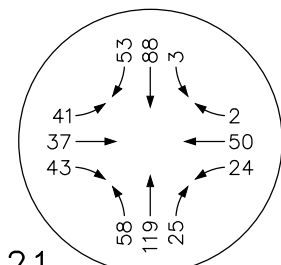
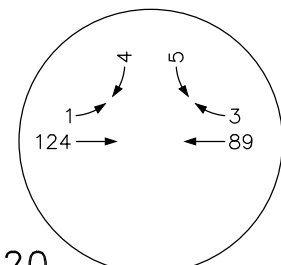
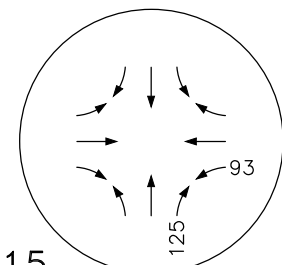
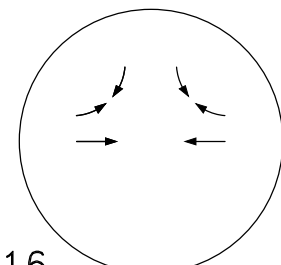
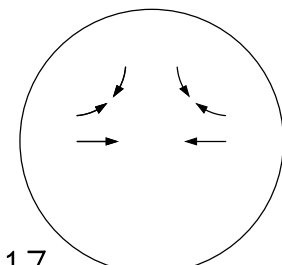
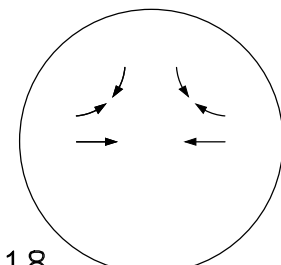
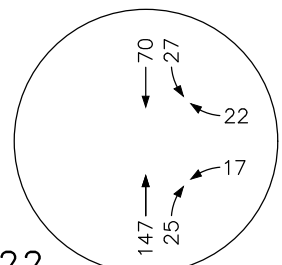
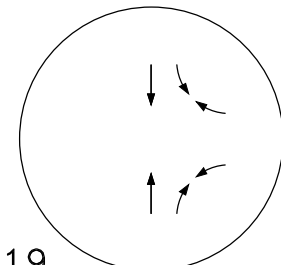
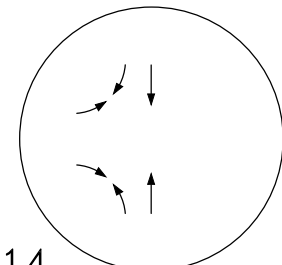
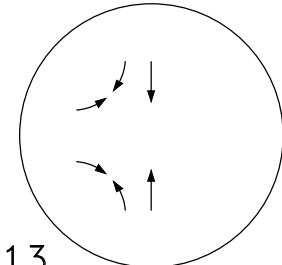
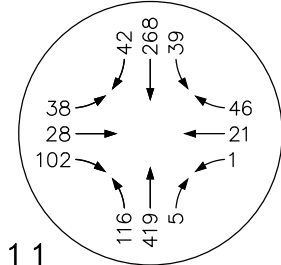
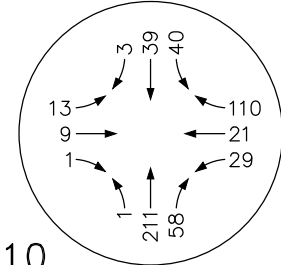
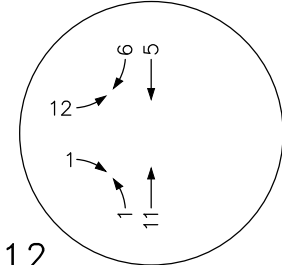
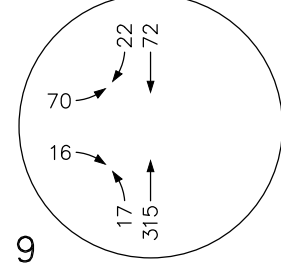
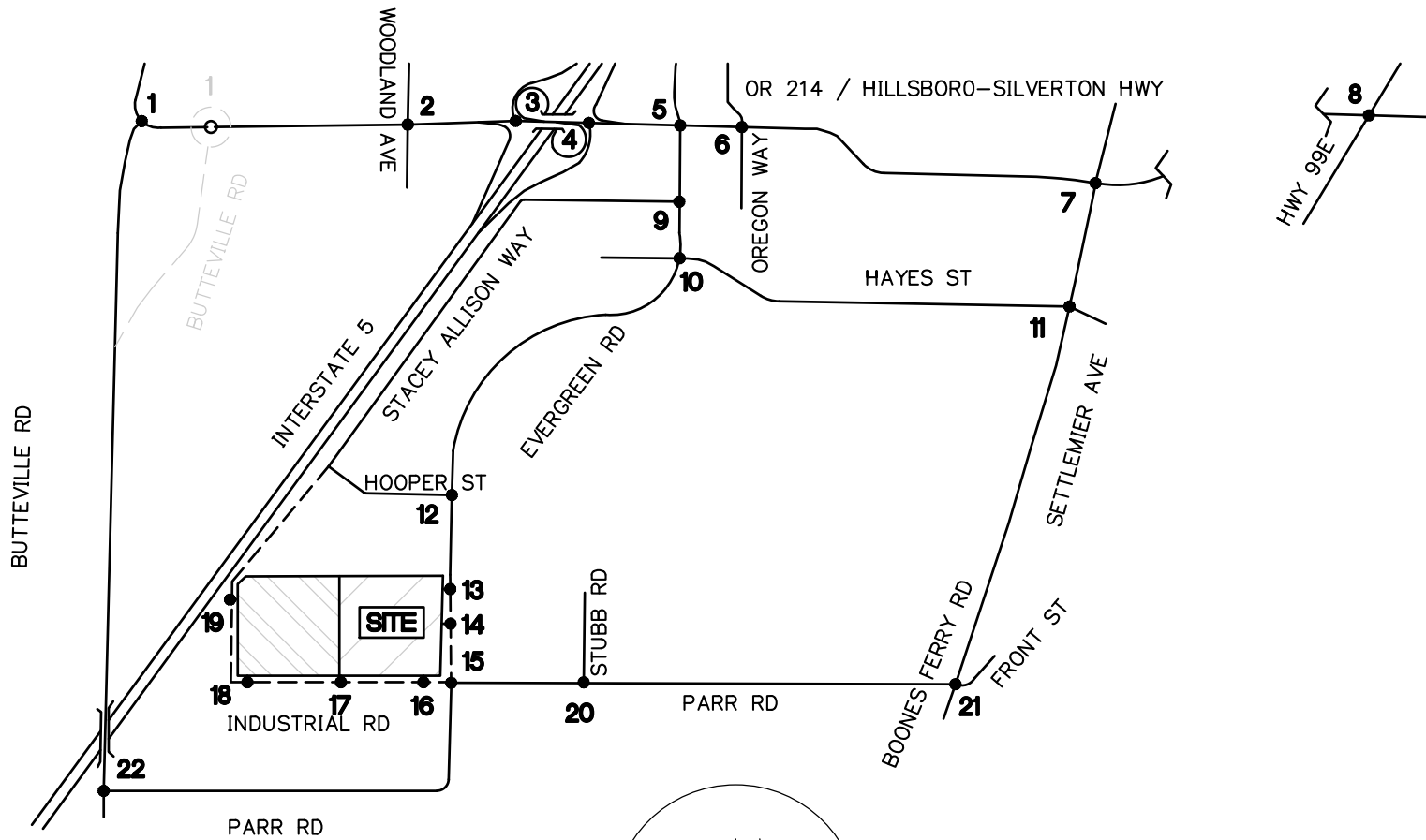
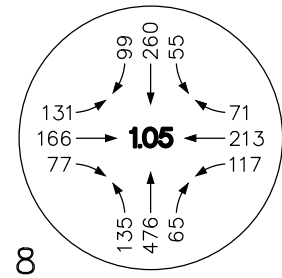
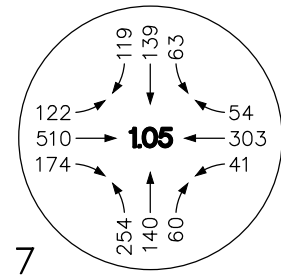
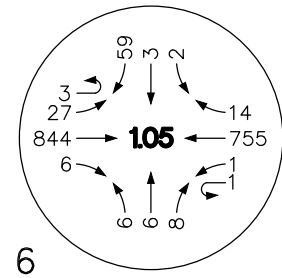
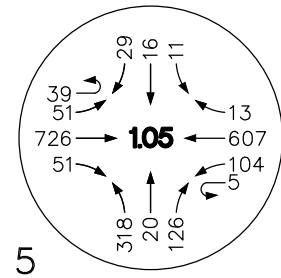
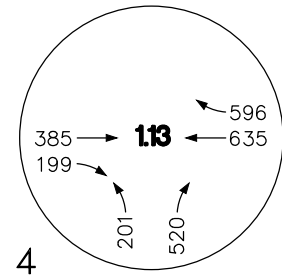
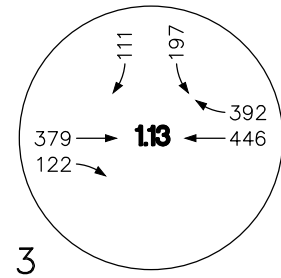
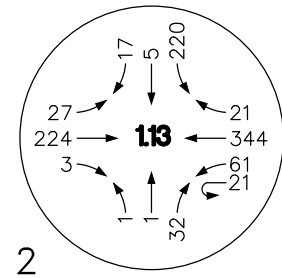
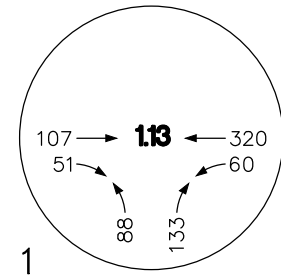
2022 BASE YEAR VOLUMES
PM PEAK HOUR

WEISZ PROPERTY
WOODBURN, OREGON

FIGURE
4B



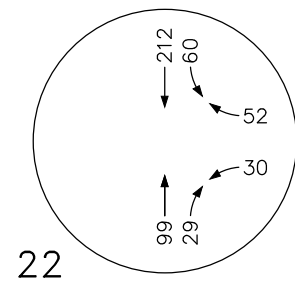
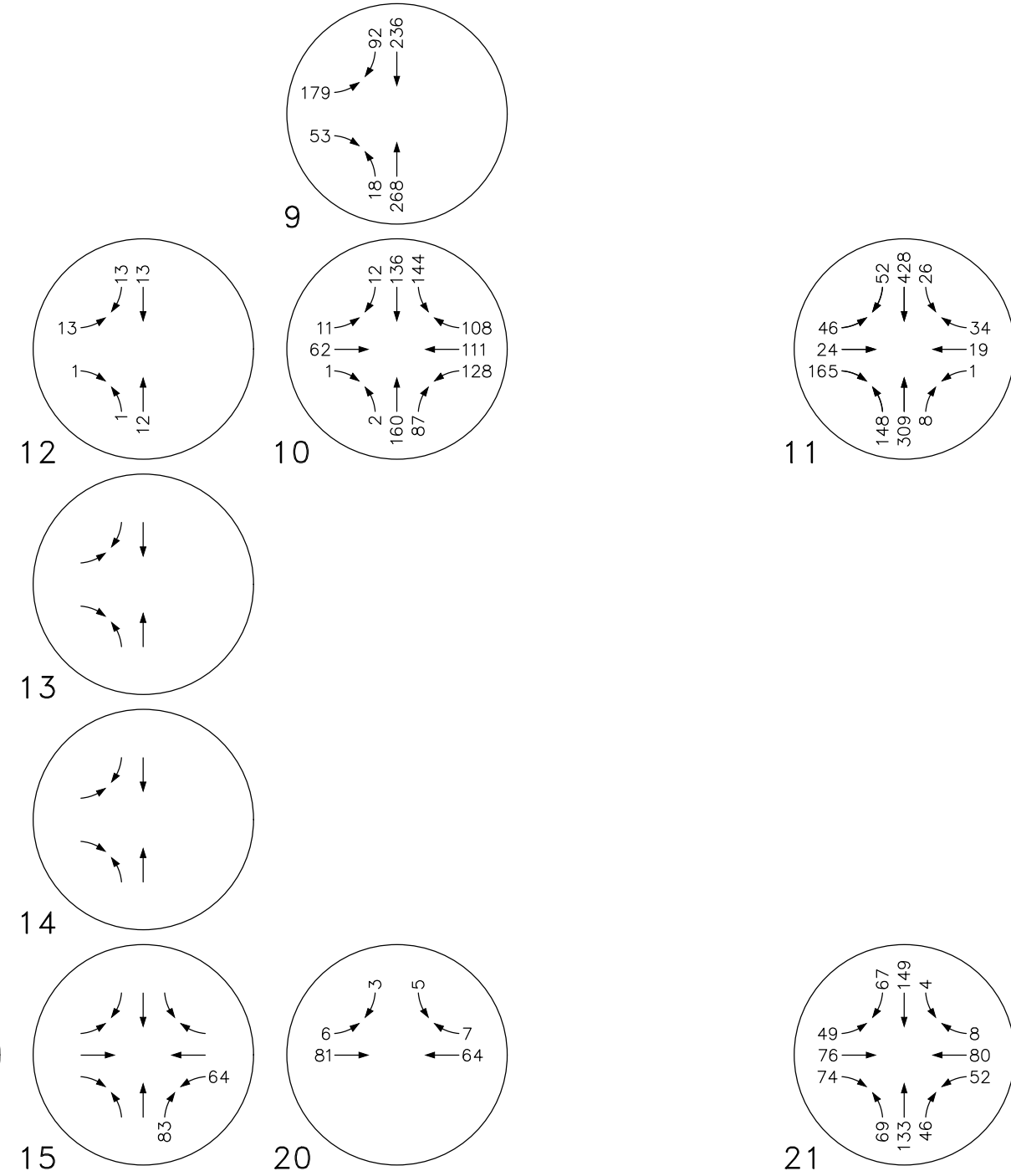
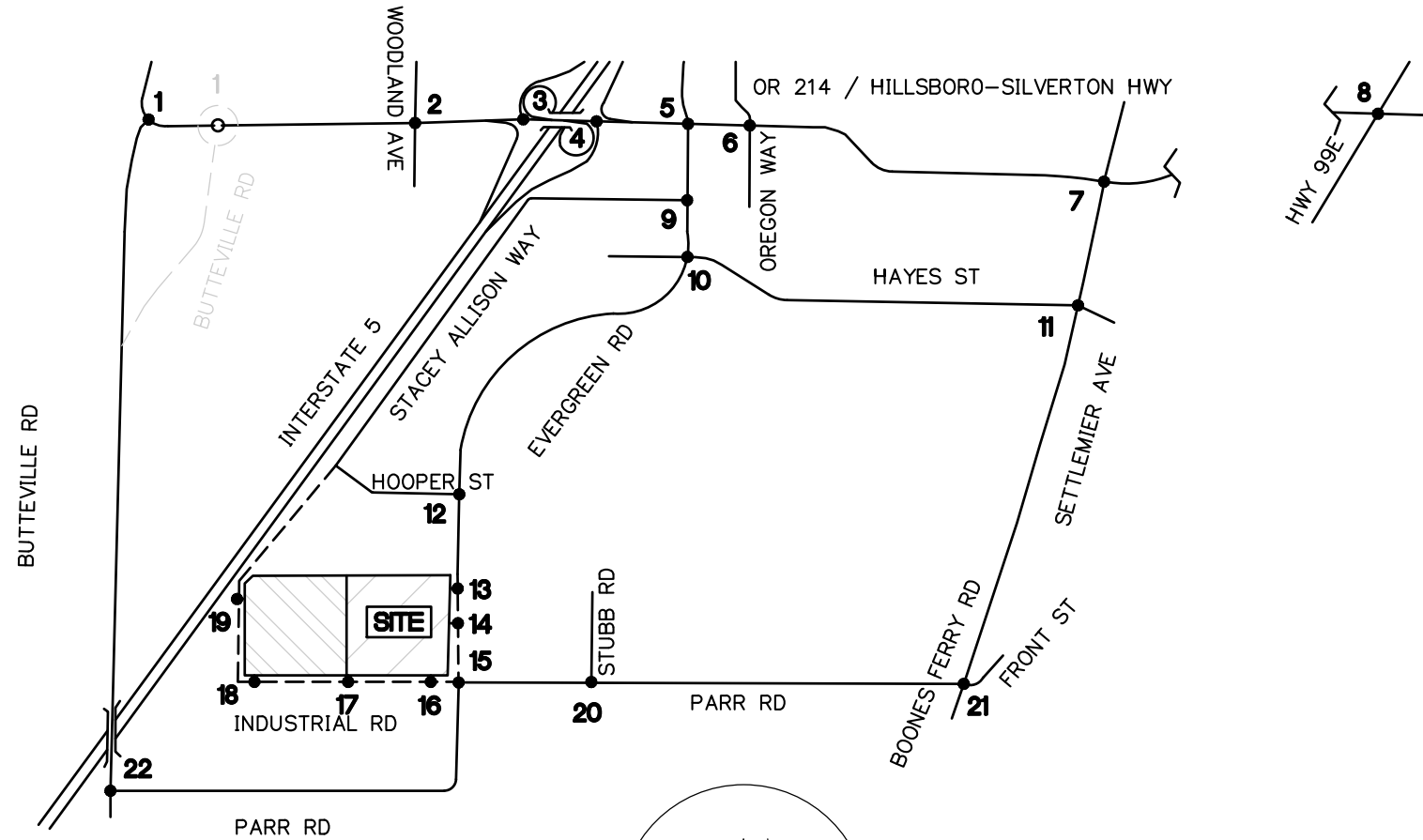
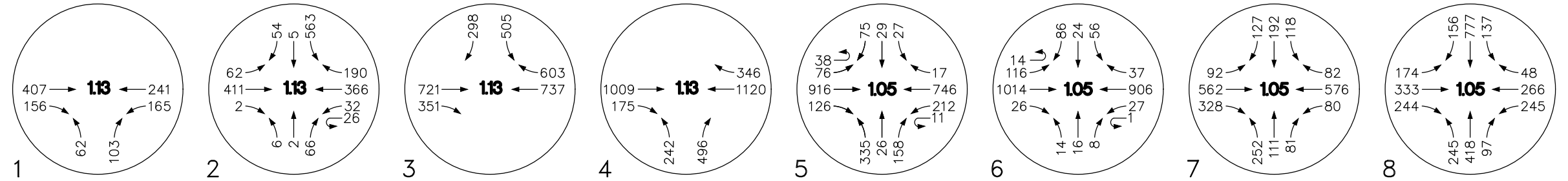
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**SEASONALLY ADJUSTED -
PM TRAFFIC VOLUMES**

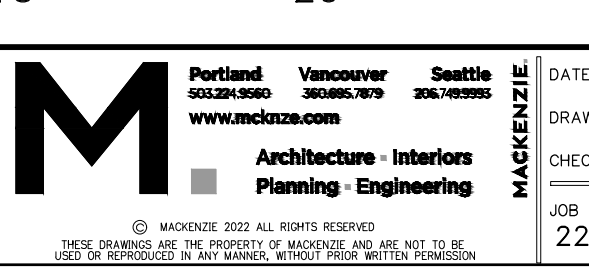
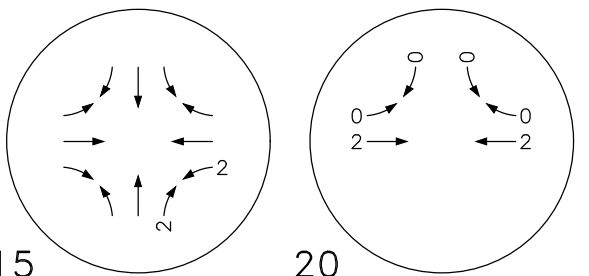
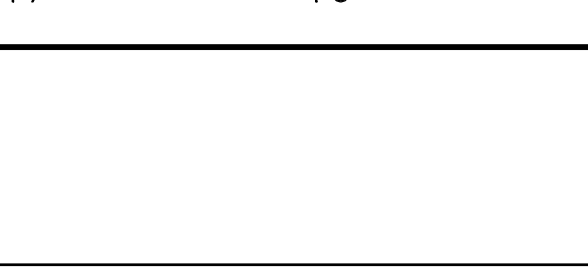
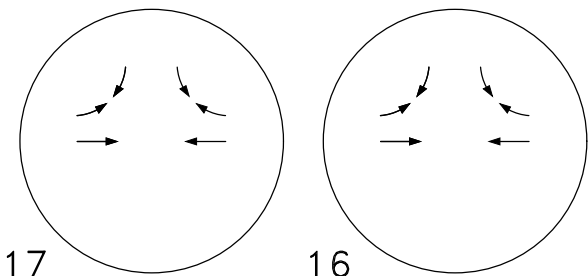
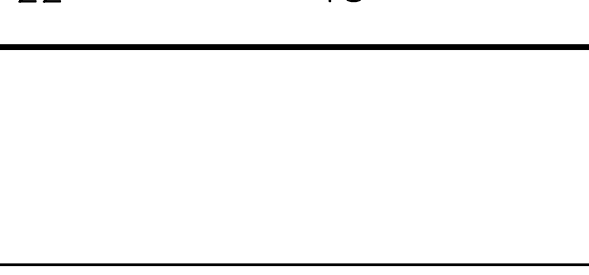
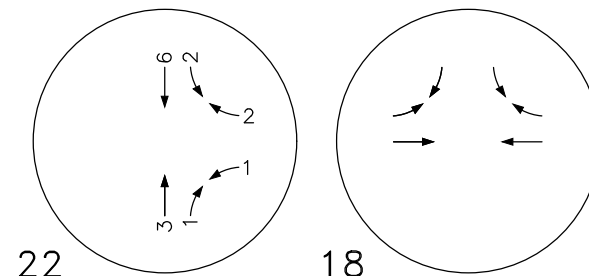
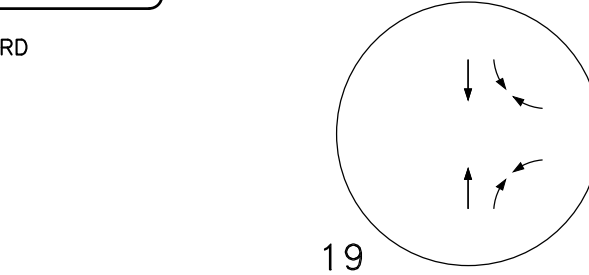
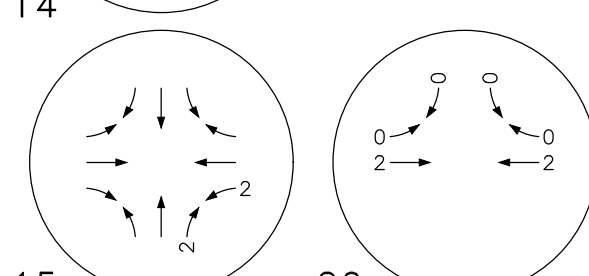
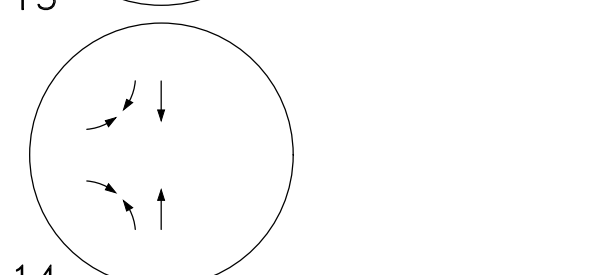
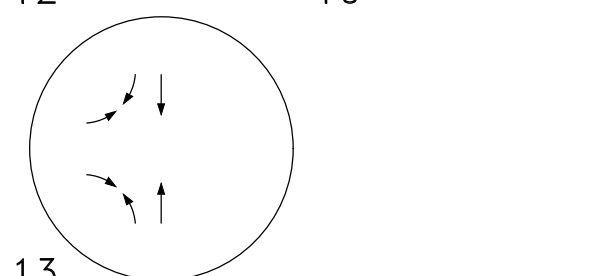
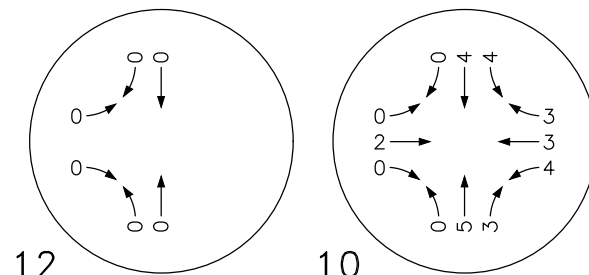
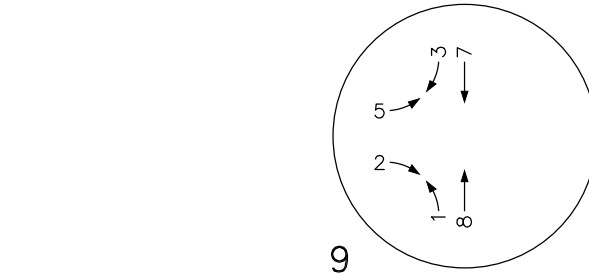
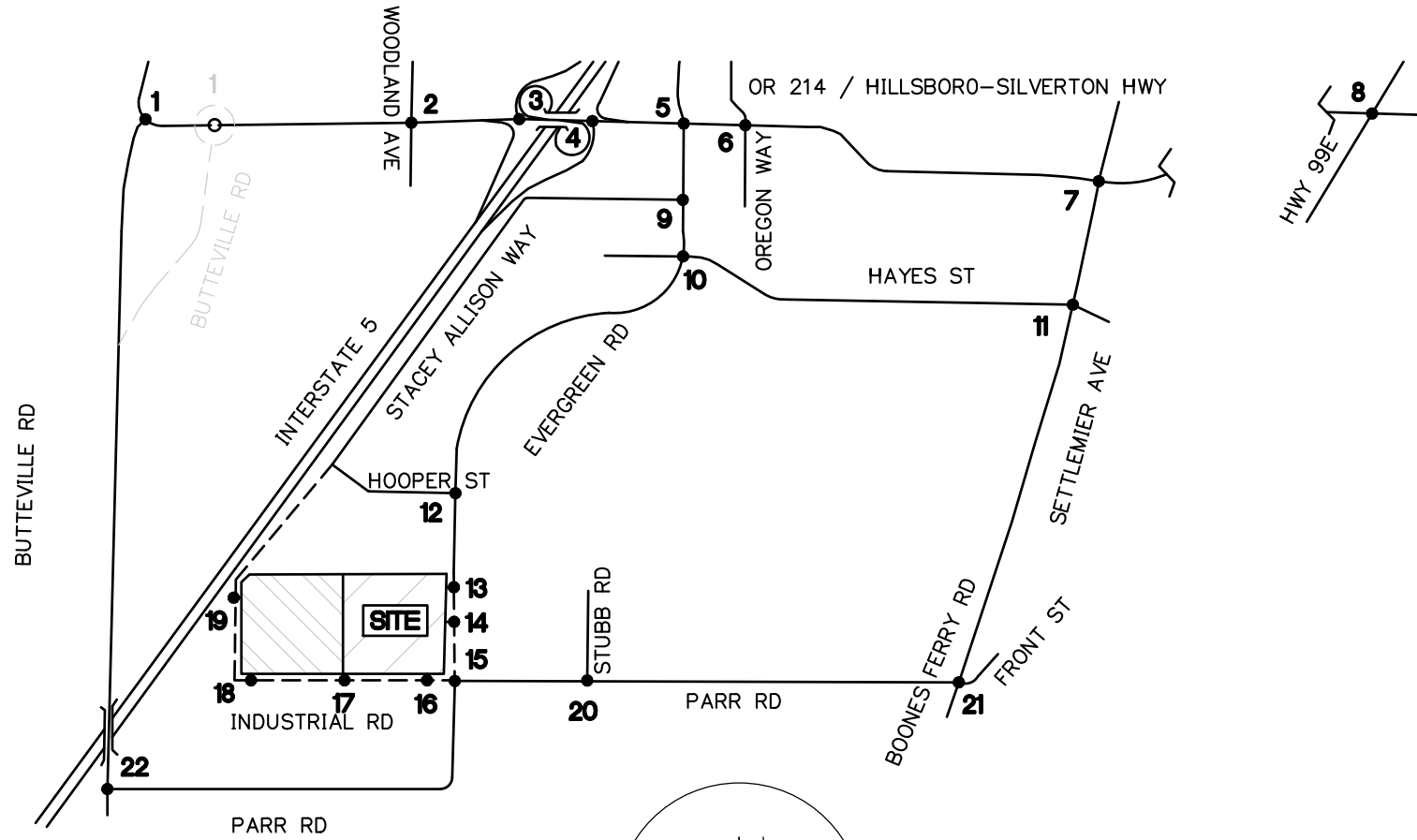
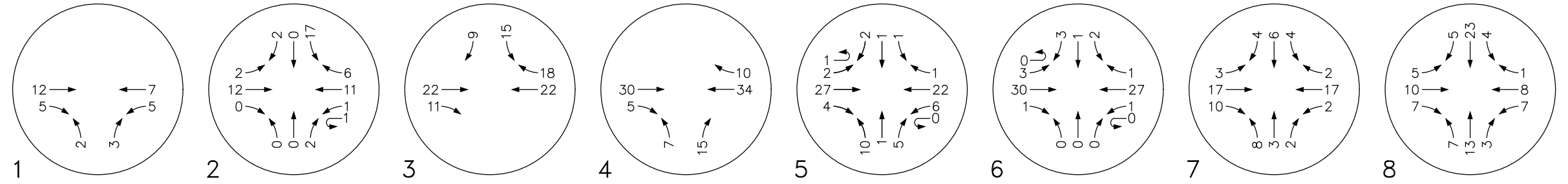
**WEISZ PROPERTY
WOODBURN, OREGON**

**FIGURE
5B**

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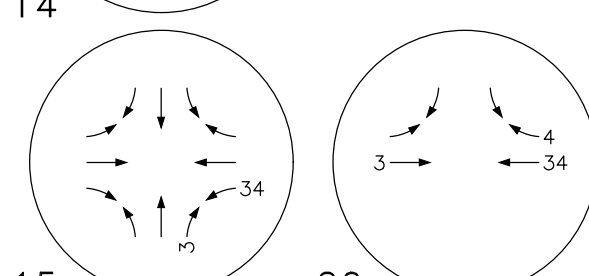
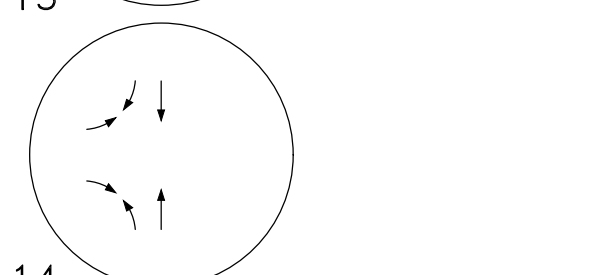
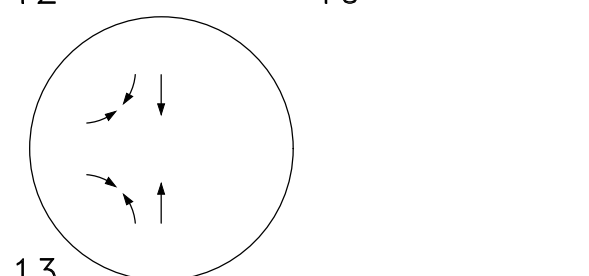
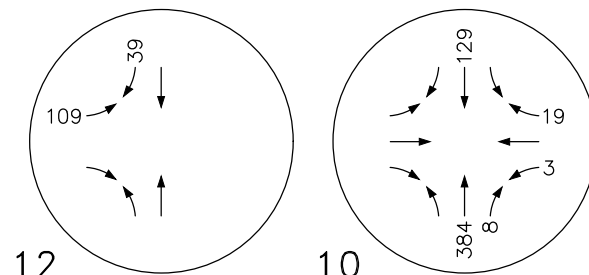
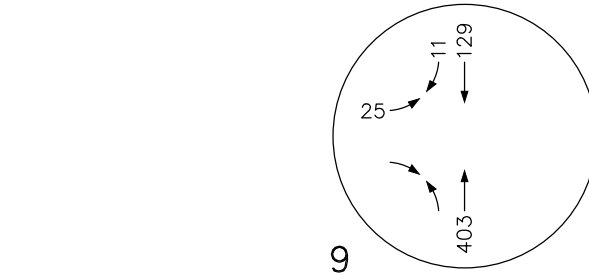
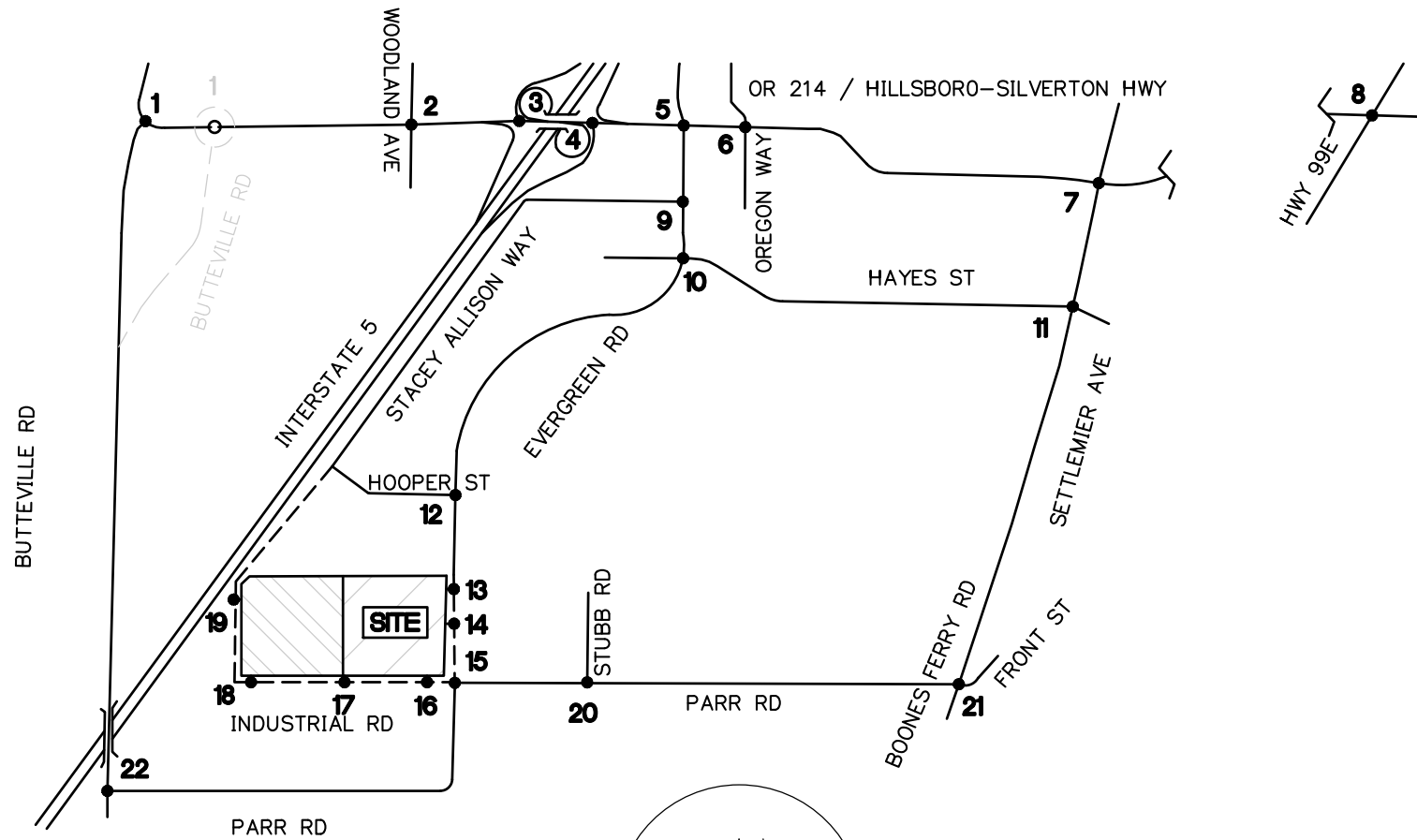
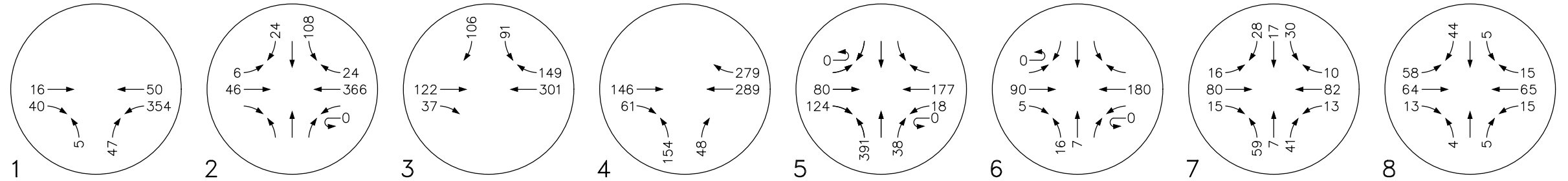
BACKGROUND TRAFFIC GROWTH,
 3 YEARS AT 1.0% PER YEAR -
 PM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
6B

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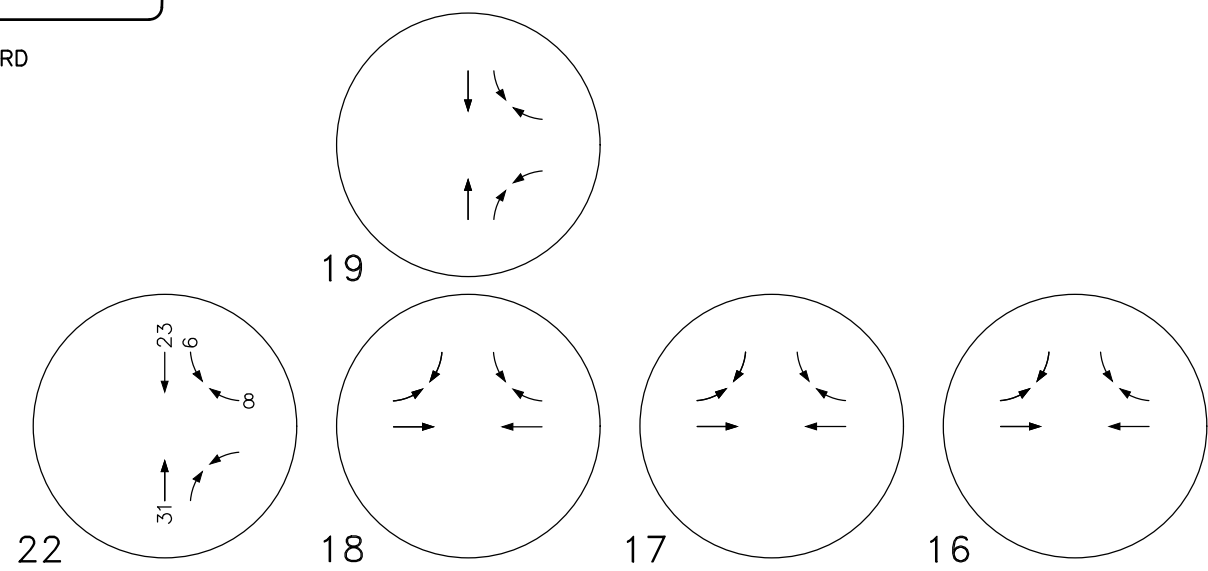
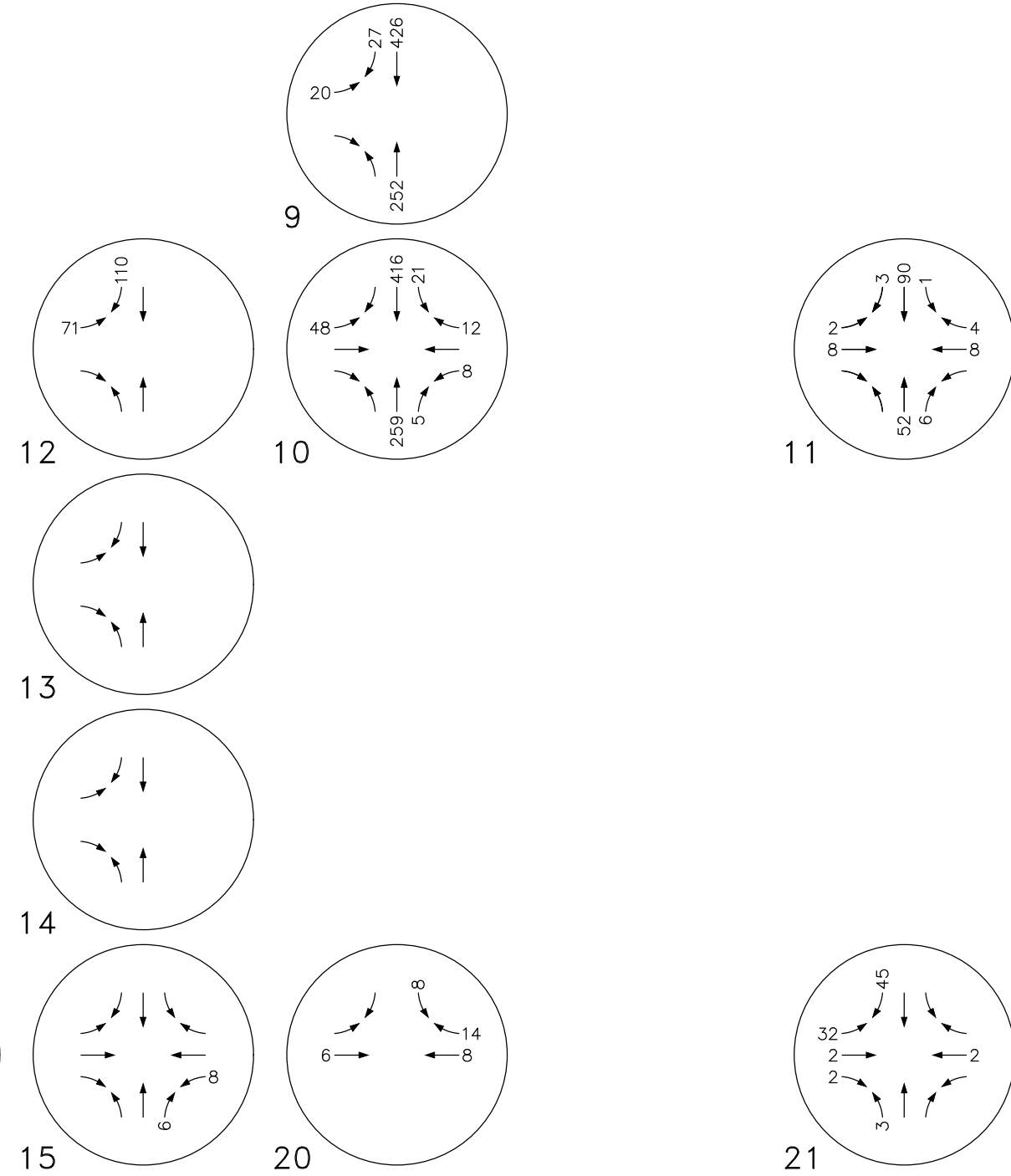
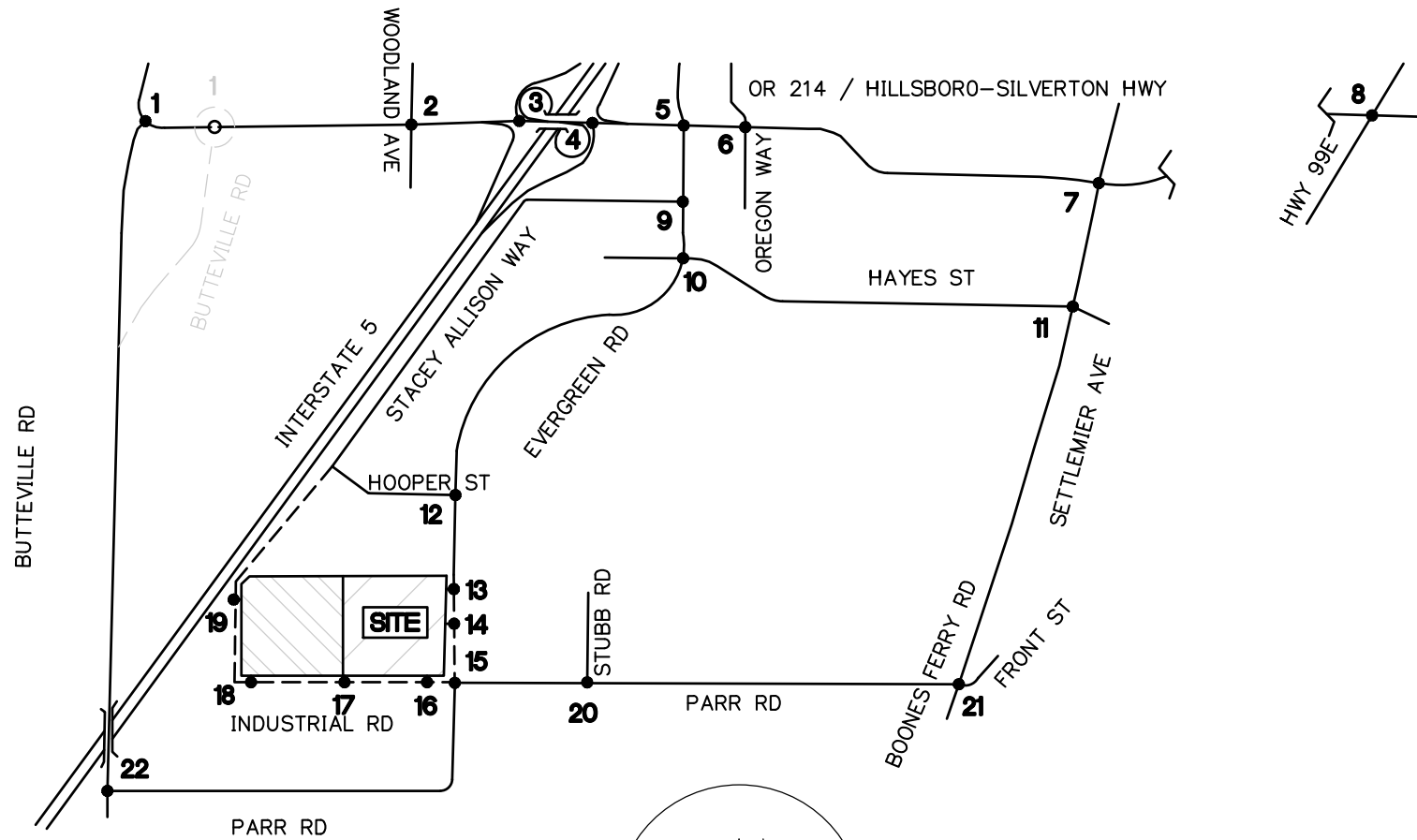
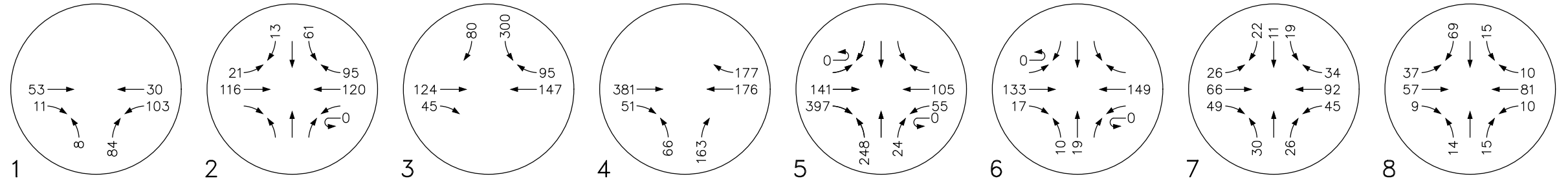
IN-PROCESS TRIPS -
 AM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
 7A

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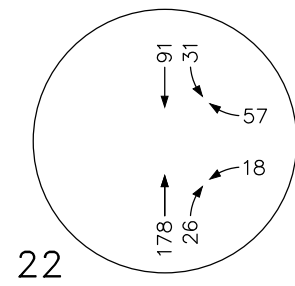
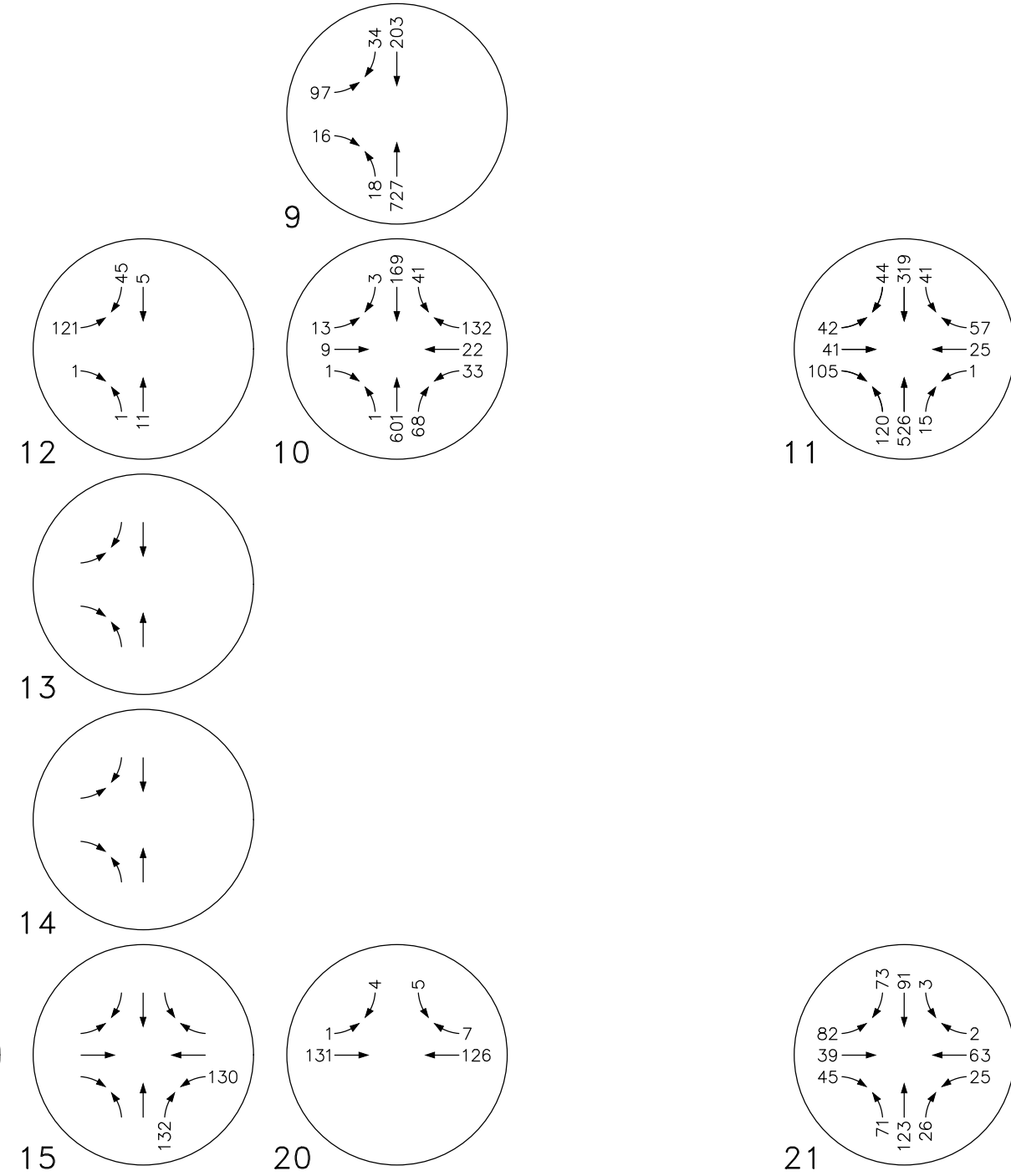
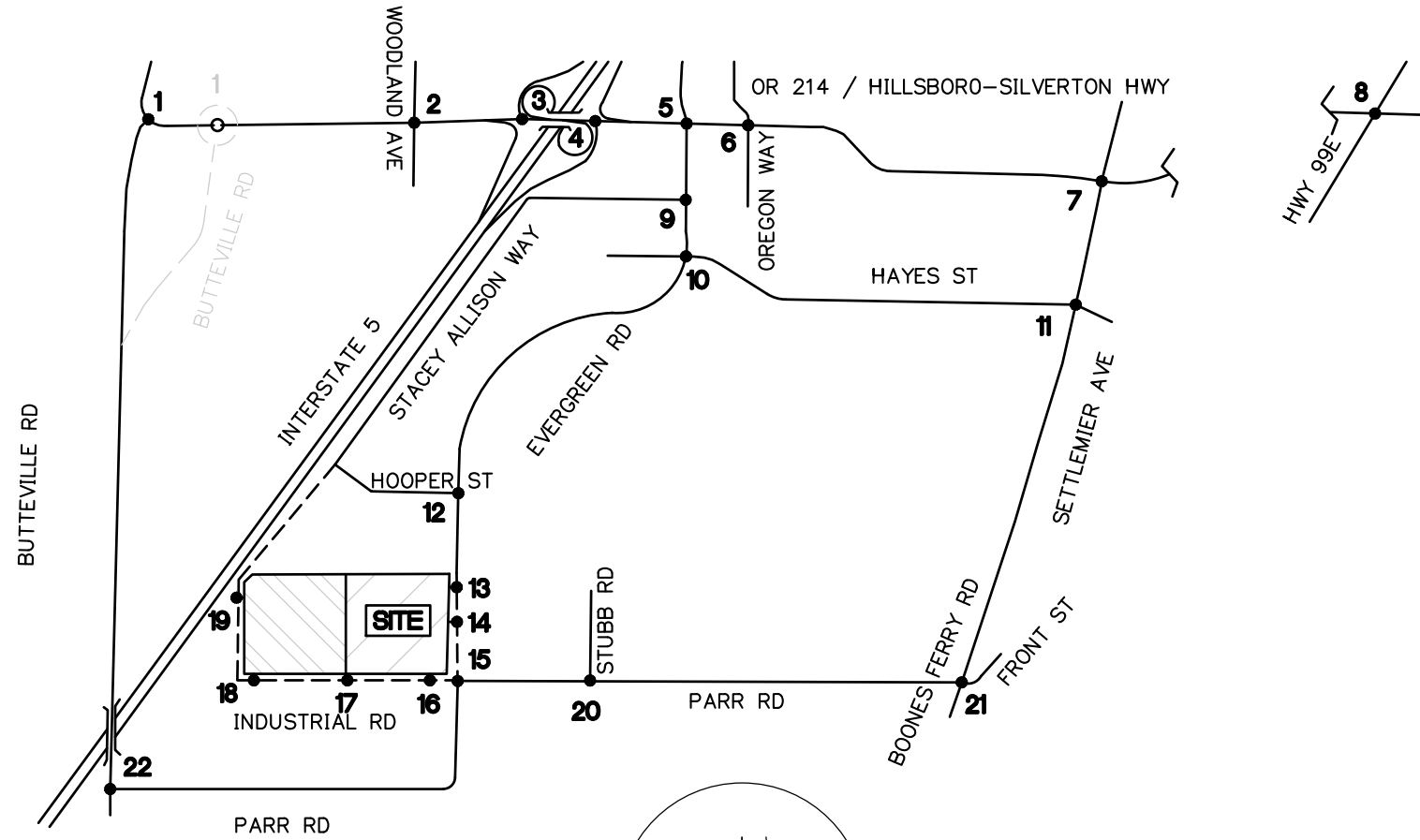
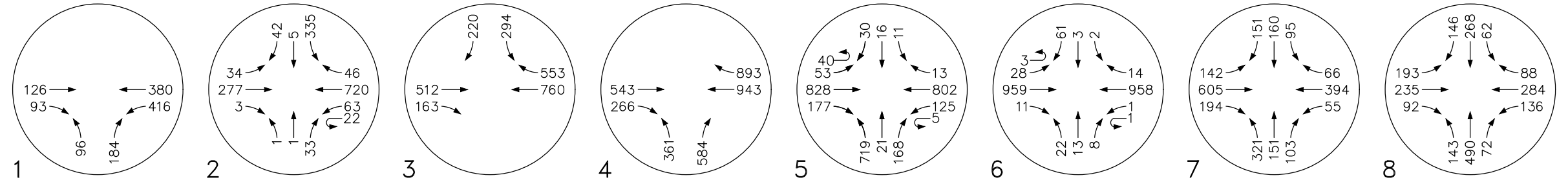
IN-PROCESS TRIPS -
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FIGURE
7B

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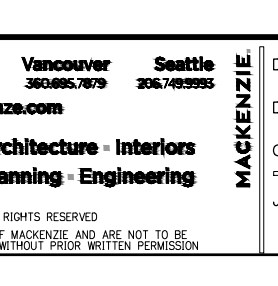
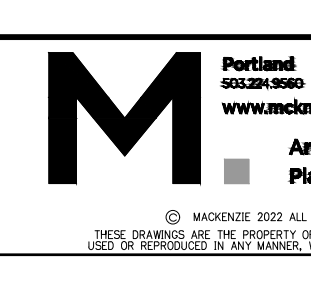
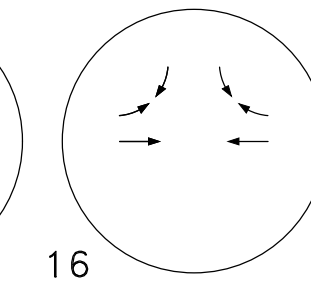
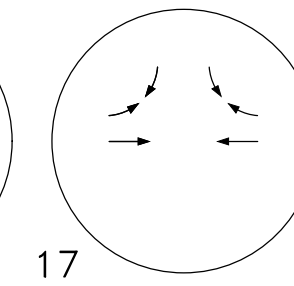
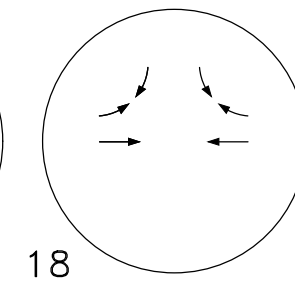
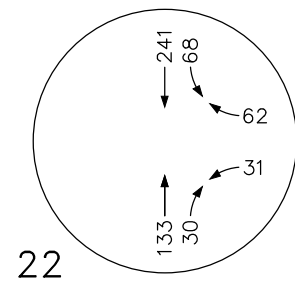
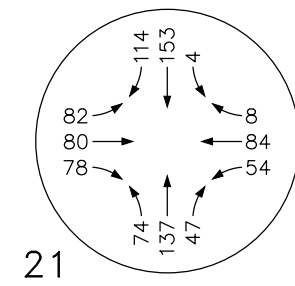
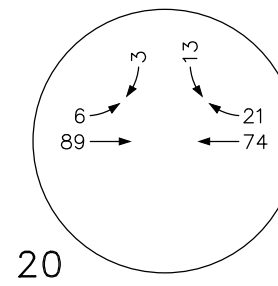
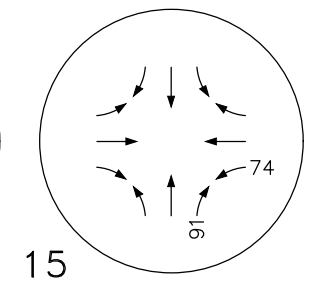
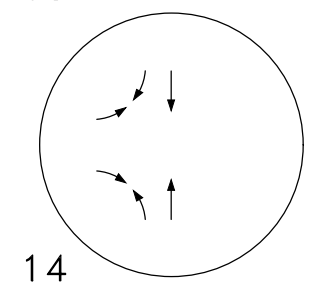
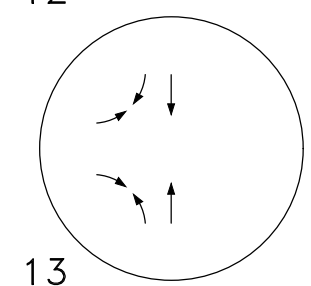
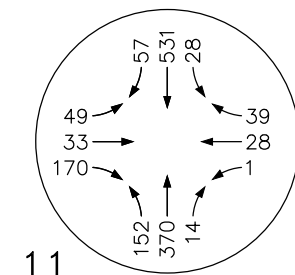
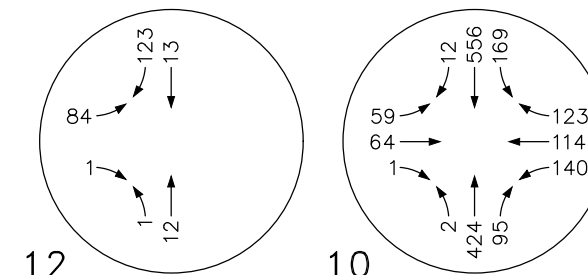
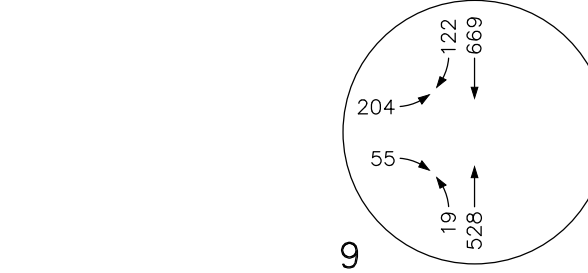
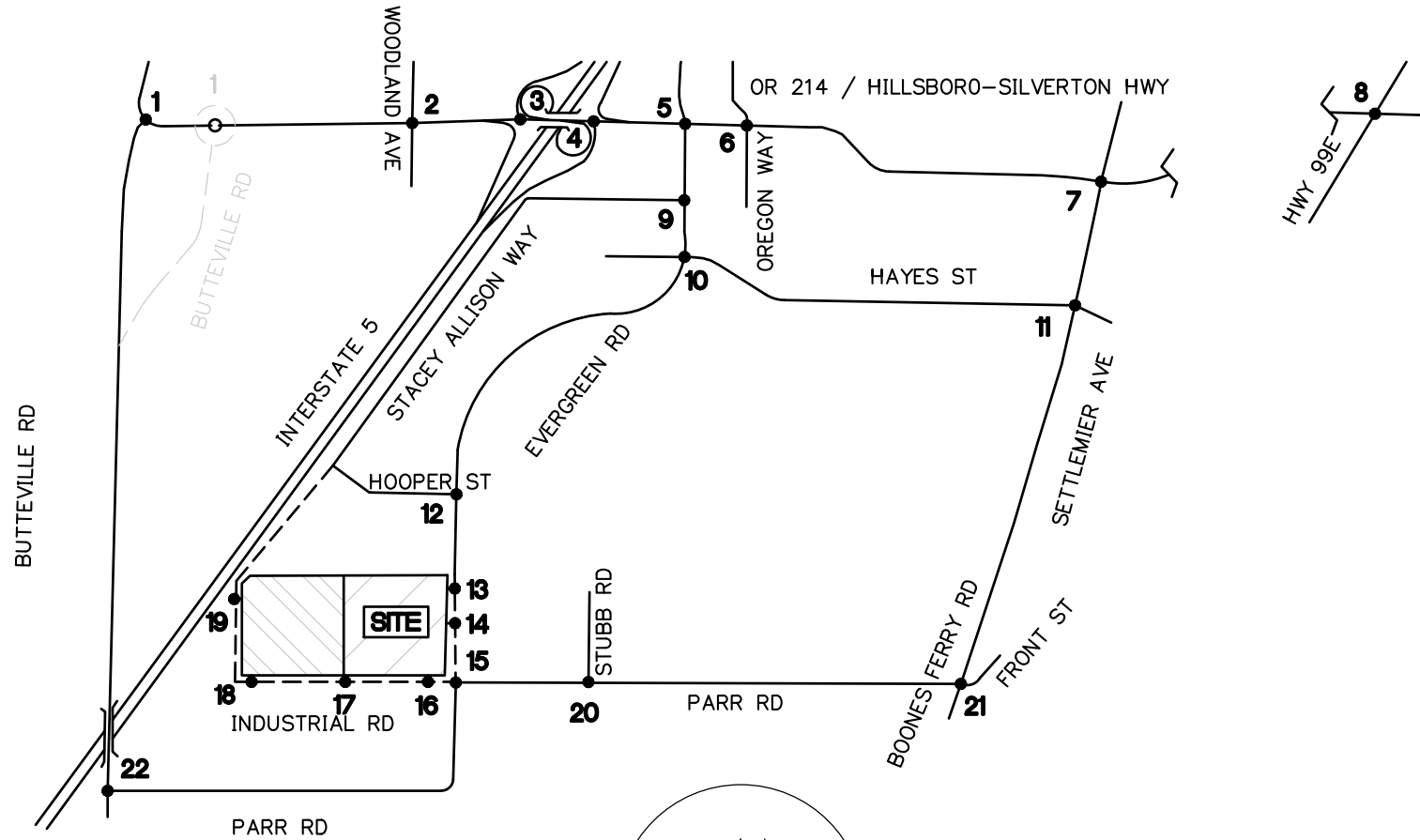
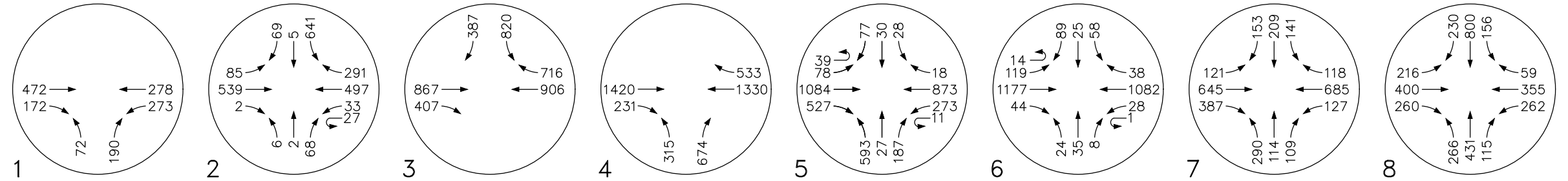
PRE-DEVELOPMENT
TRAFFIC VOLUMES -
AM PEAK HOUR
WEISZ PROPERTY
WOODBURN, OREGON

FIGURE
8A

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PRE-DEVELOPMENT
 TRAFFIC VOLUMES -
 PM PEAK HOUR
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 WOODBURN, OREGON

FIGURE
8B

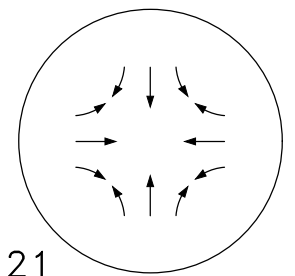
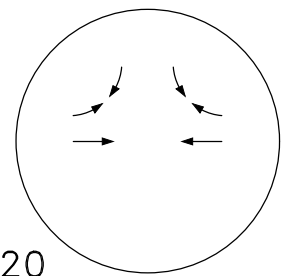
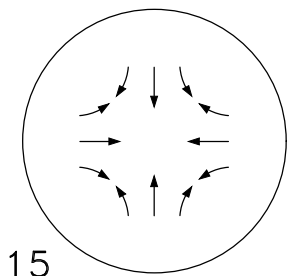
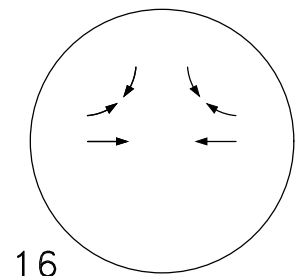
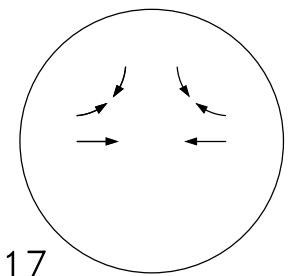
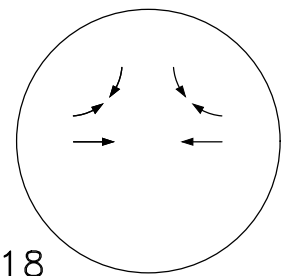
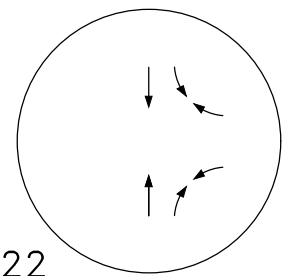
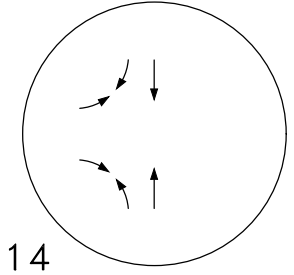
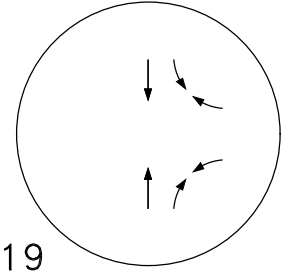
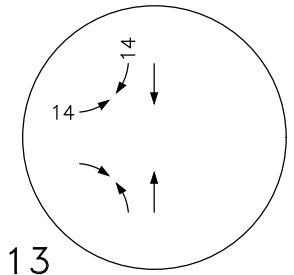
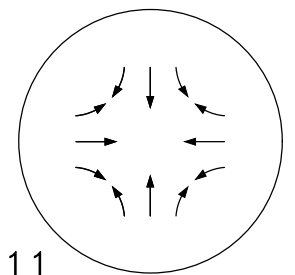
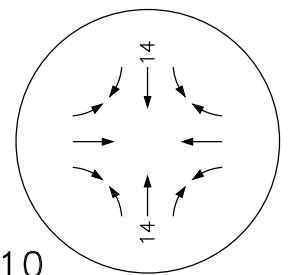
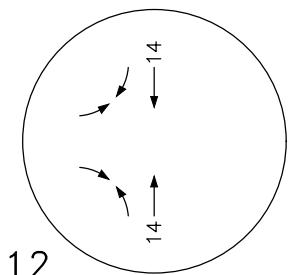
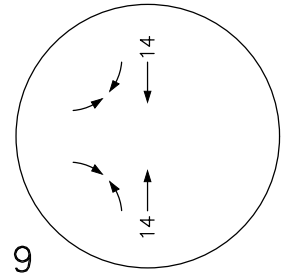
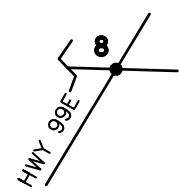
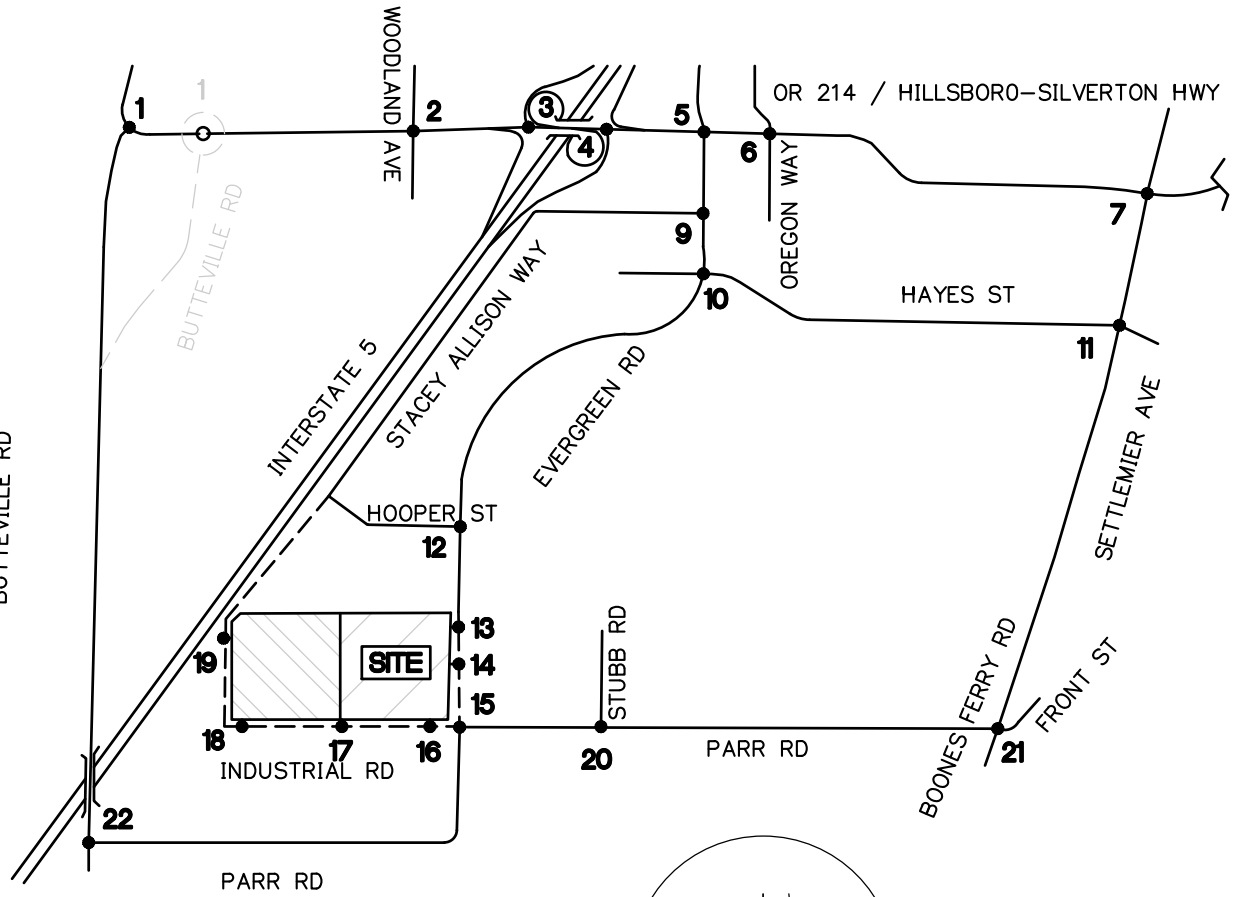
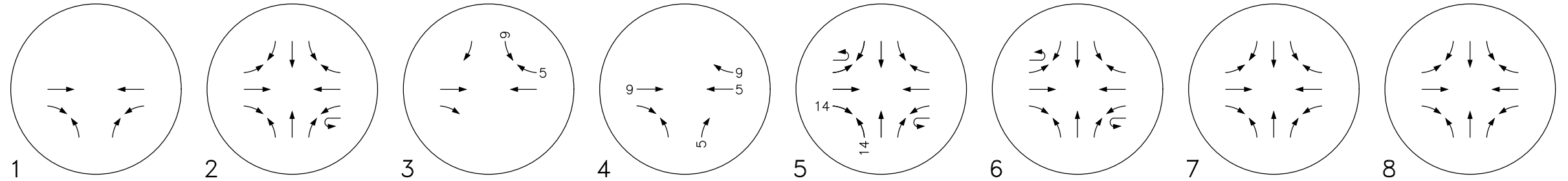
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AM PEAK HOUR

Enter - 14
Exit - 14
Total - 28



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 JOB NO:
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PHASE 1 TRUCK ASSIGNMENT
 W/O PARR ROAD CONNECTION -
 AM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
9A

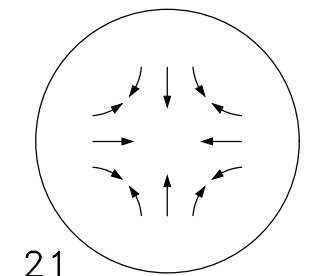
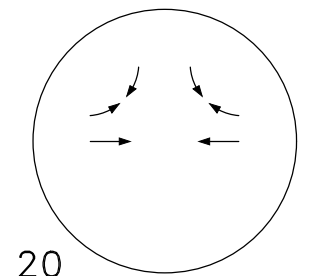
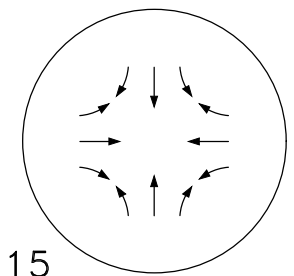
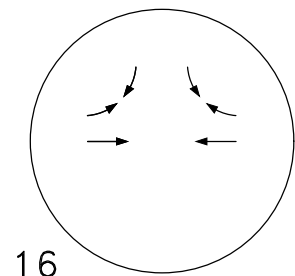
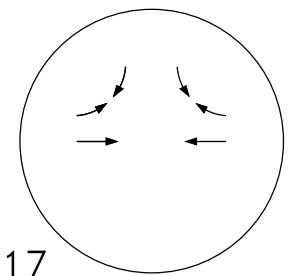
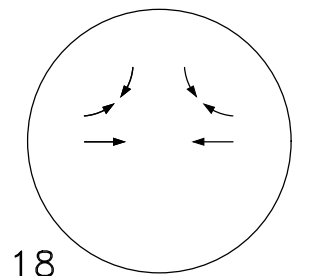
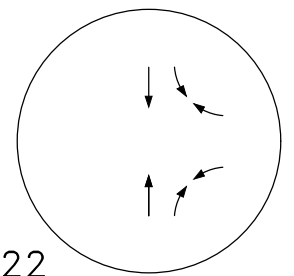
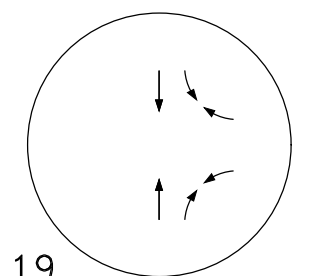
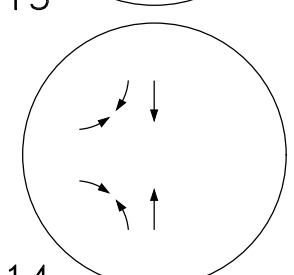
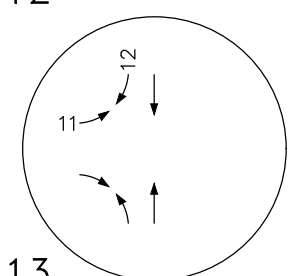
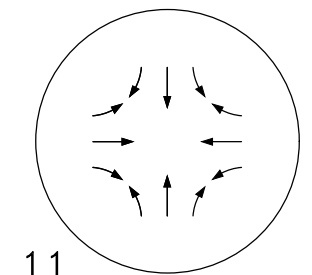
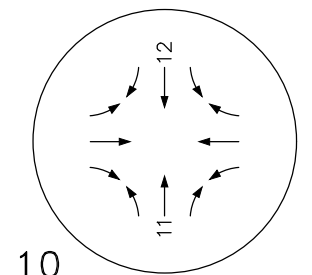
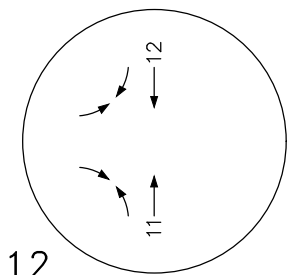
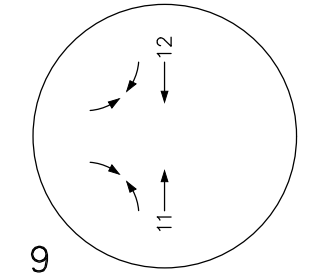
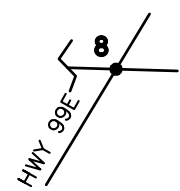
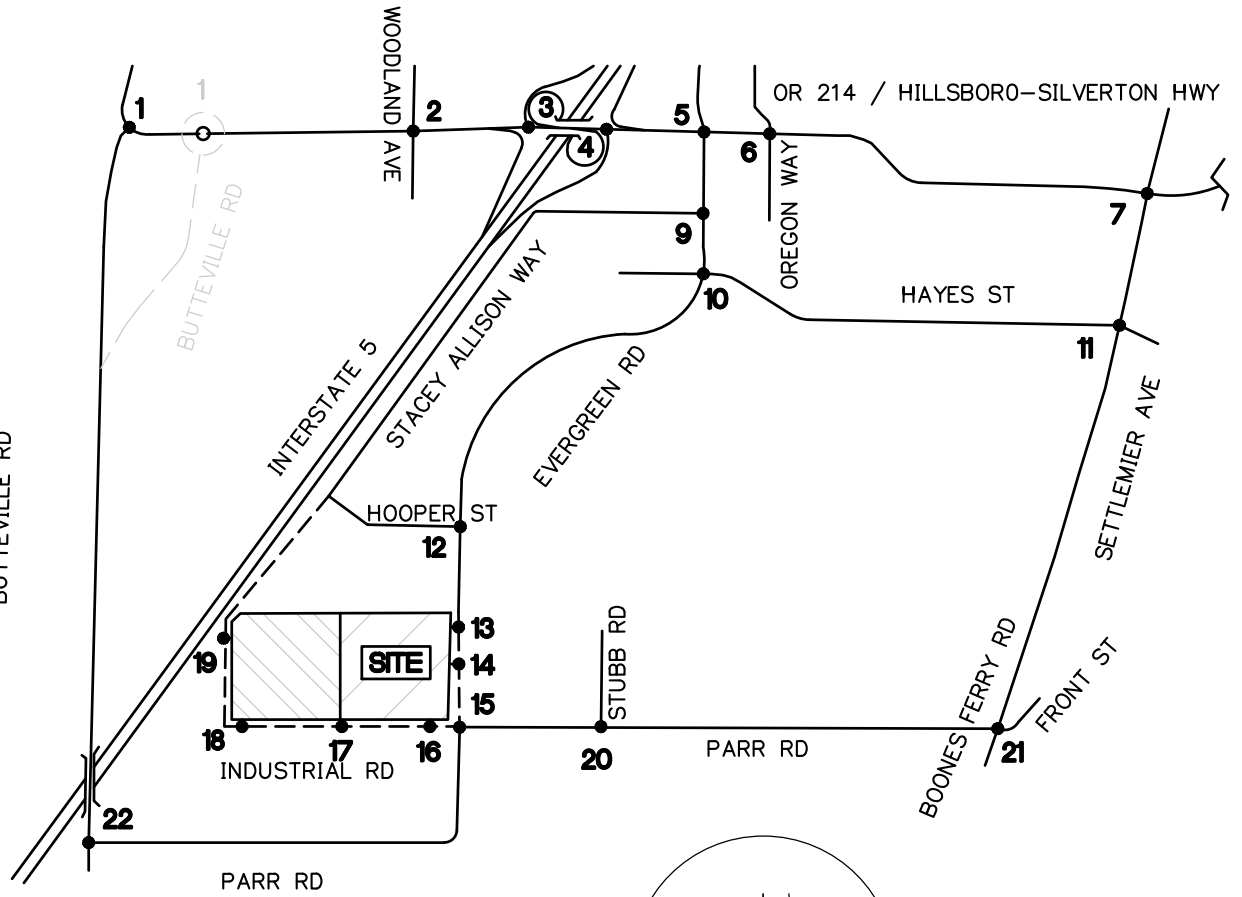
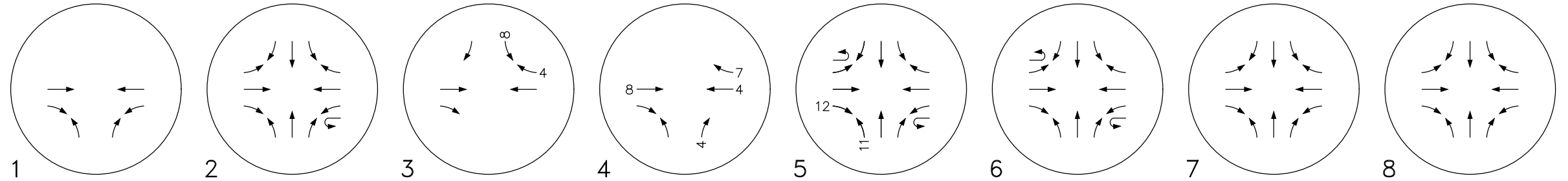
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PM PEAK HOUR

Enter - 12
Exit - 11
Total - 23



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PHASE 1 TRUCK ASSIGNMENT
W/O PARR ROAD CONNECTION -
PM PEAK HOUR
WEISZ PROPERTY
WOODBURN, OREGON

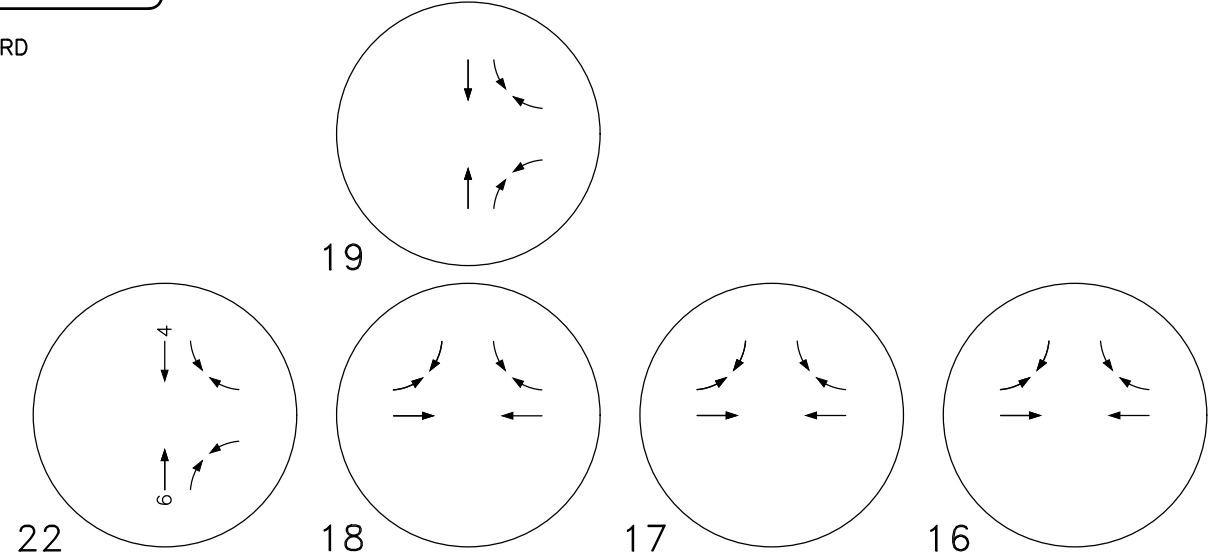
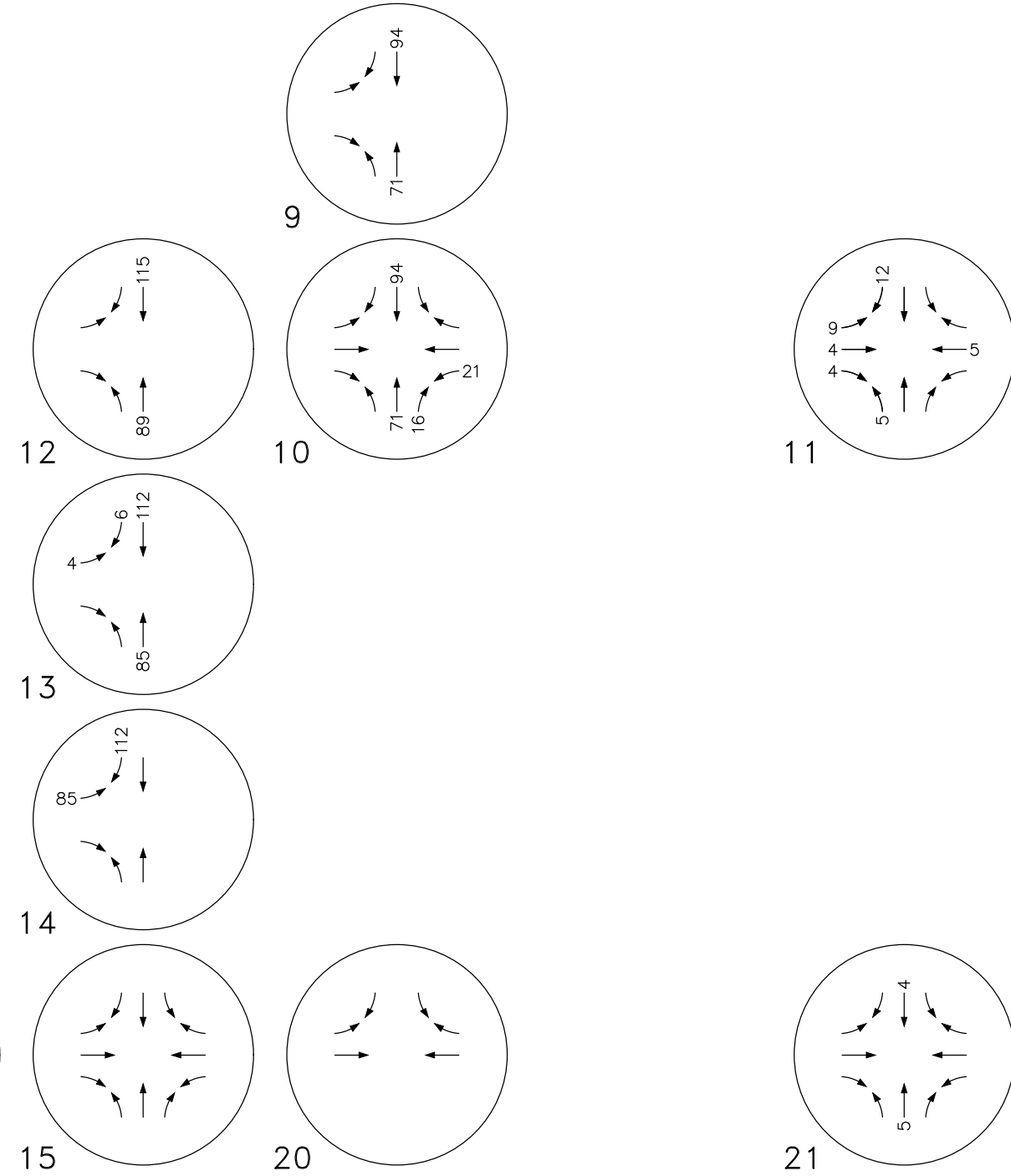
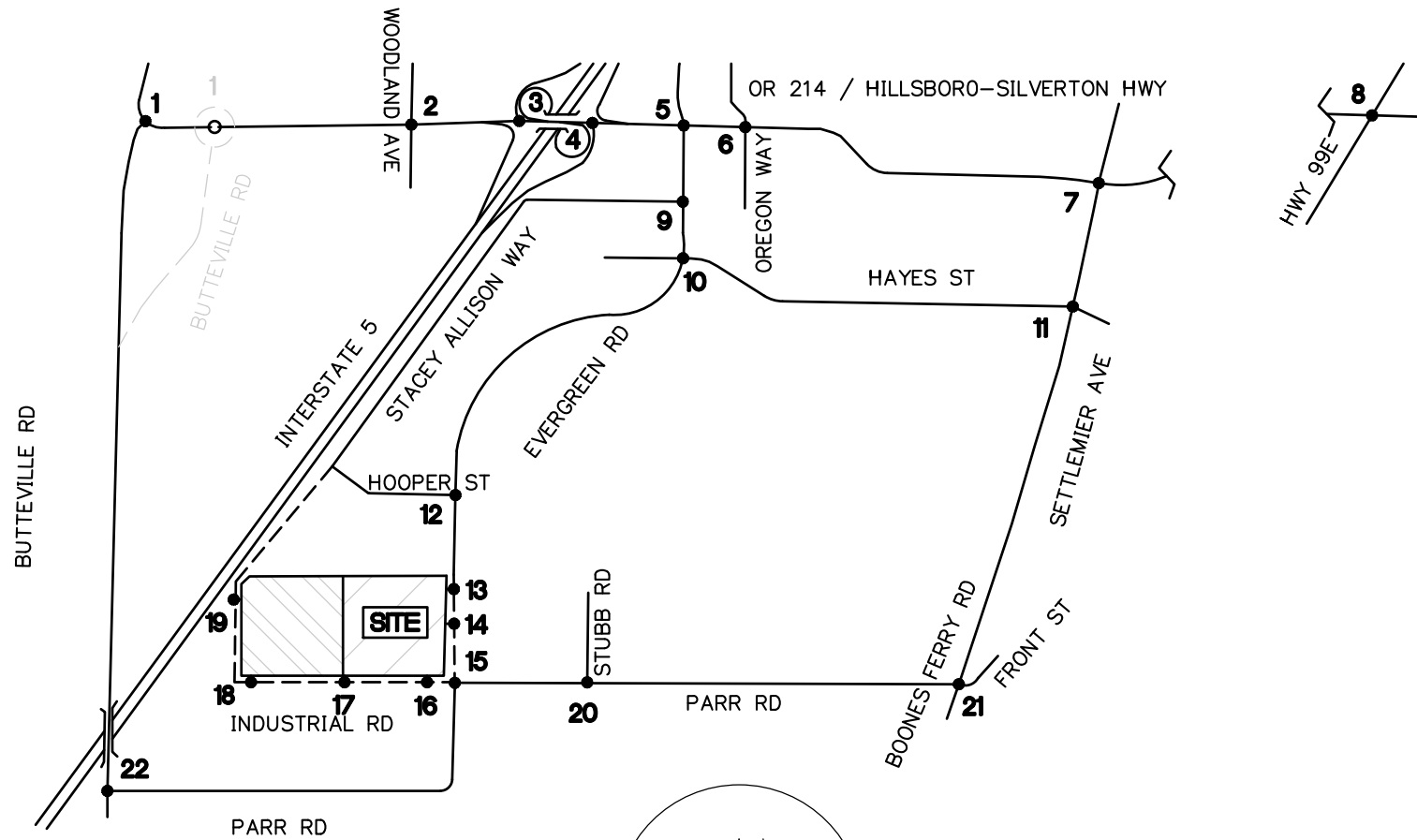
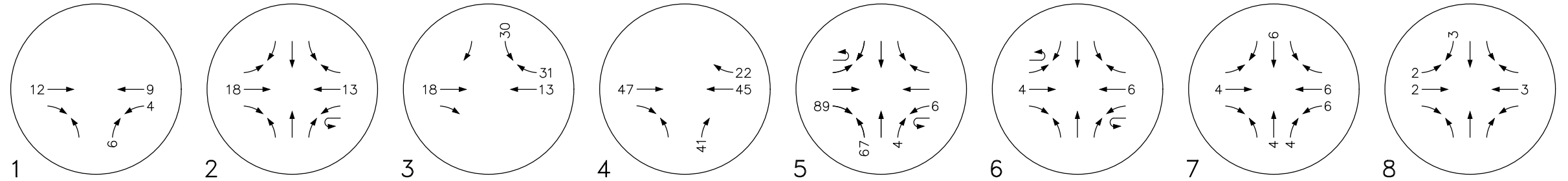
FIGURE
9B



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AM PEAK HOUR

Enter - 118
Exit - 89
Total - 207



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PHASE 1 AUTO ASSIGNMENT
 W/O PARR ROAD CONNECTION -
 AM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
9C

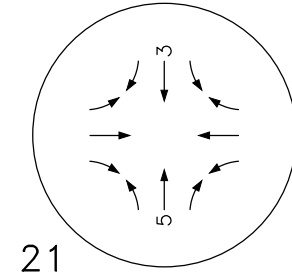
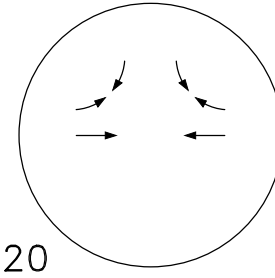
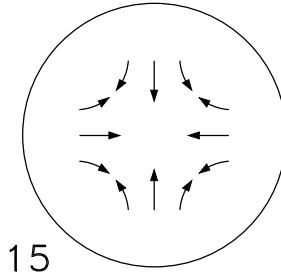
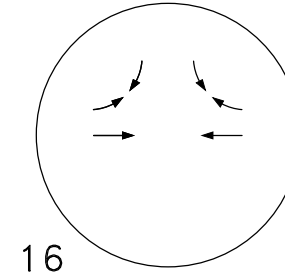
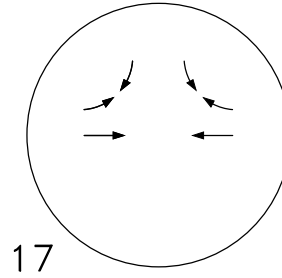
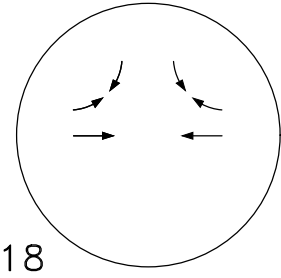
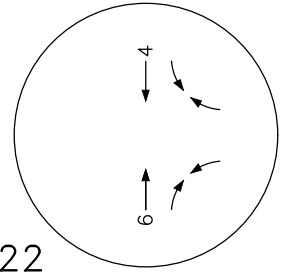
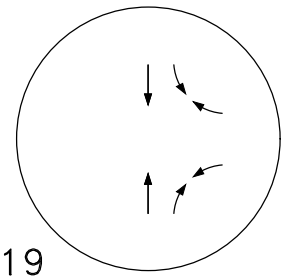
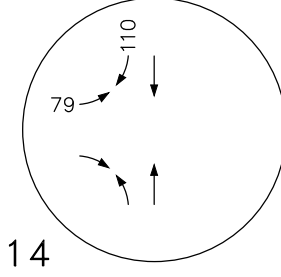
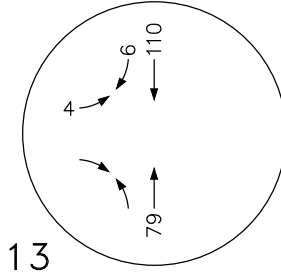
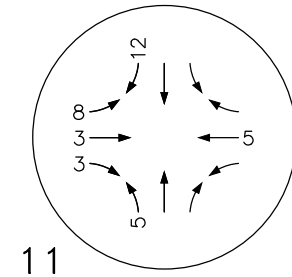
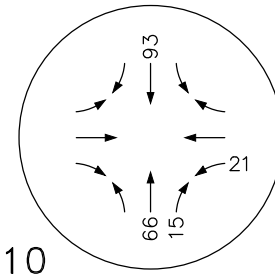
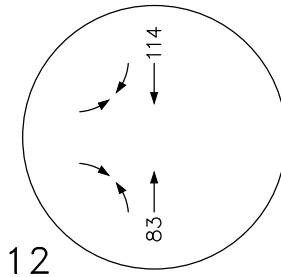
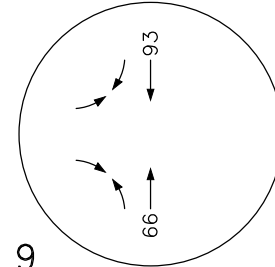
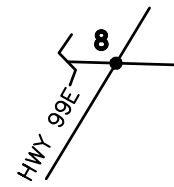
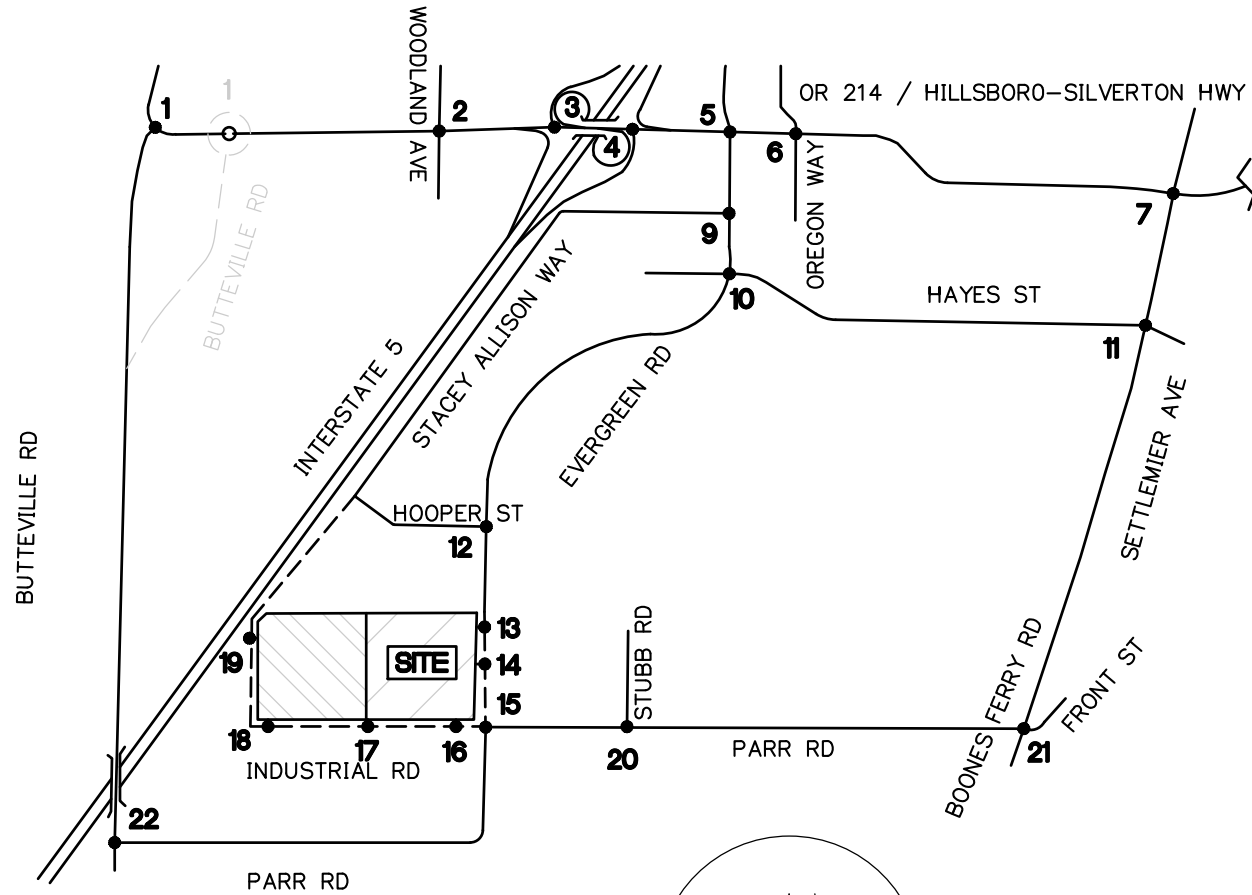
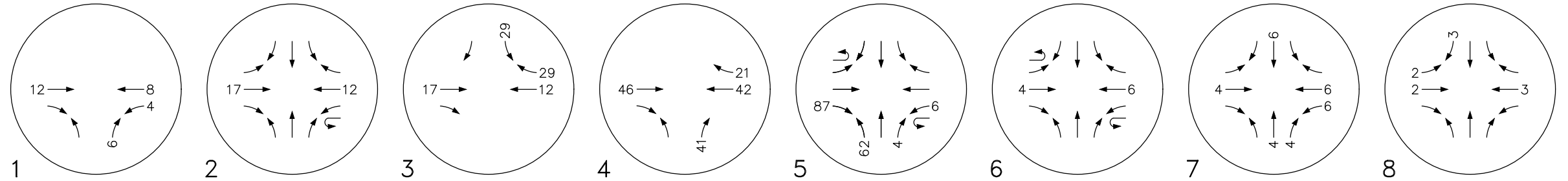
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PM PEAK HOUR

Enter - 116
Exit - 83
Total - 299



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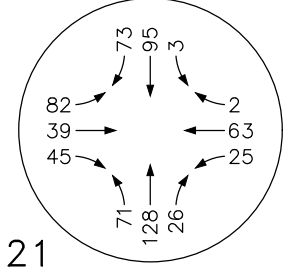
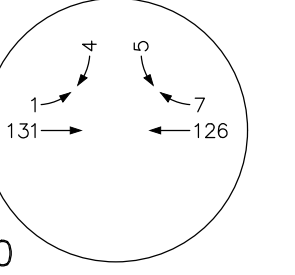
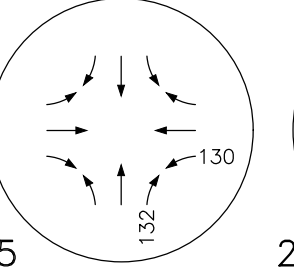
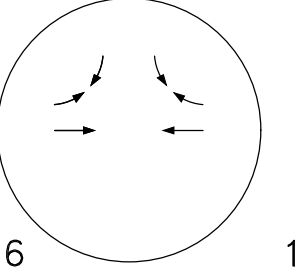
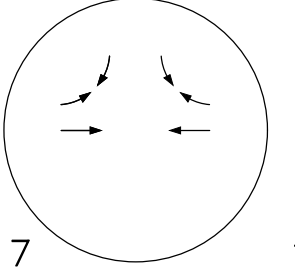
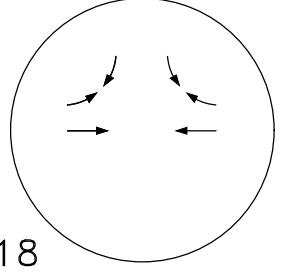
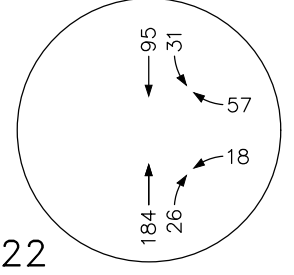
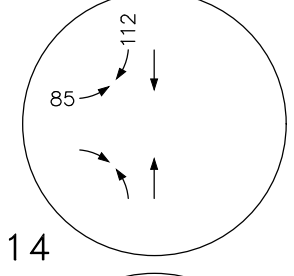
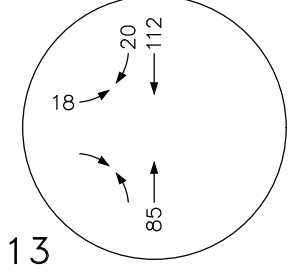
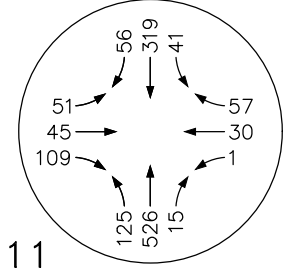
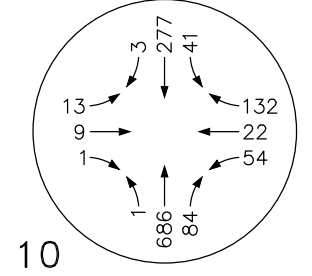
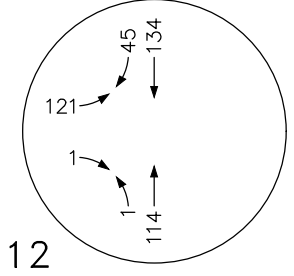
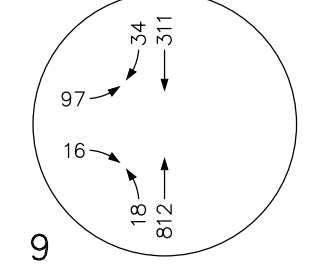
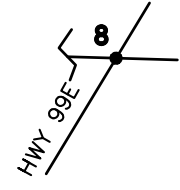
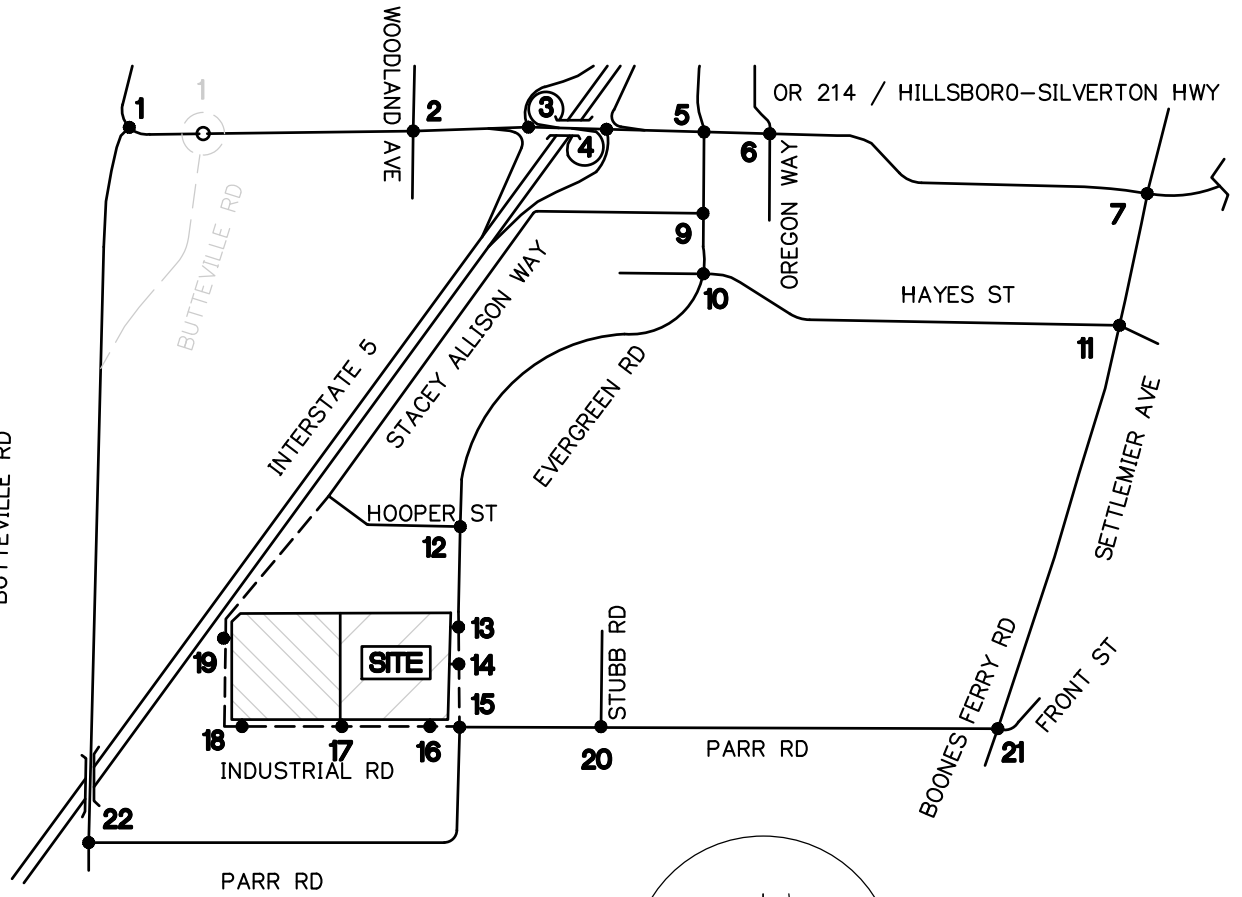
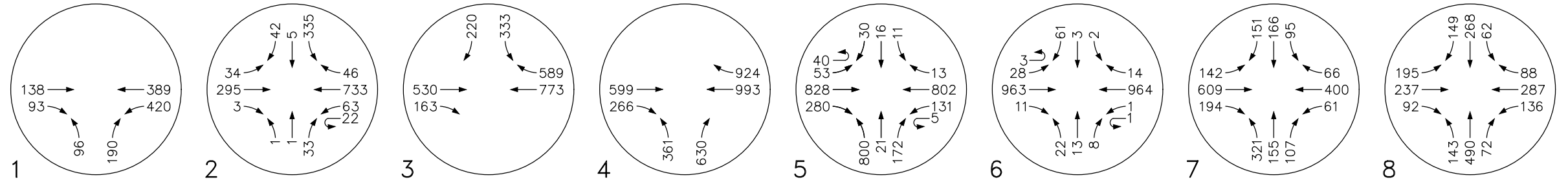
PHASE 1 AUTO ASSIGNMENT
 W/O PARR ROAD CONNECTION -
 PM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
9D

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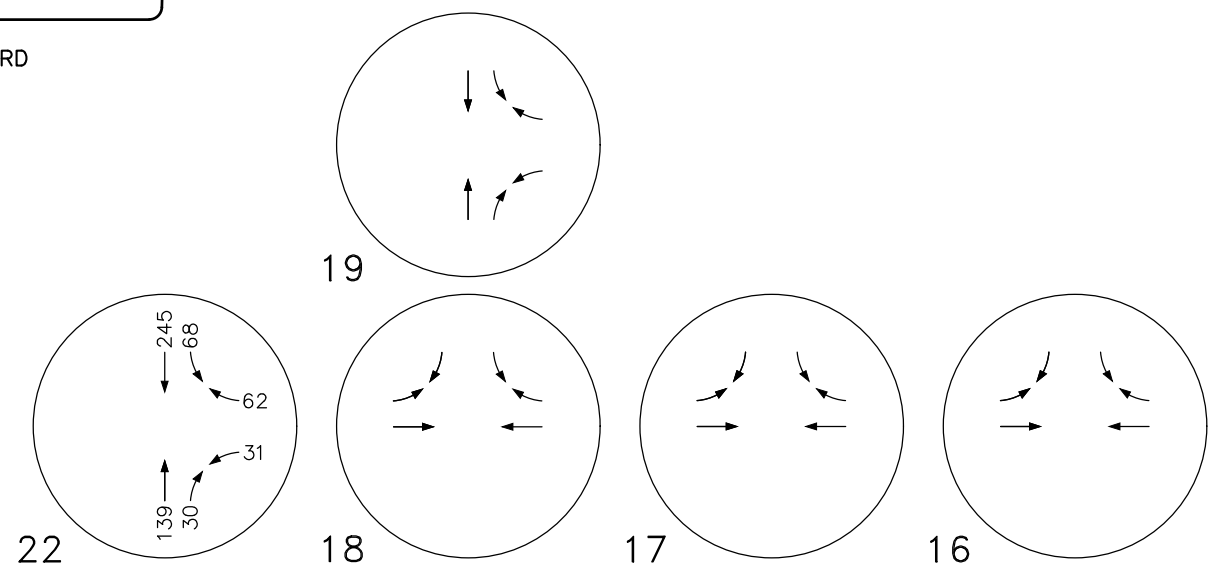
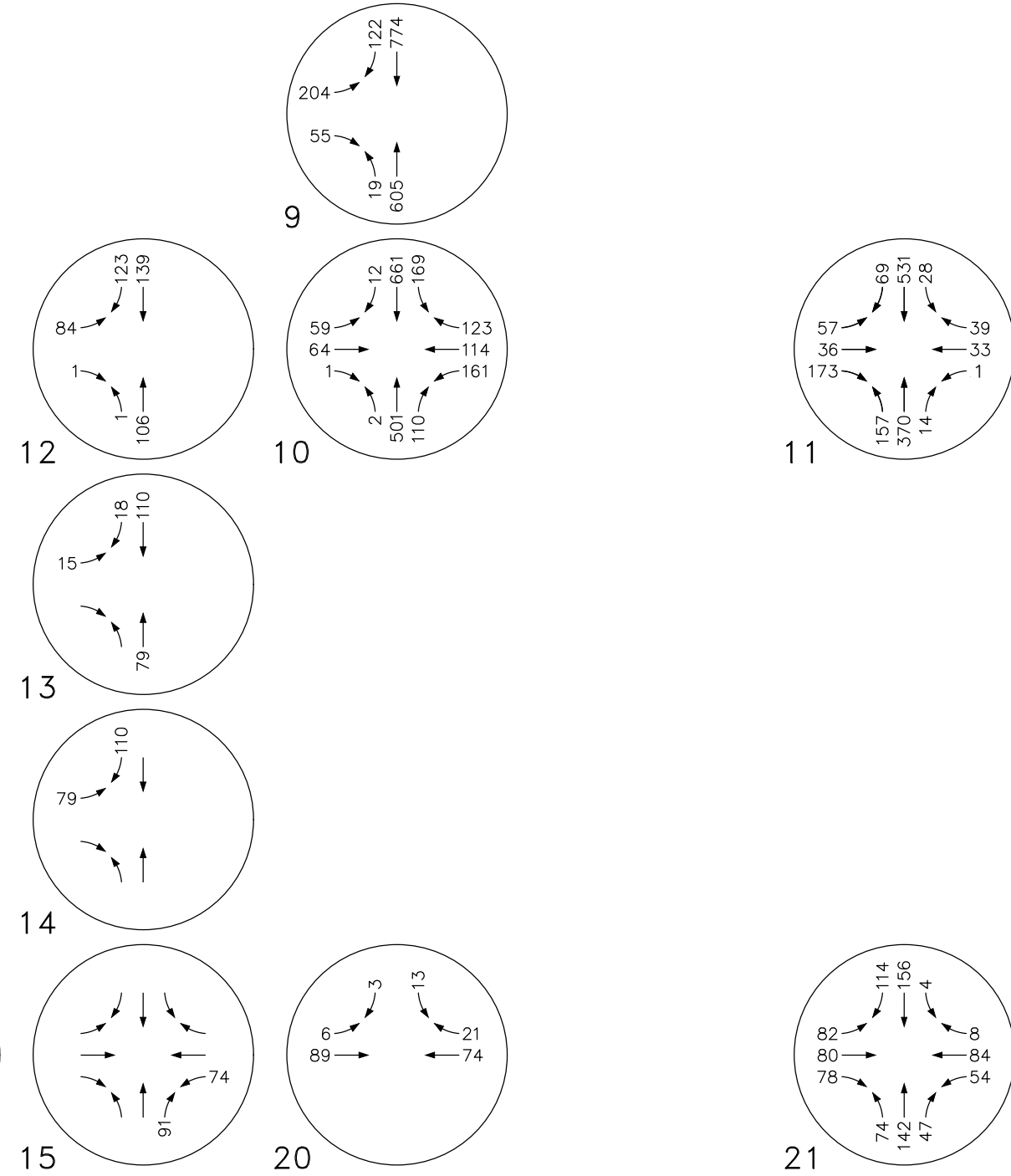
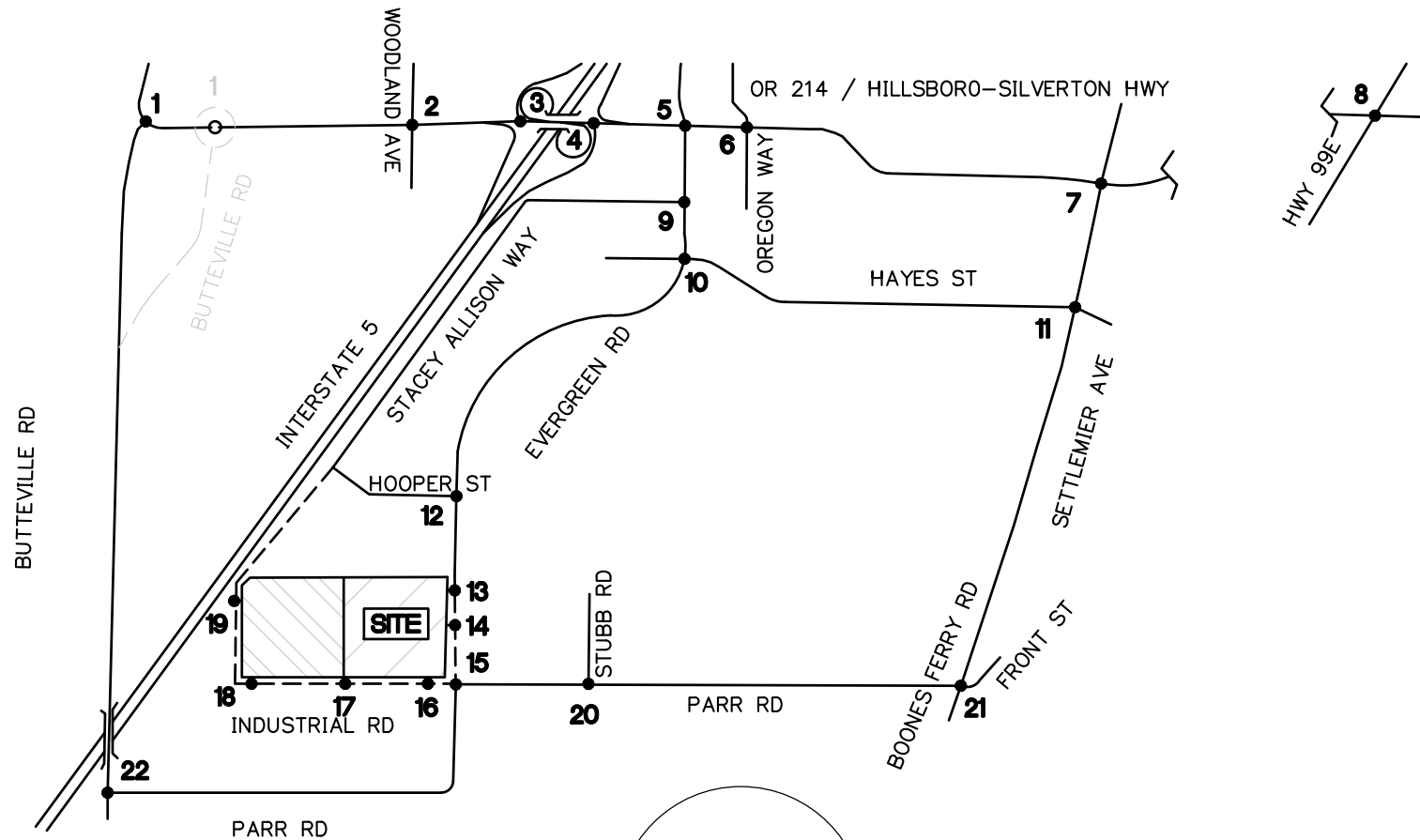
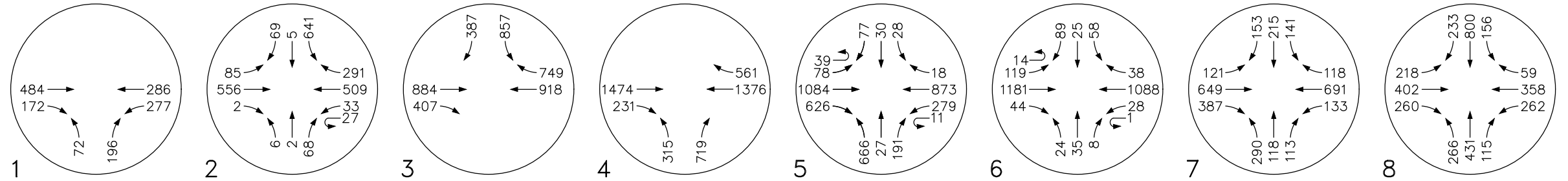
PHASE 1 POST-DEVELOPMENT
 W/O PARR ROAD CONNECTION -
 AM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
10A

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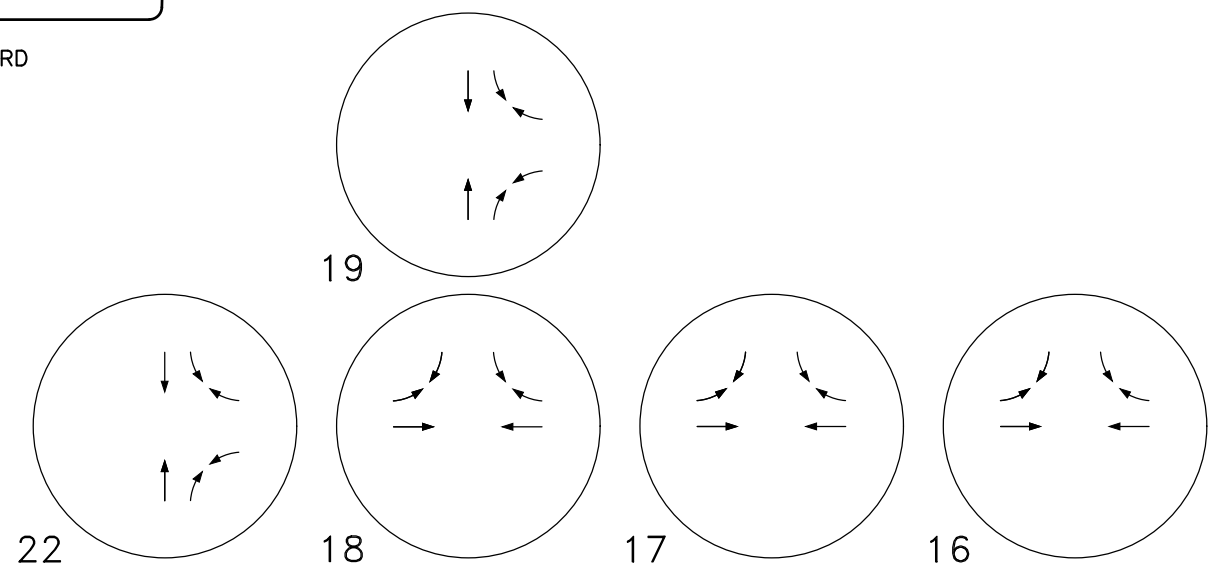
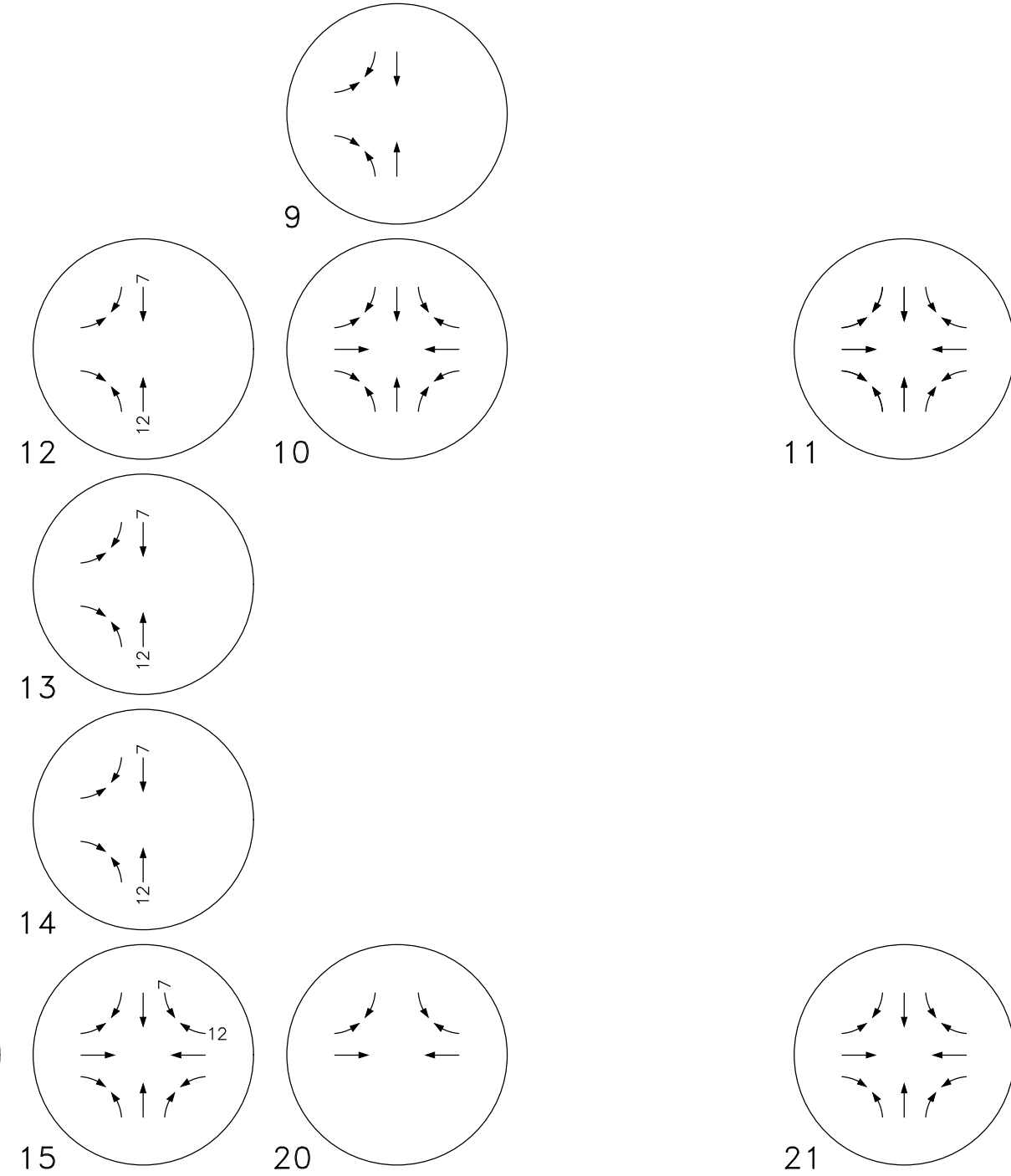
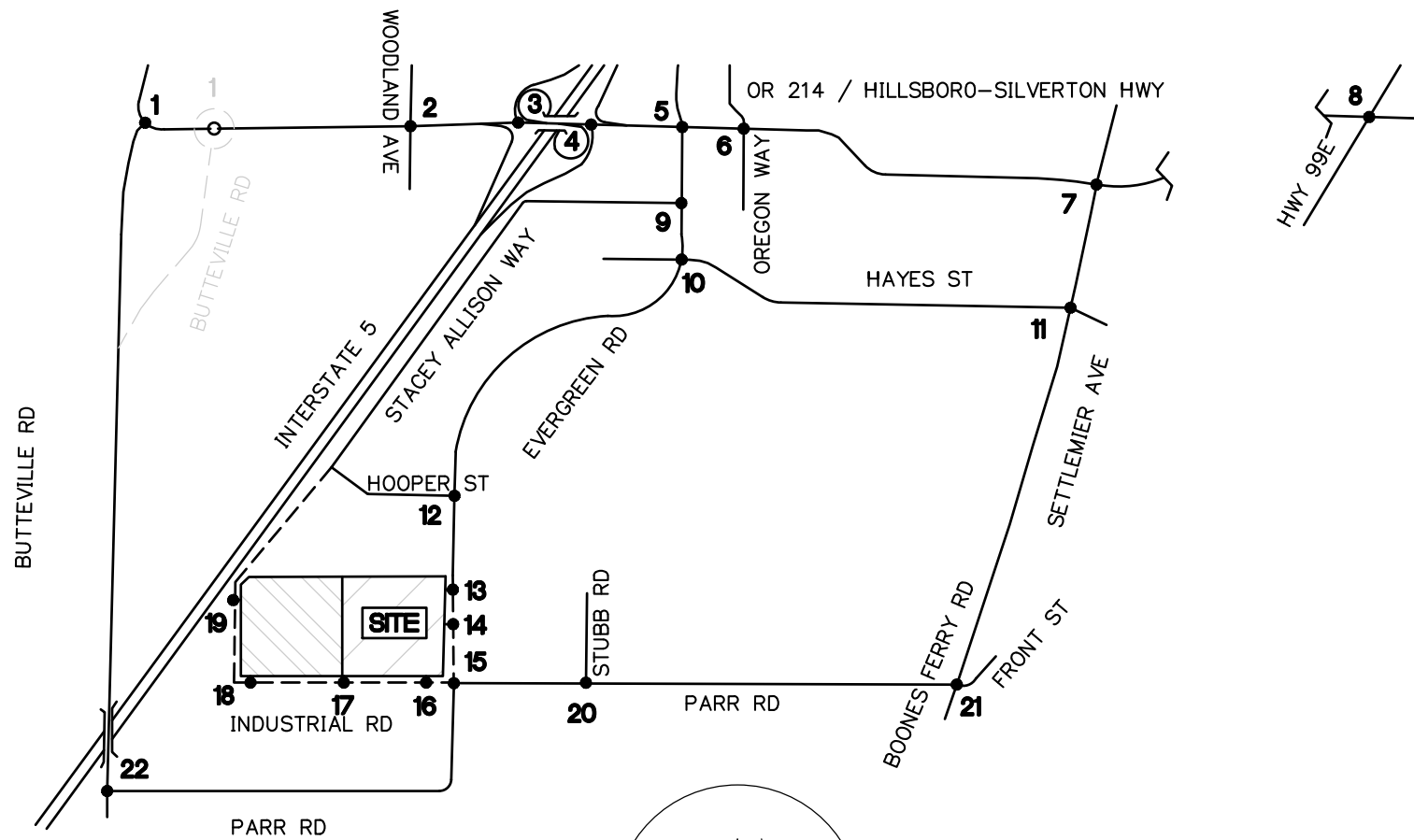
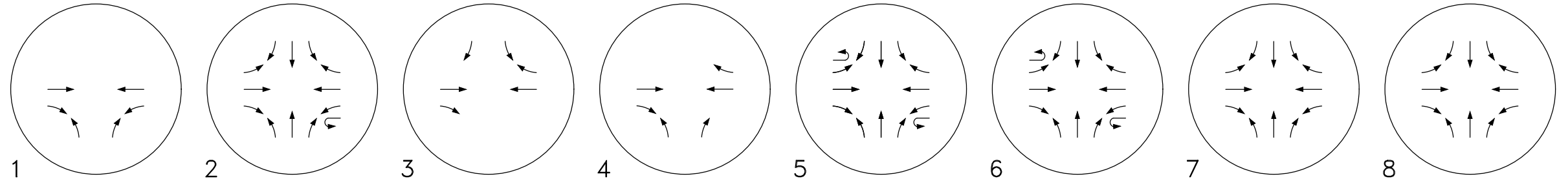


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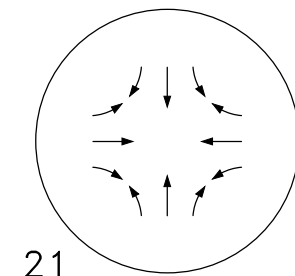
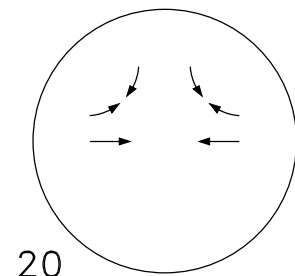
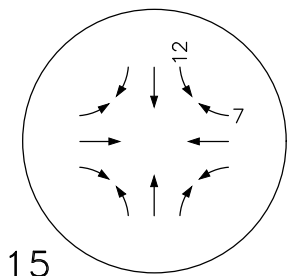
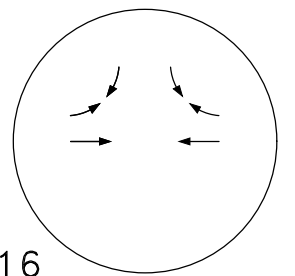
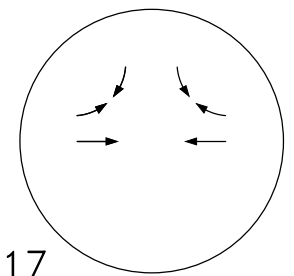
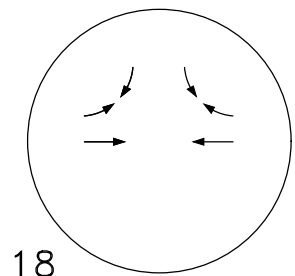
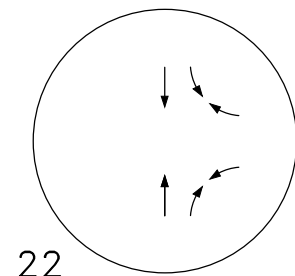
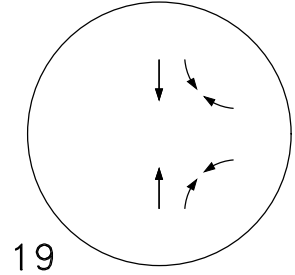
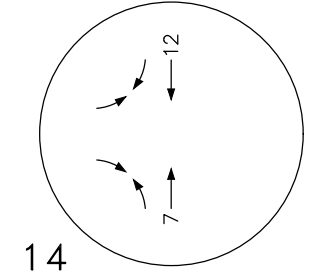
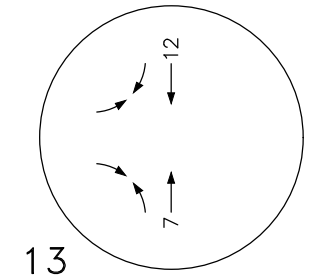
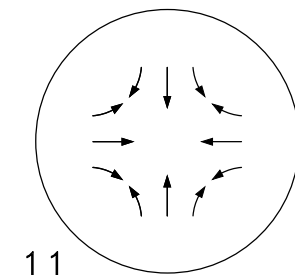
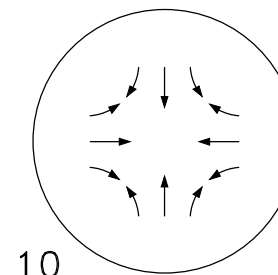
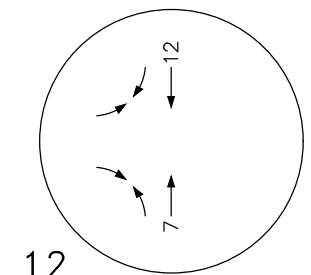
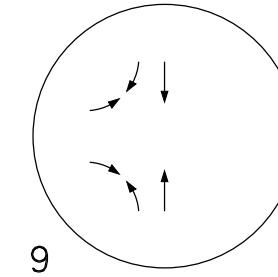
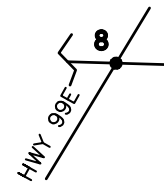
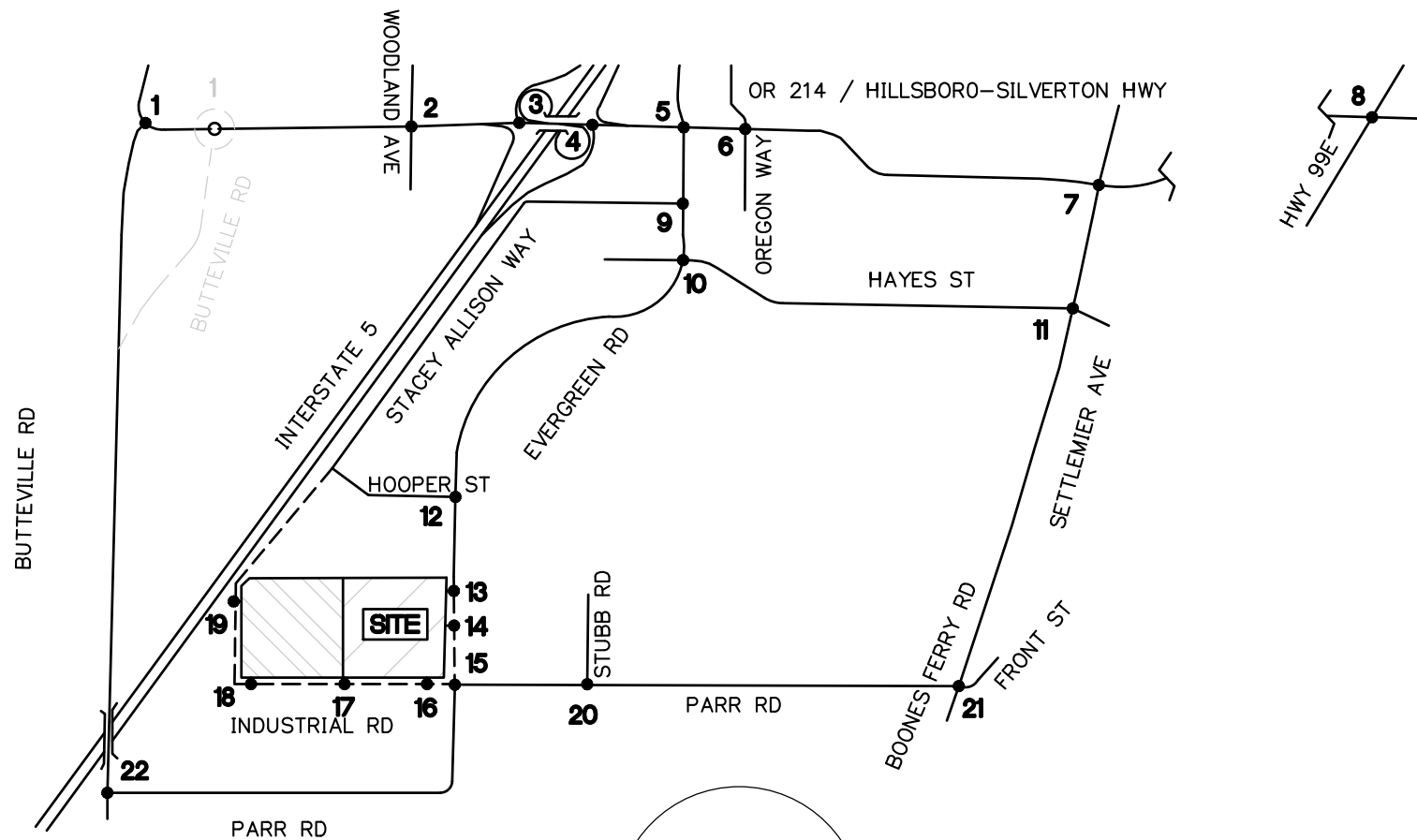
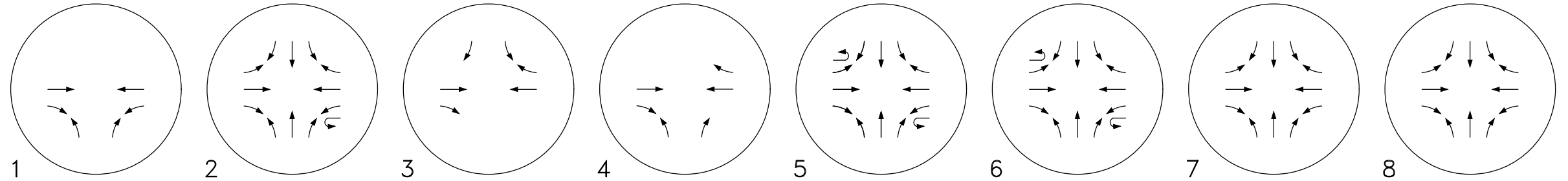


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EVERGREEN EXTENSION
 PM PEAK HOUR REROUTES
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
11B

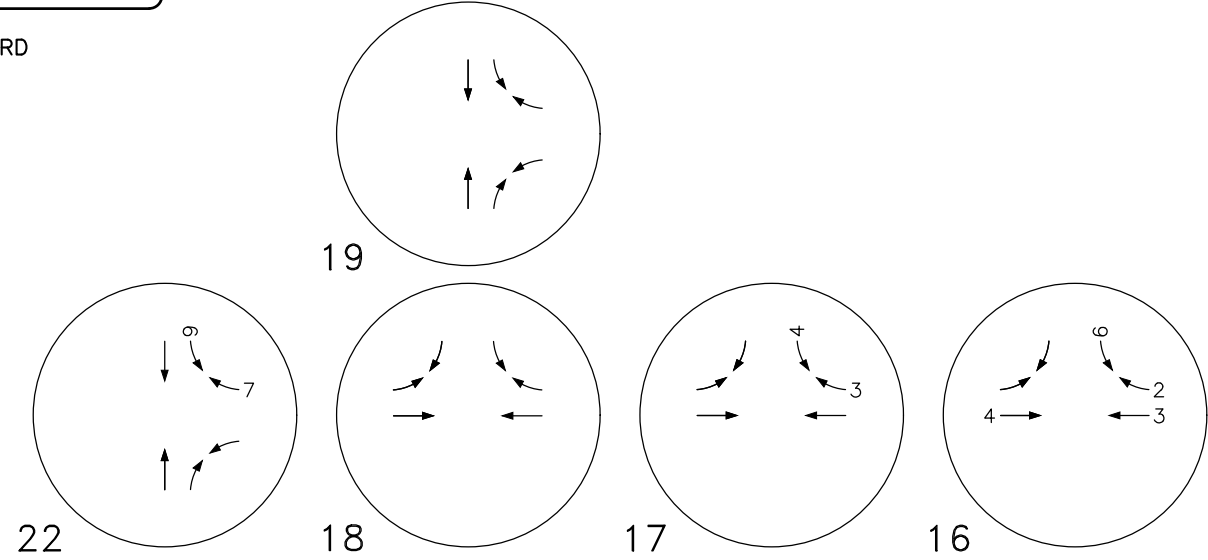
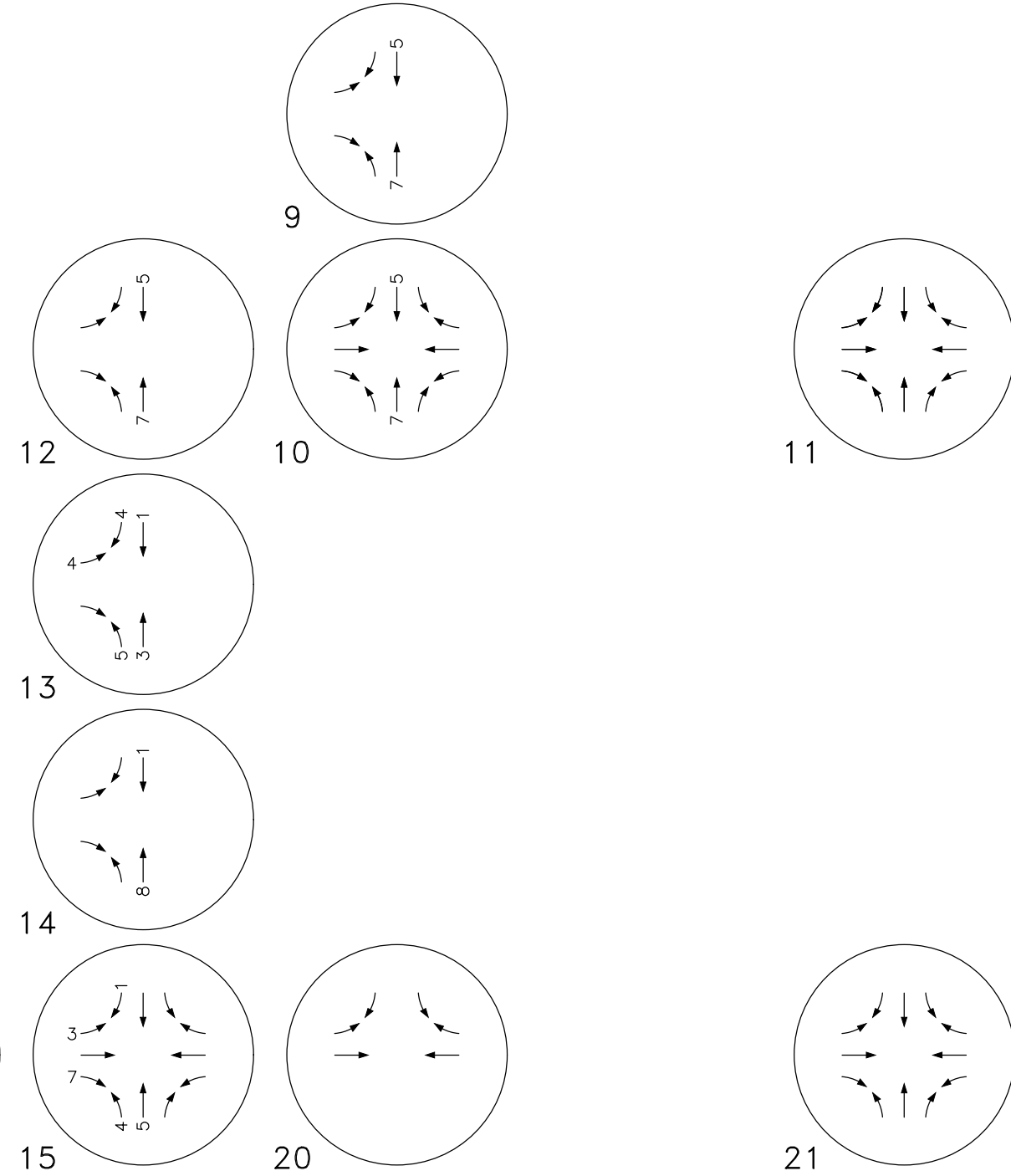
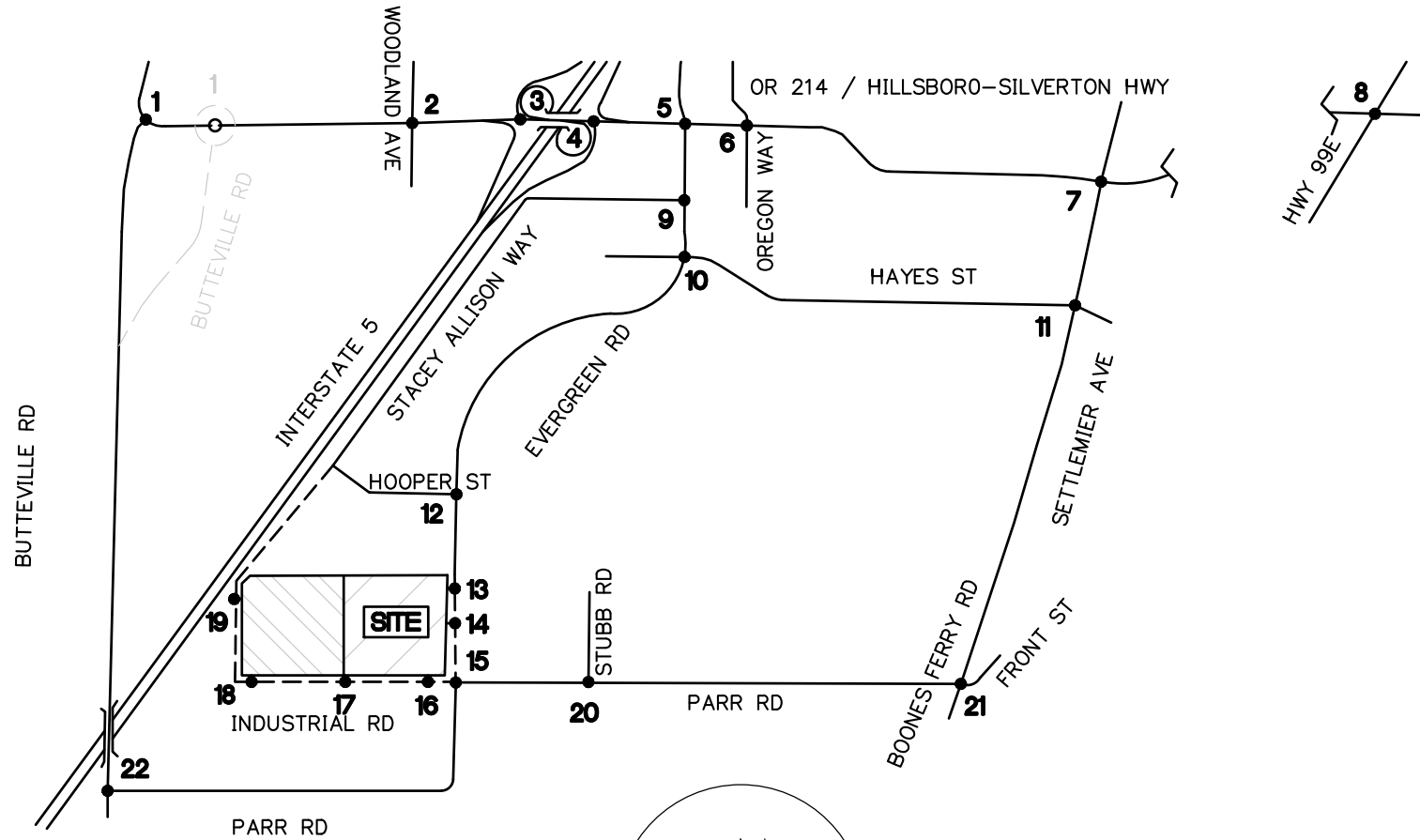
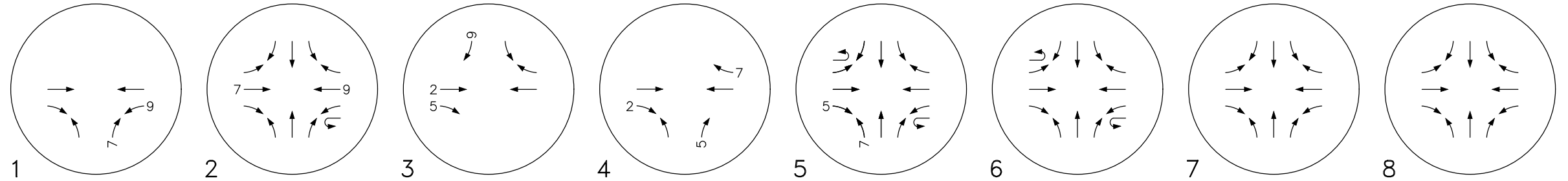
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AM PEAK HOUR

Enter - 14
Exit - 14
Total - 28



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PHASE 1 TRUCK ASSIGNMENT
 W/ PARR ROAD CONNECTION -
 AM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
12A

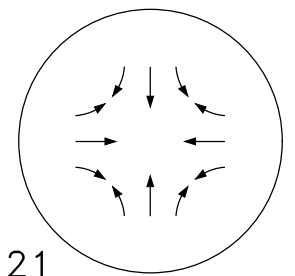
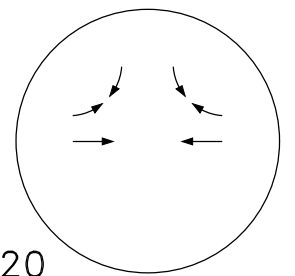
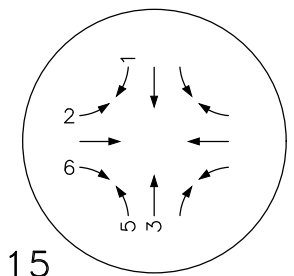
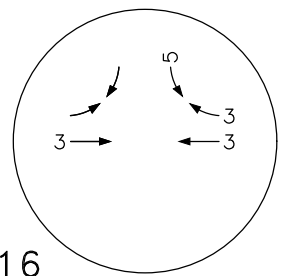
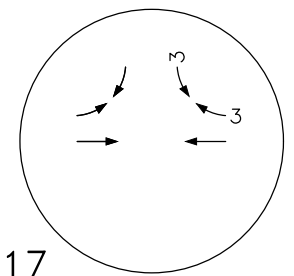
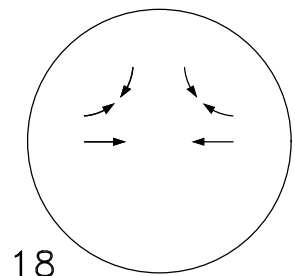
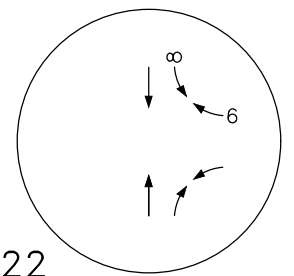
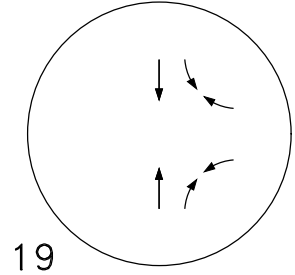
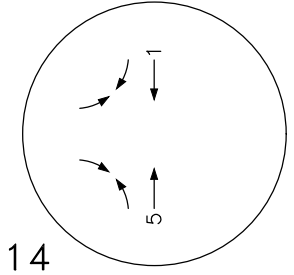
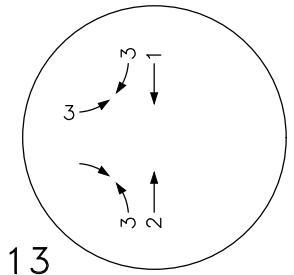
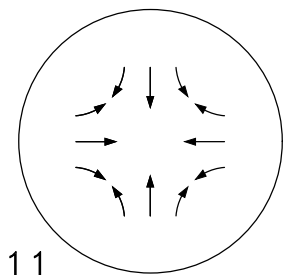
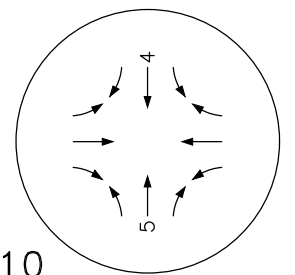
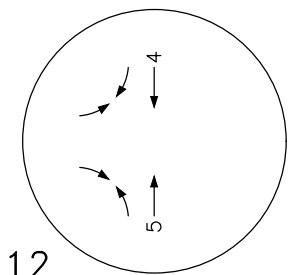
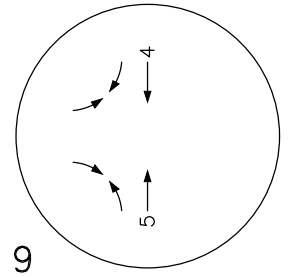
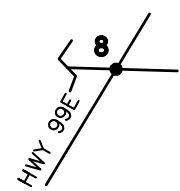
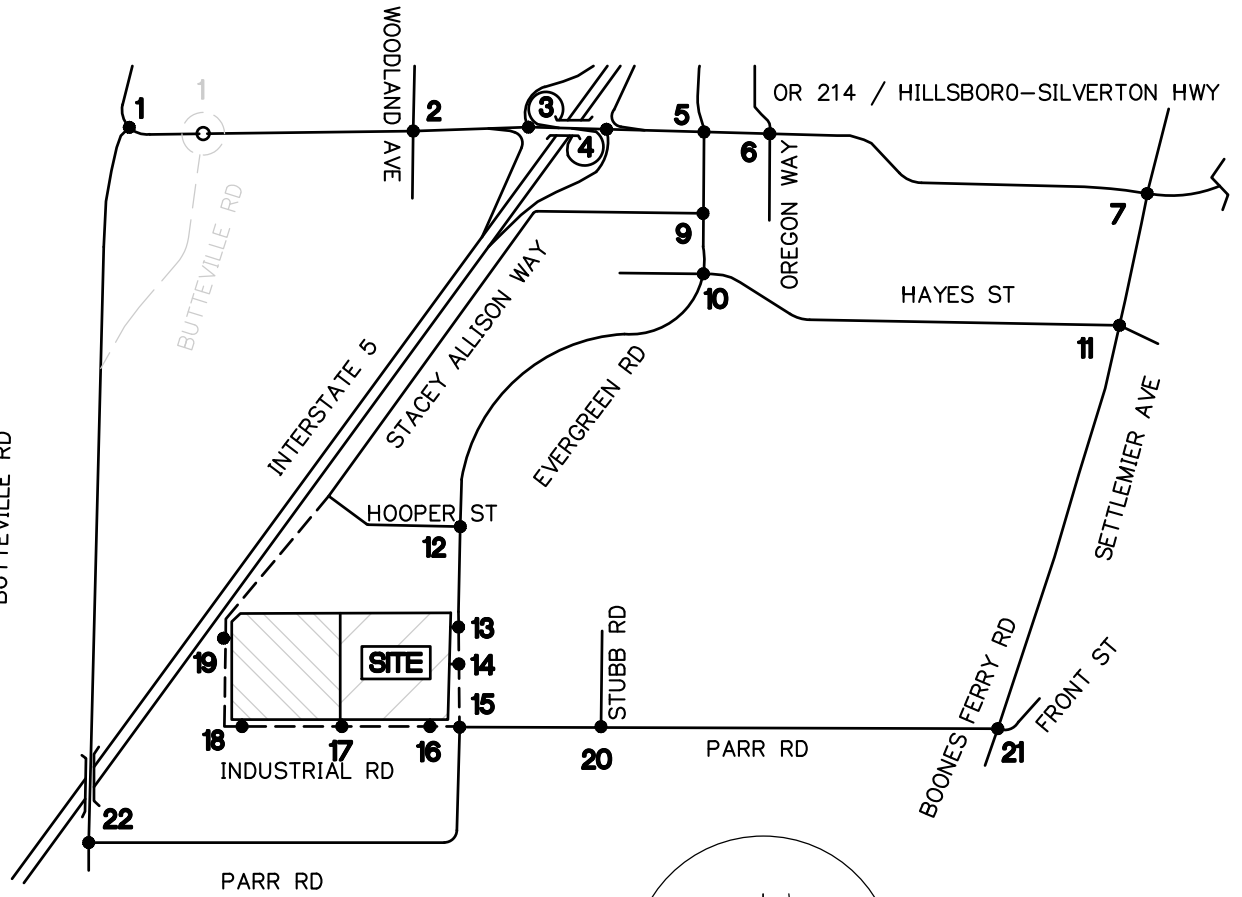
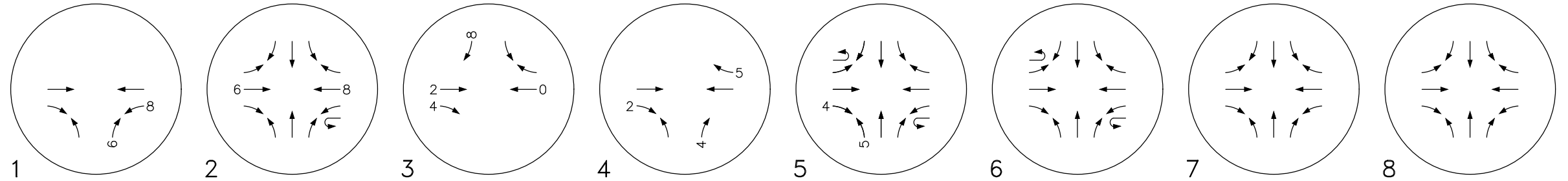
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PM PEAK HOUR

Enter - 12
Exit - 11
Total - 23



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PHASE 1 TRUCK ASSIGNMENT
 W/ PARR ROAD CONNECTION -
 PM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
12B

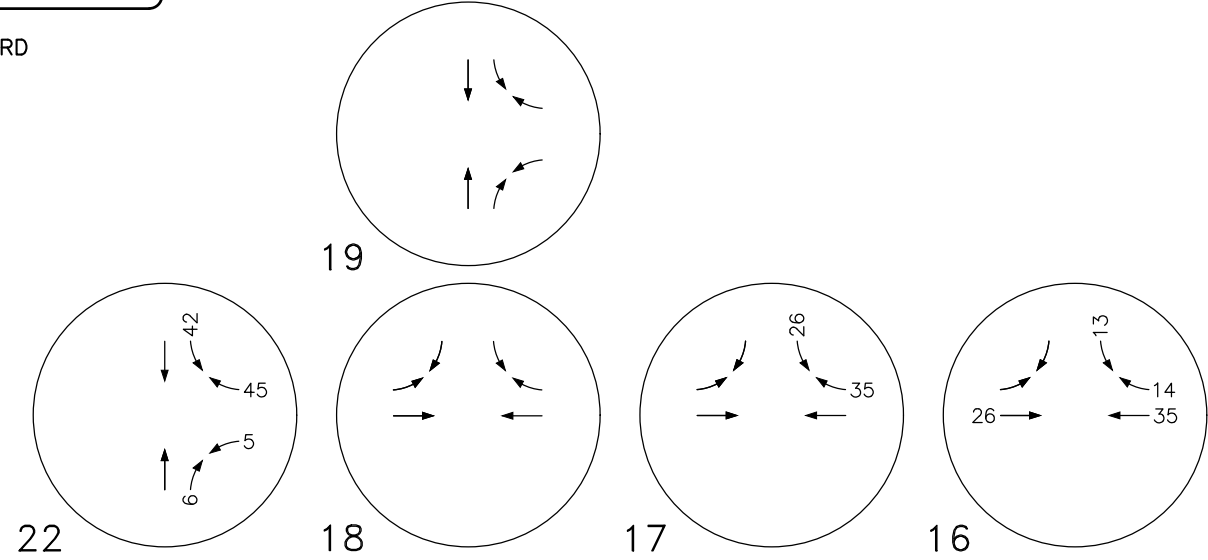
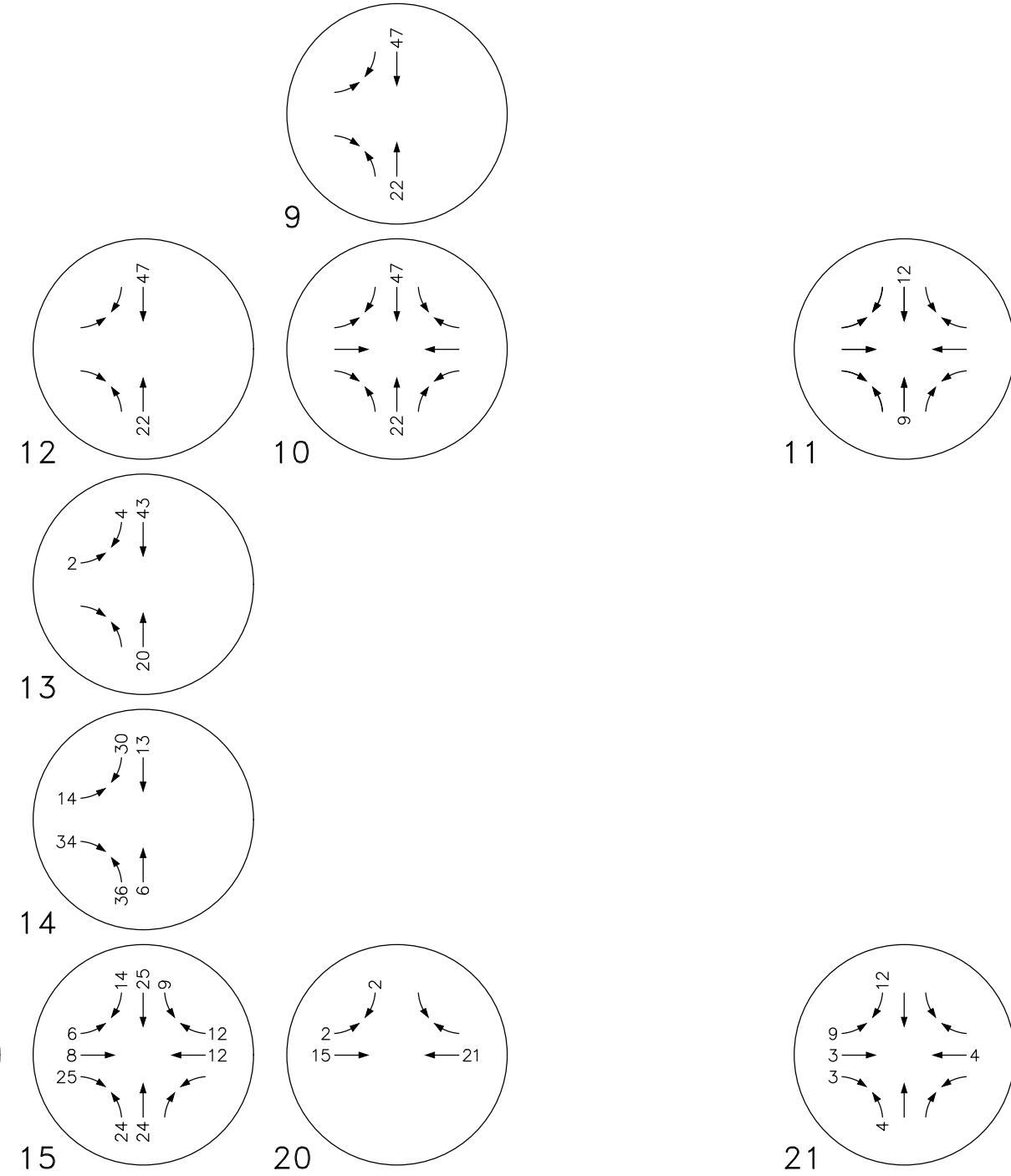
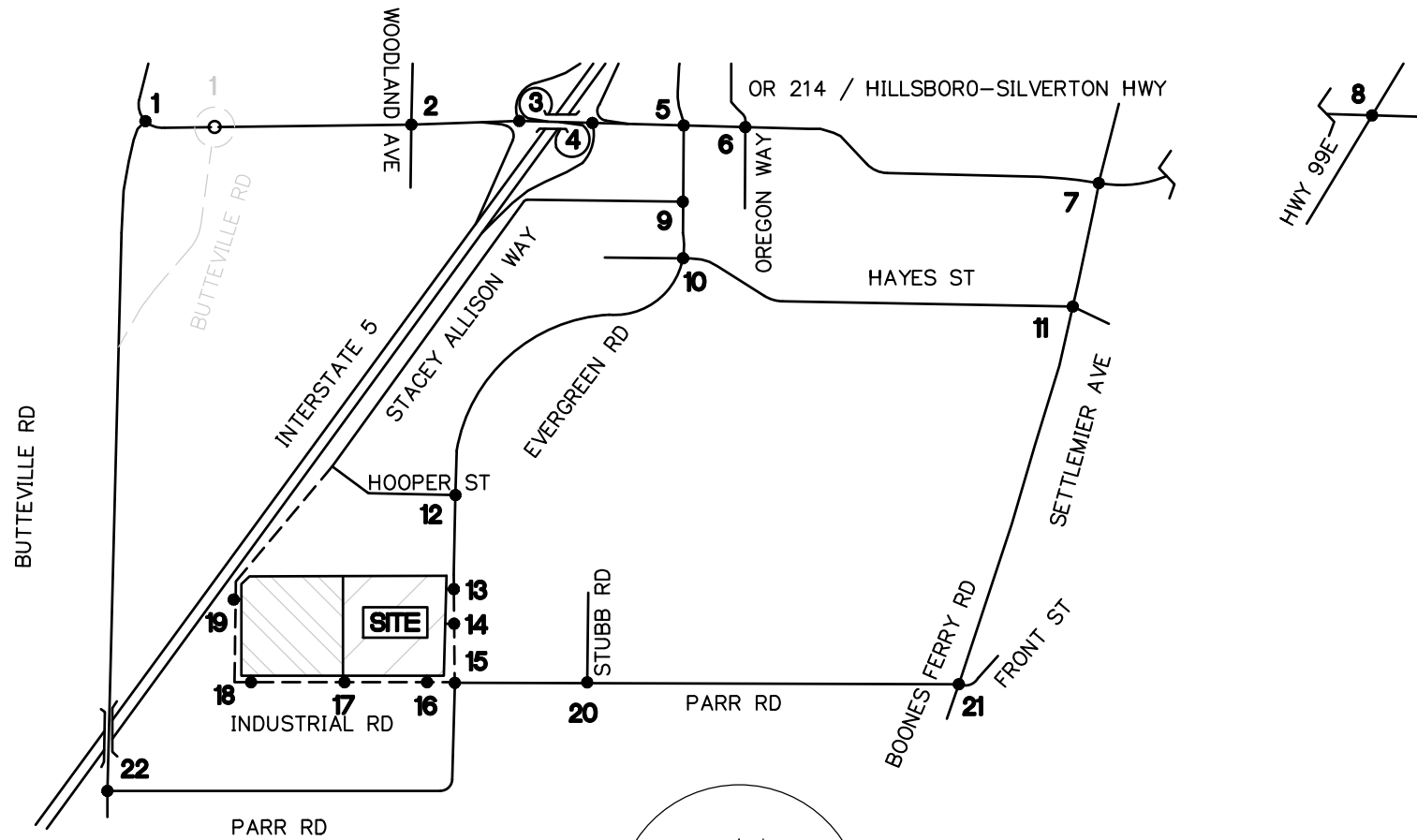
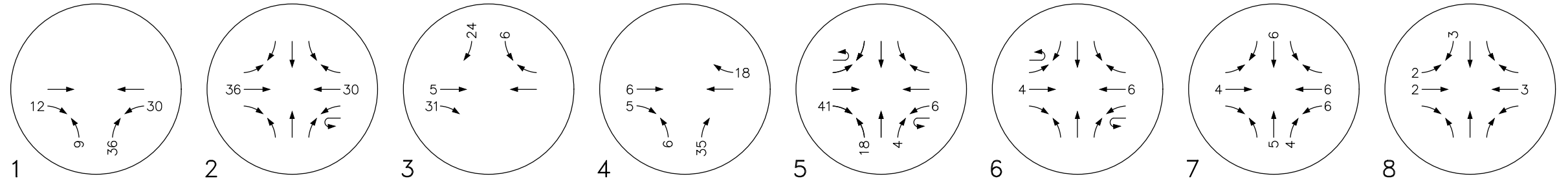
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AM PEAK HOUR

Enter - 118
Exit - 89
Total - 207



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 W/ PARR ROAD CONNECTION -
 AM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
12C

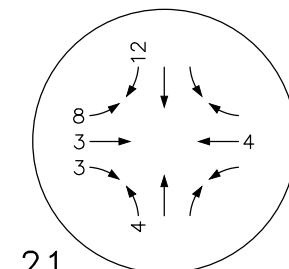
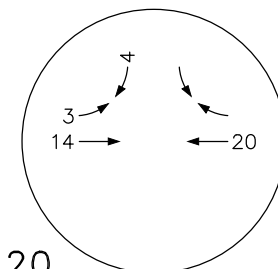
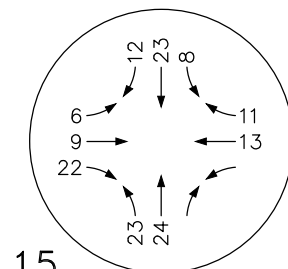
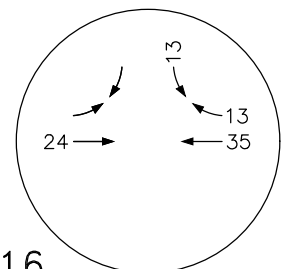
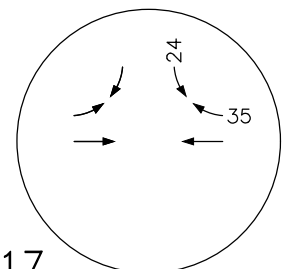
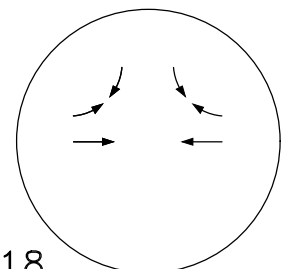
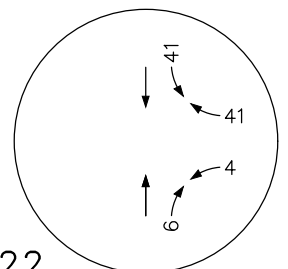
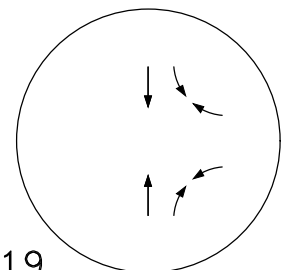
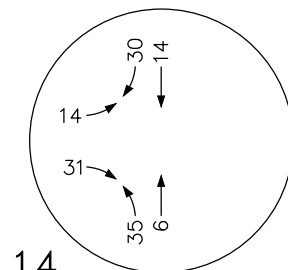
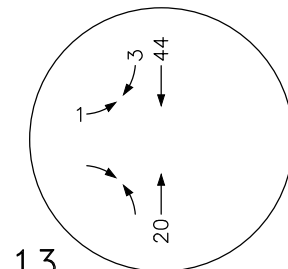
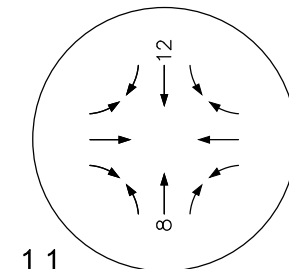
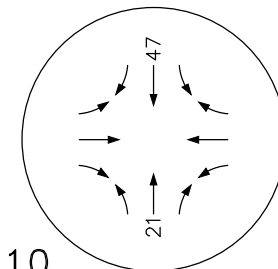
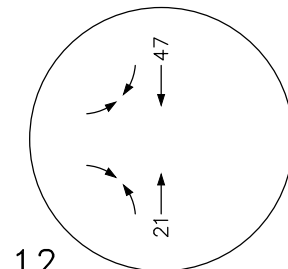
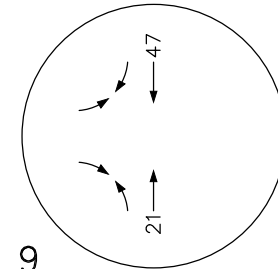
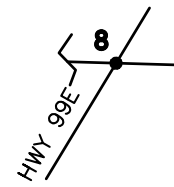
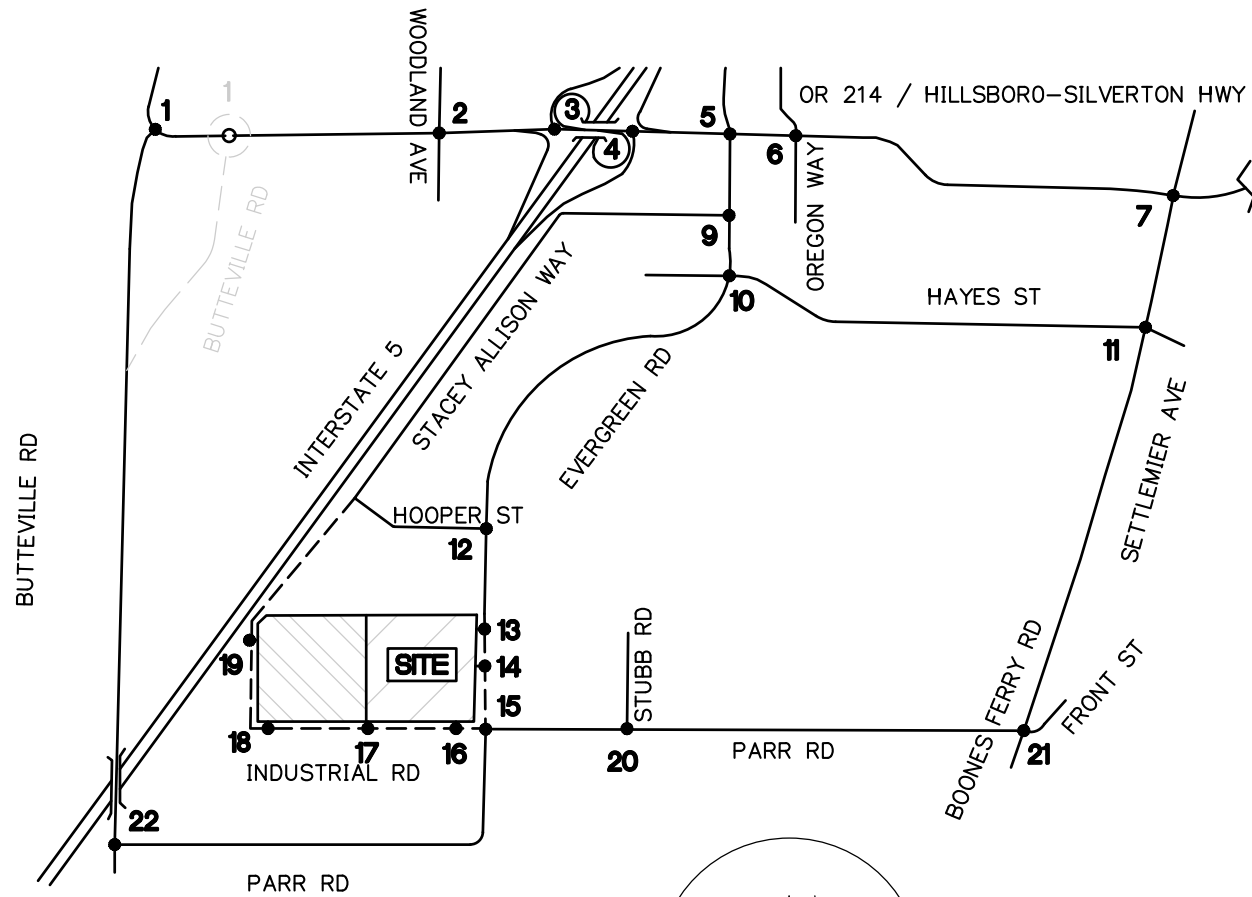
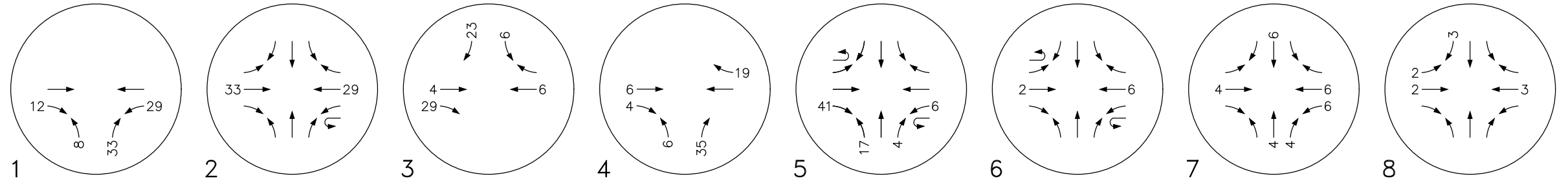
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PM PEAK HOUR

Enter - 116
Exit - 83
Total - 199



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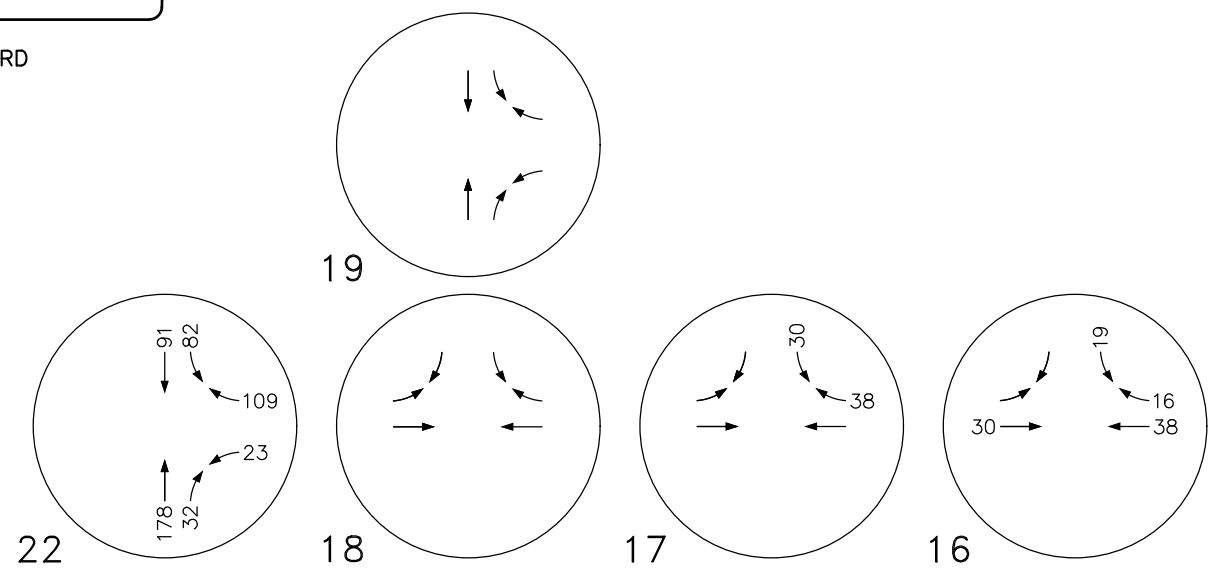
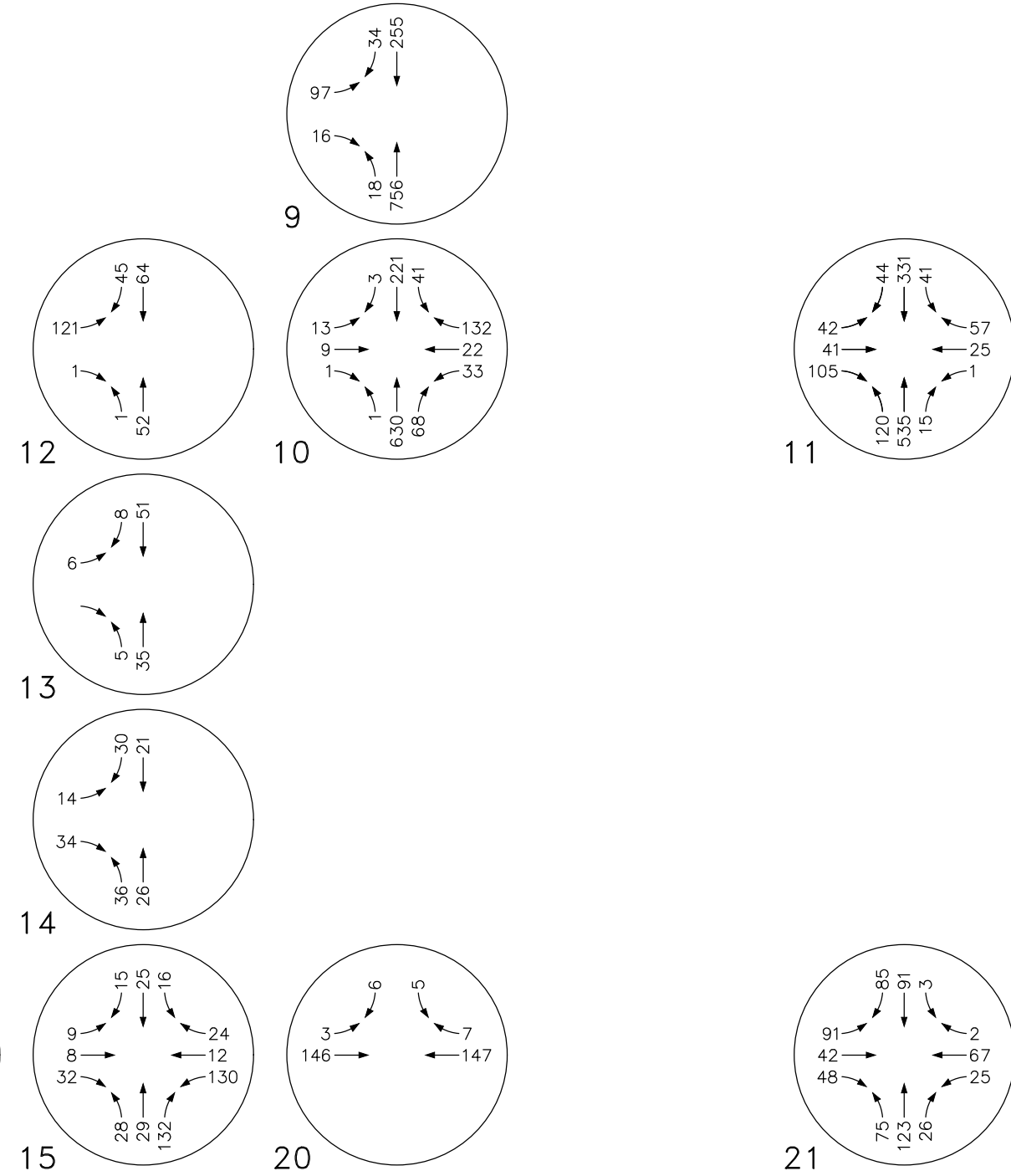
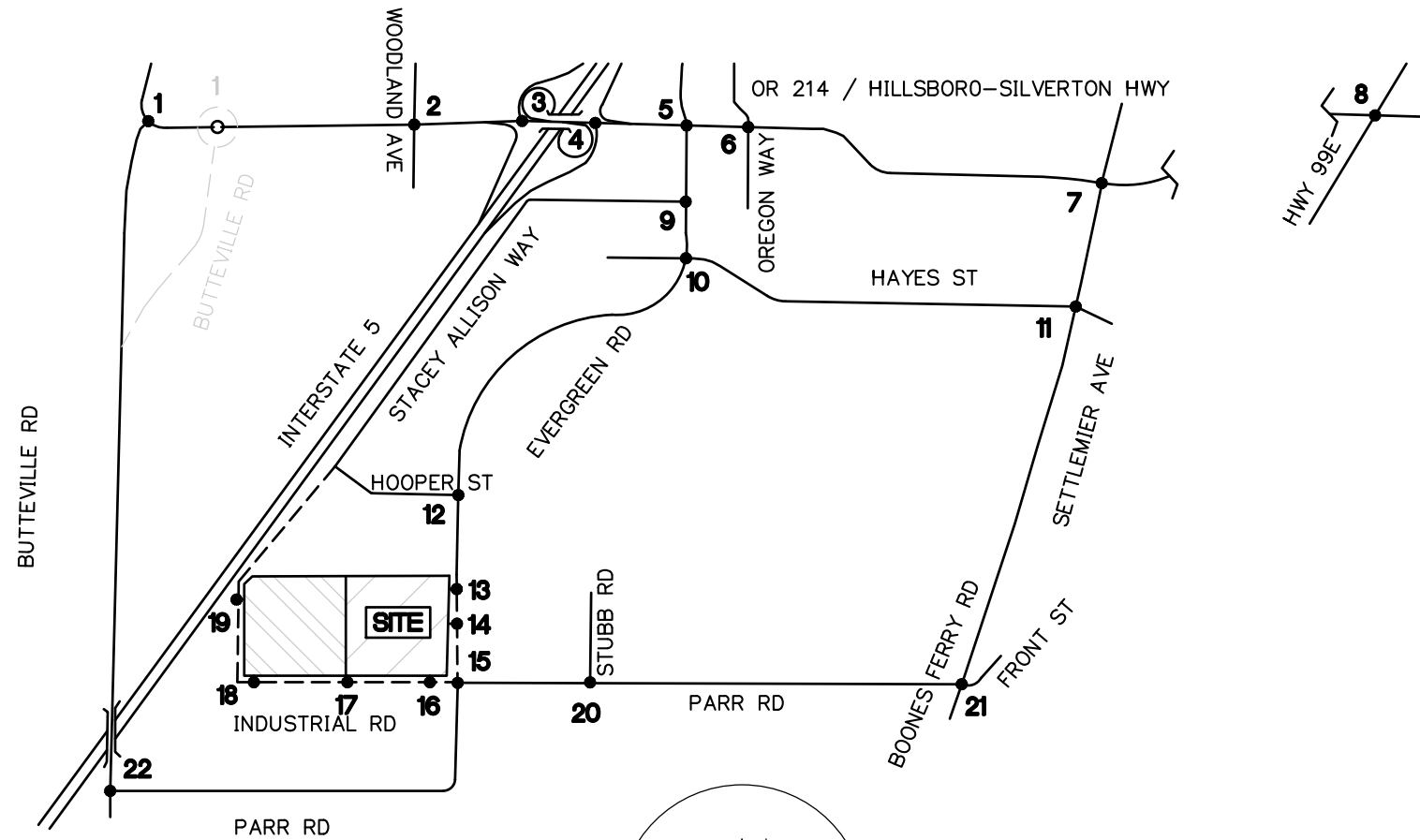
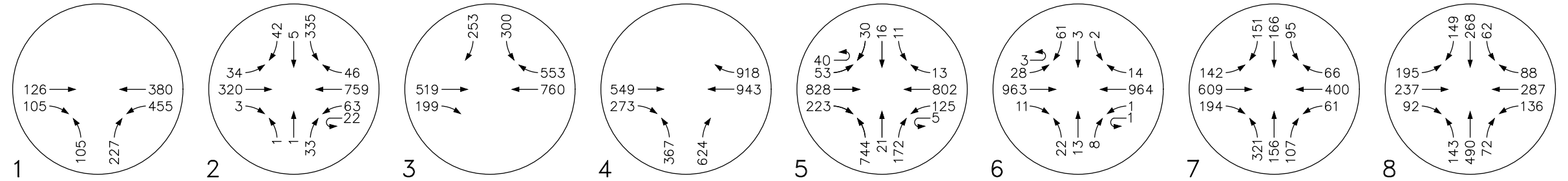
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 DRAWN BY: JHA
 CHECKED BY: BTA
 JOB NO:
 222008500

PHASE 1 AUTO ASSIGNMENT
 W/ PARR ROAD CONNECTION -
 PM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
 12D



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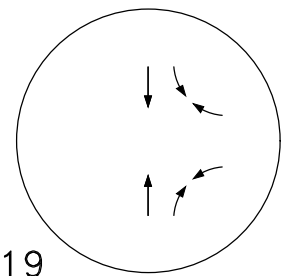
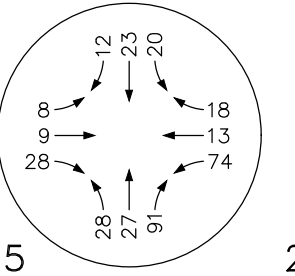
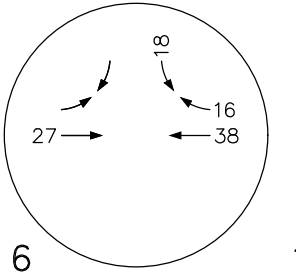
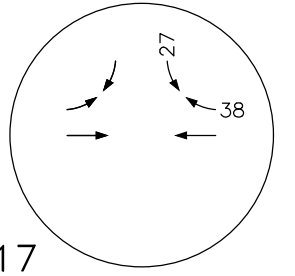
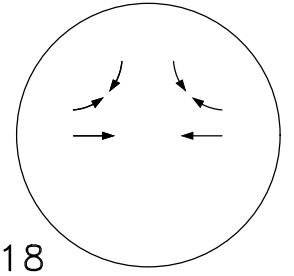
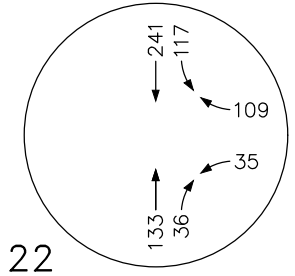
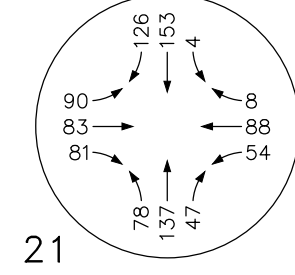
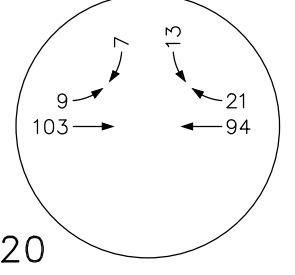
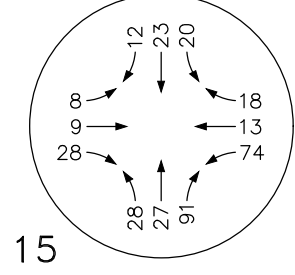
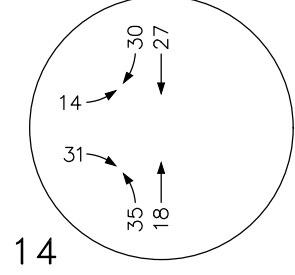
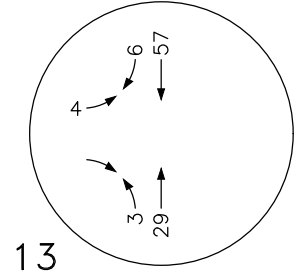
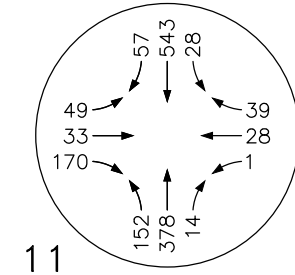
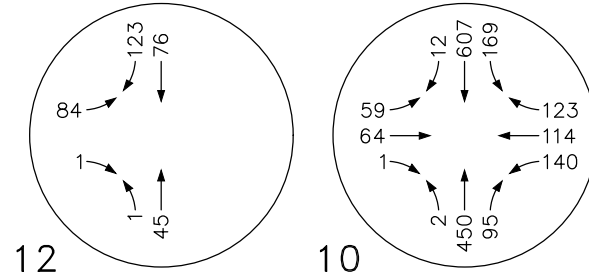
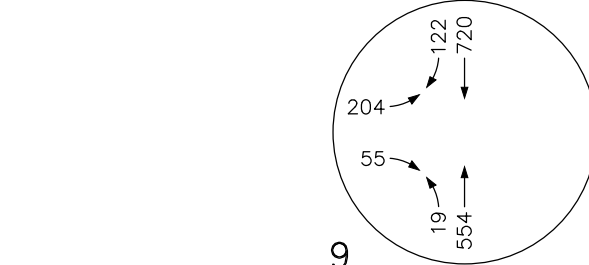
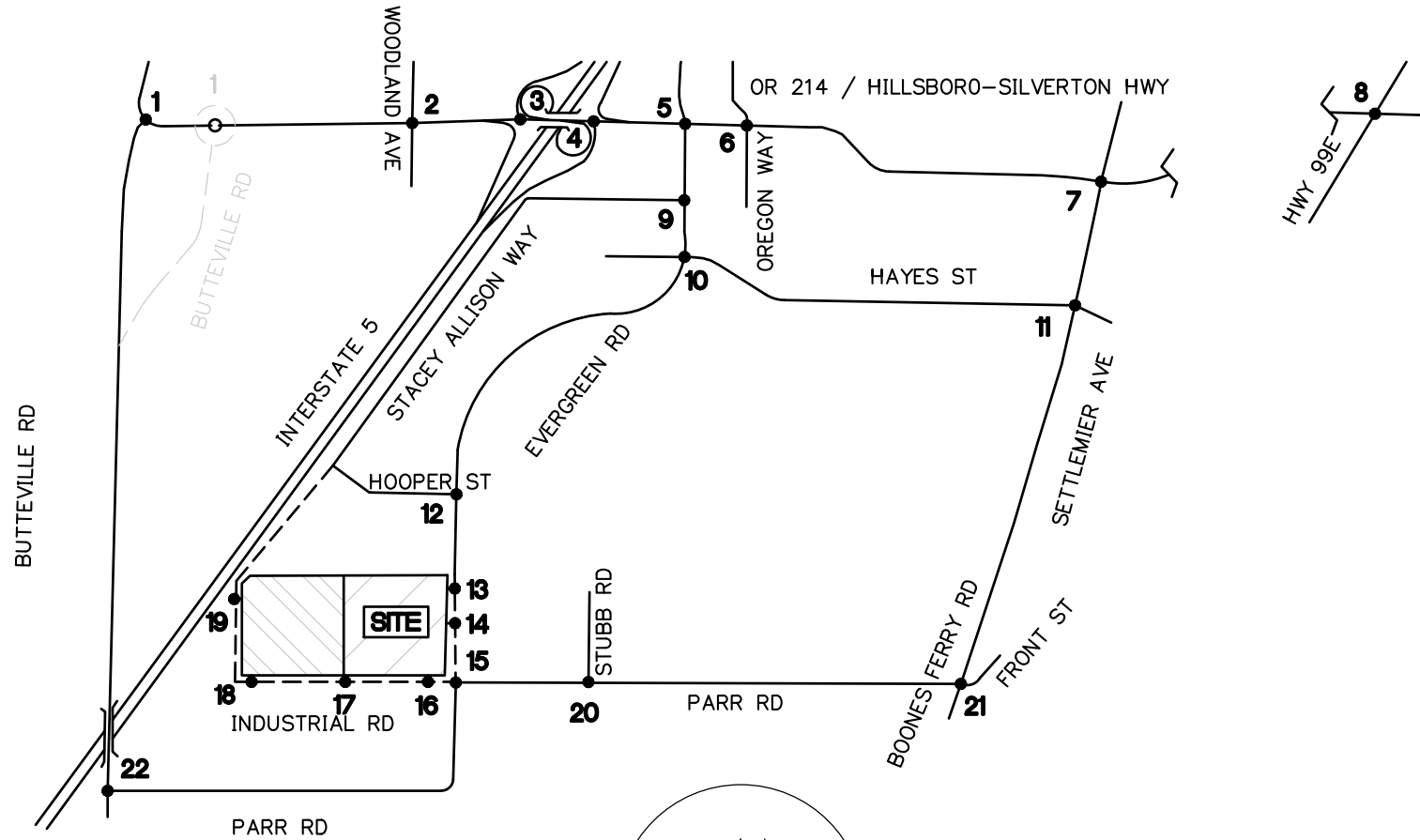
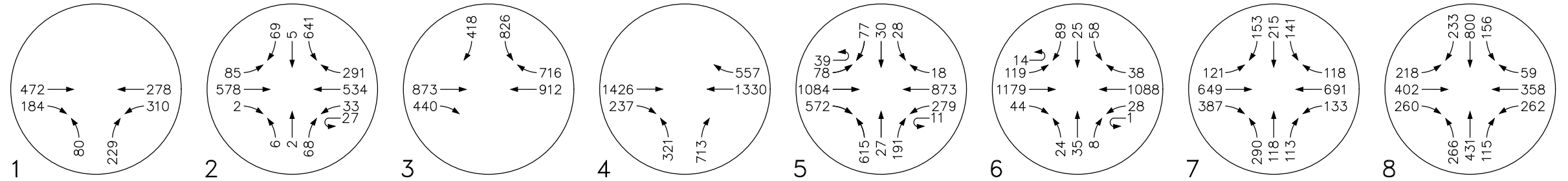
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PHASE 1 POST-DEVELOPMENT
W/ PARR ROAD CONNECTION -
AM PEAK HOUR
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WOODBURN, OREGON

FIGURE
13A



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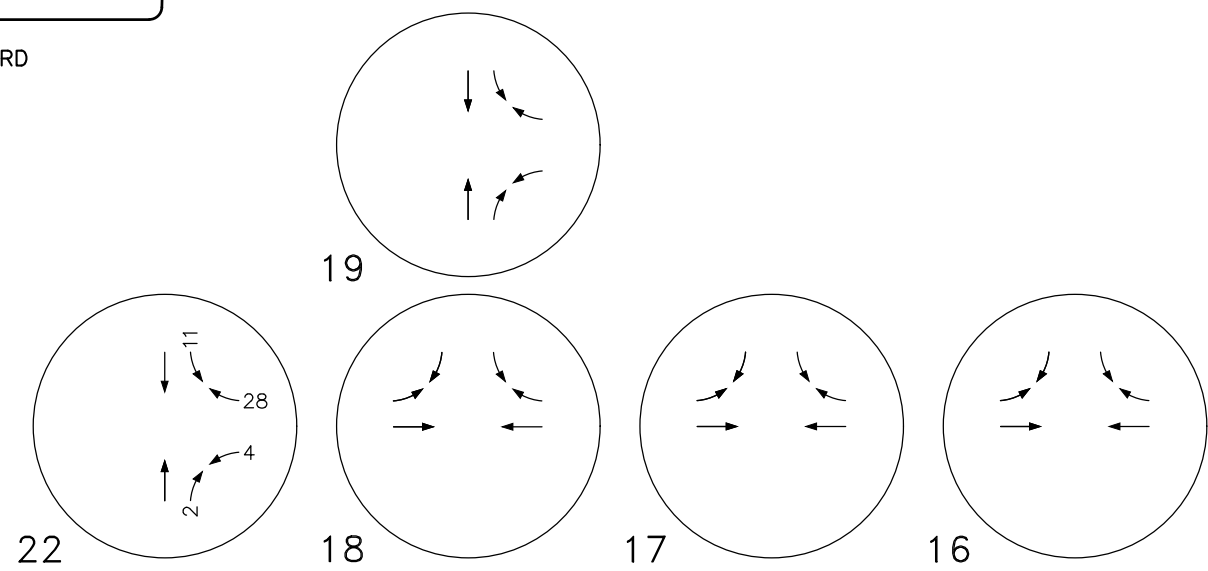
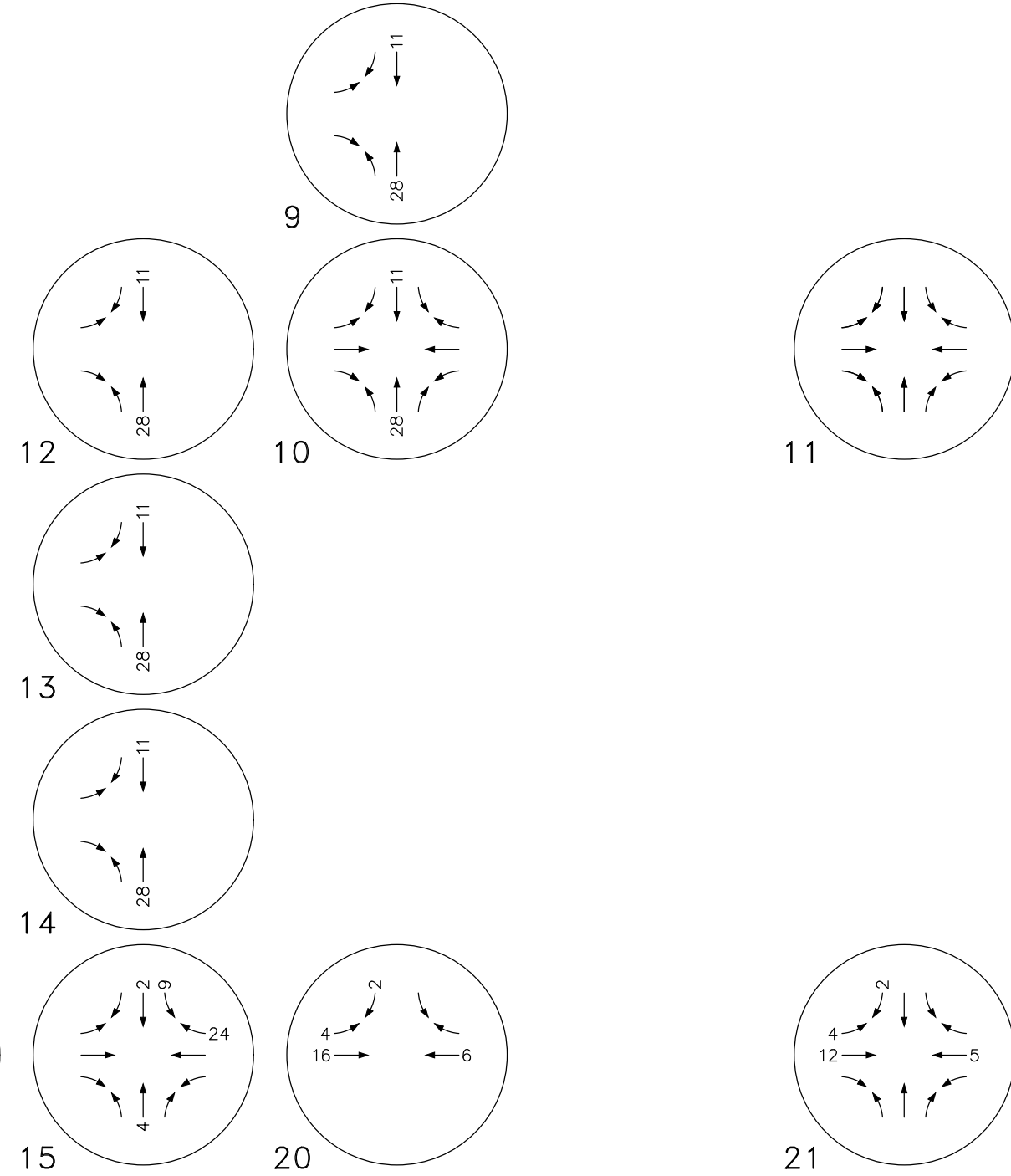
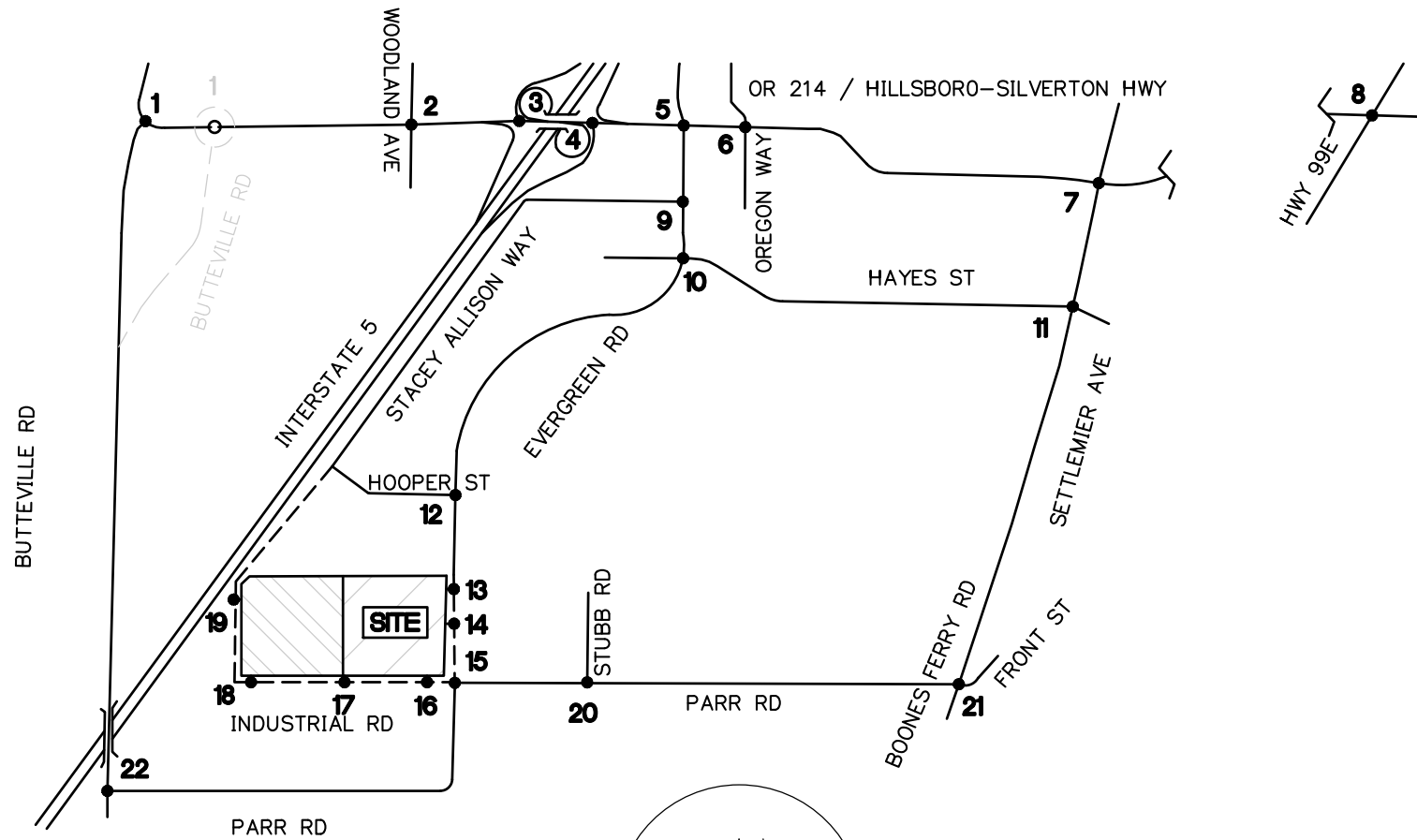
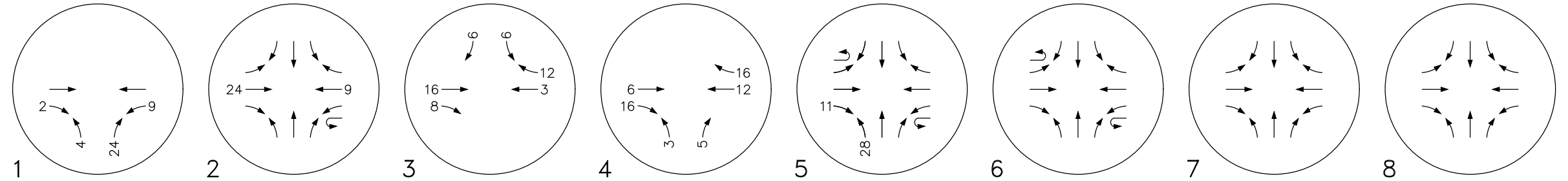
PHASE 1 POST-DEVELOPMENT
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FIGURE
13B

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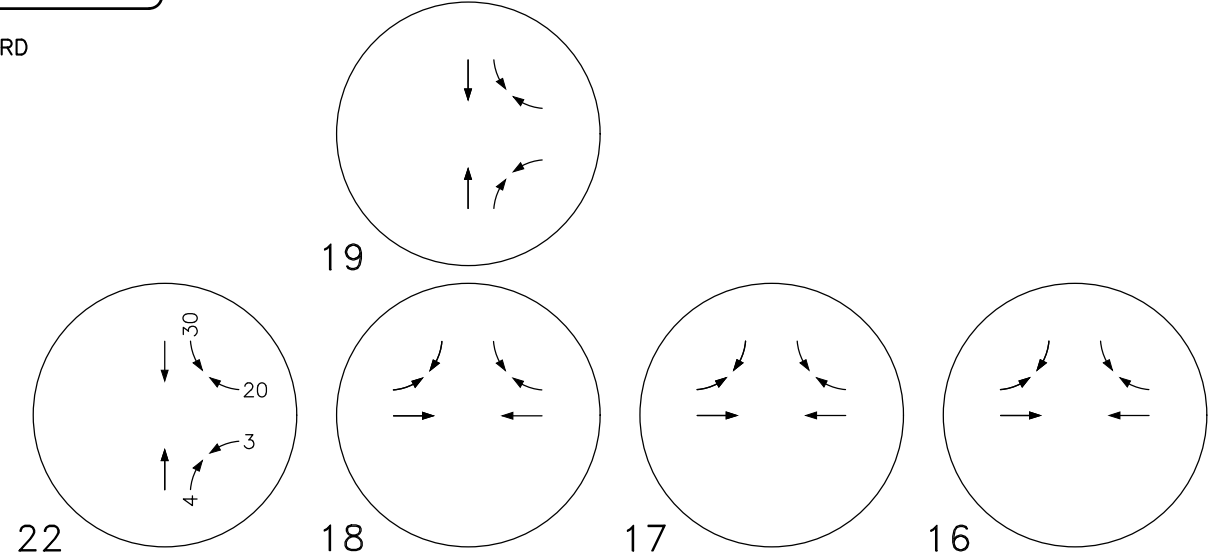
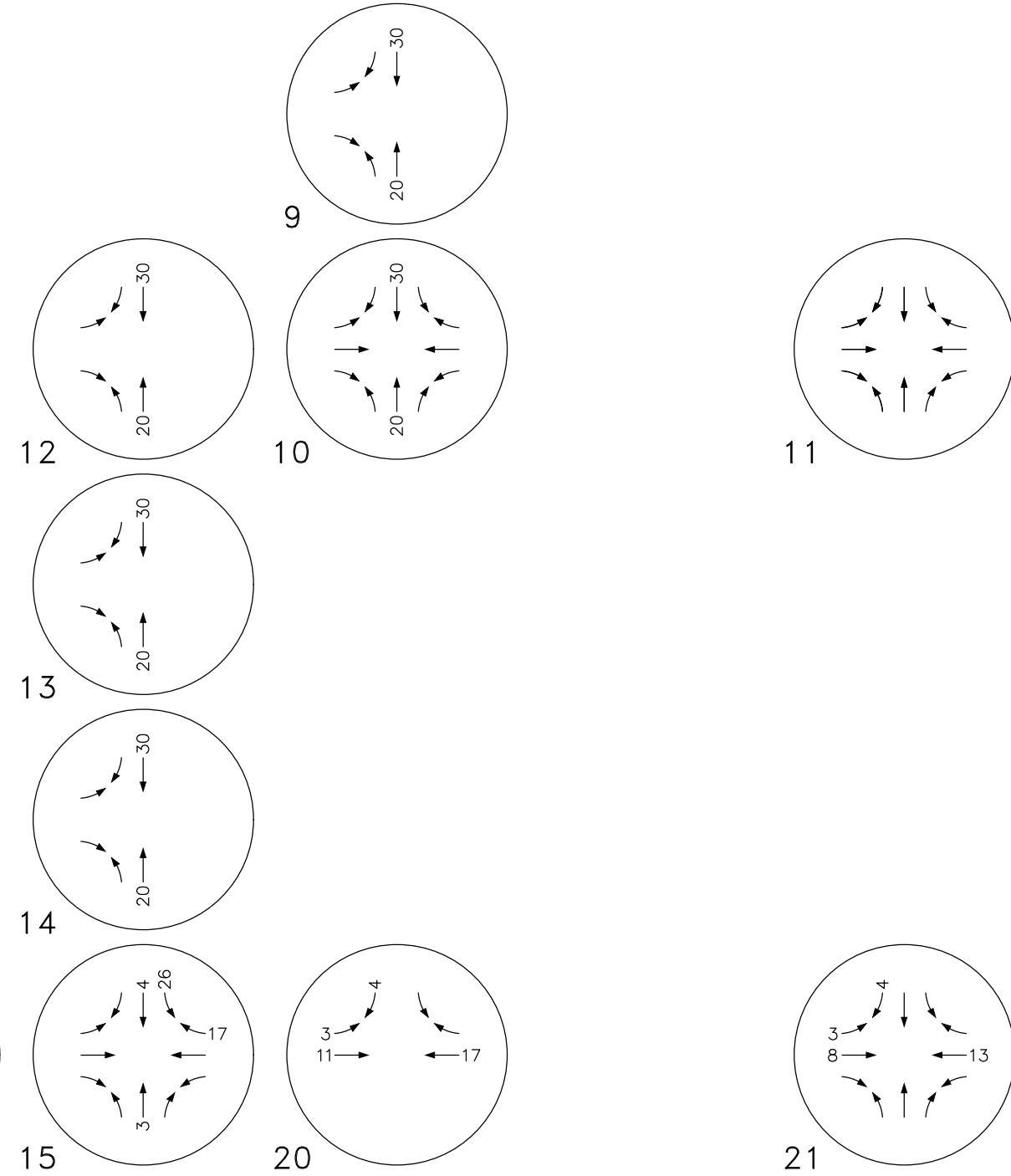
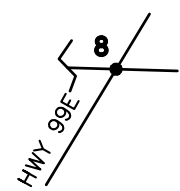
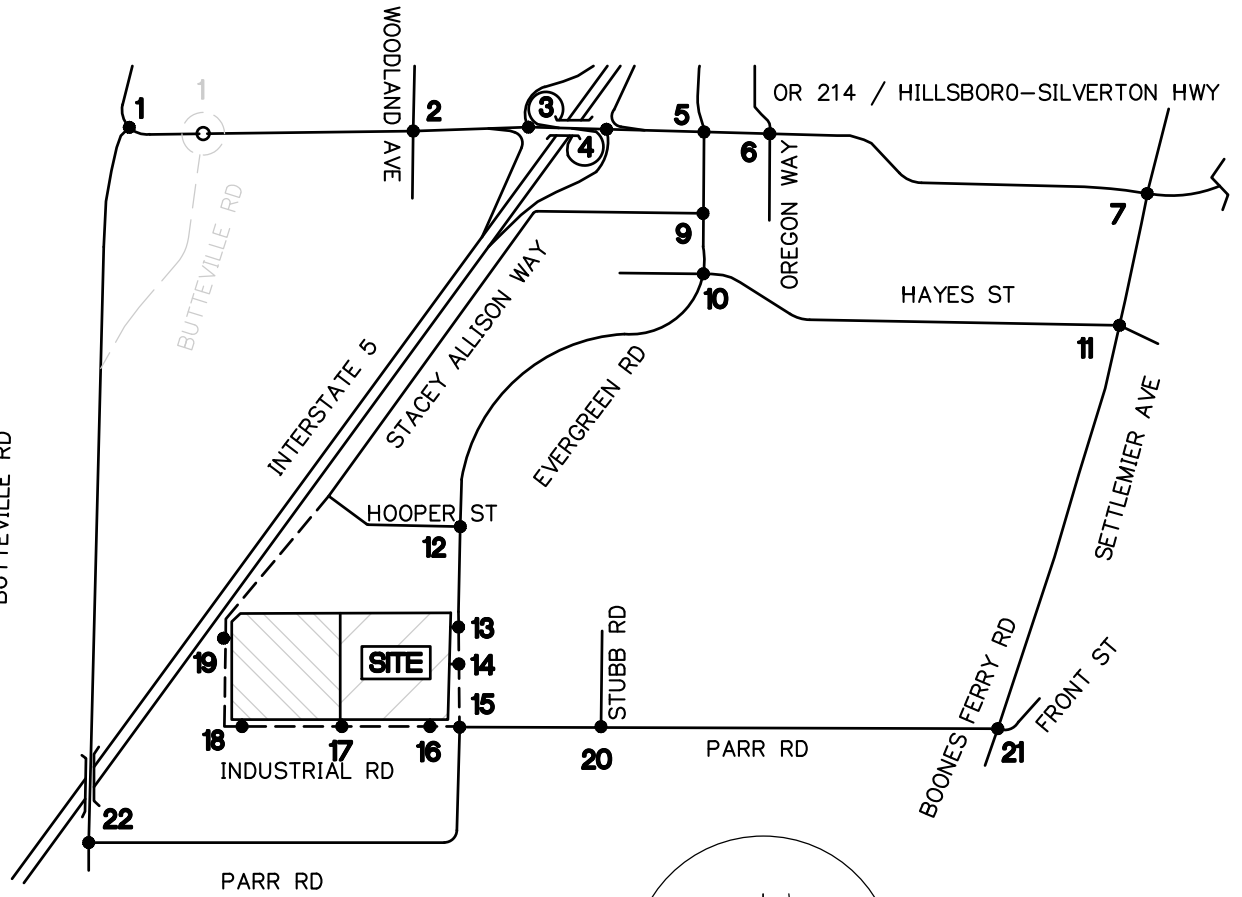
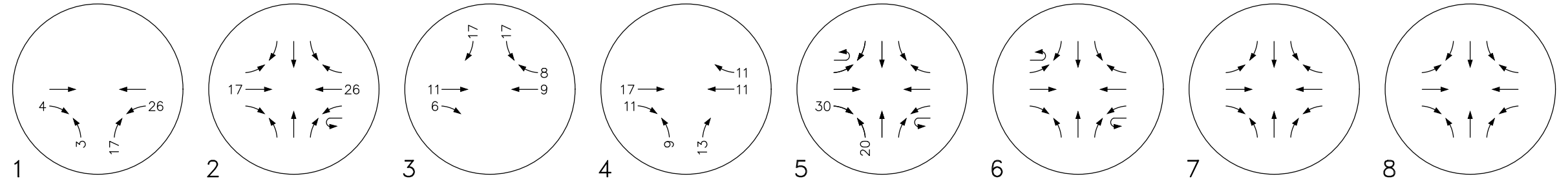
TRIP ASSIGNMENT
 KALUGIN DEVELOPMENT -
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FIGURE
 14A

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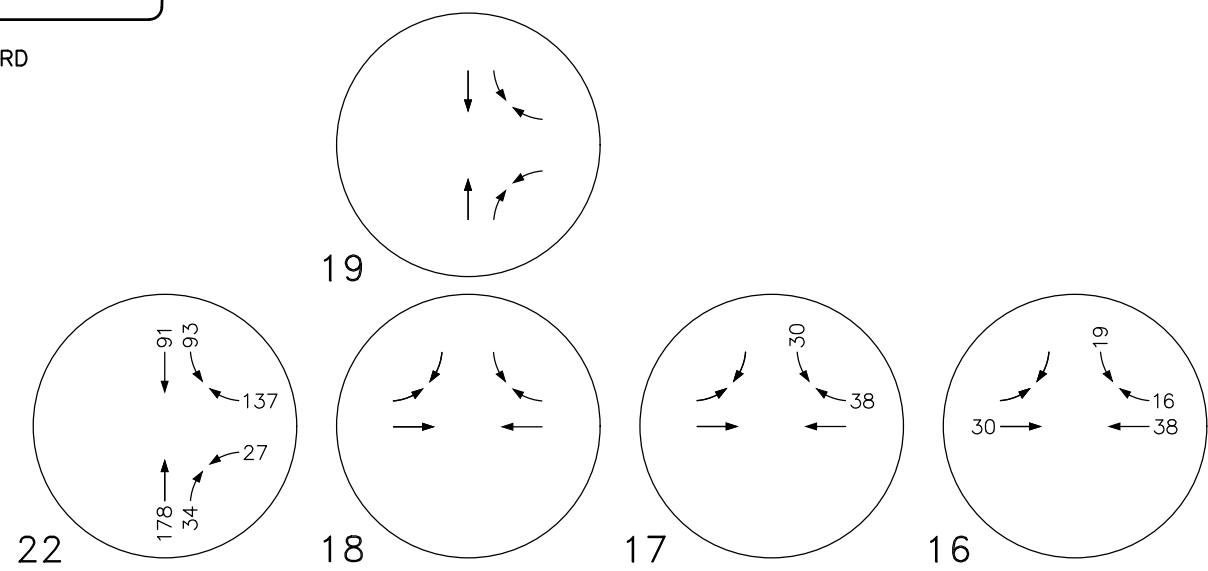
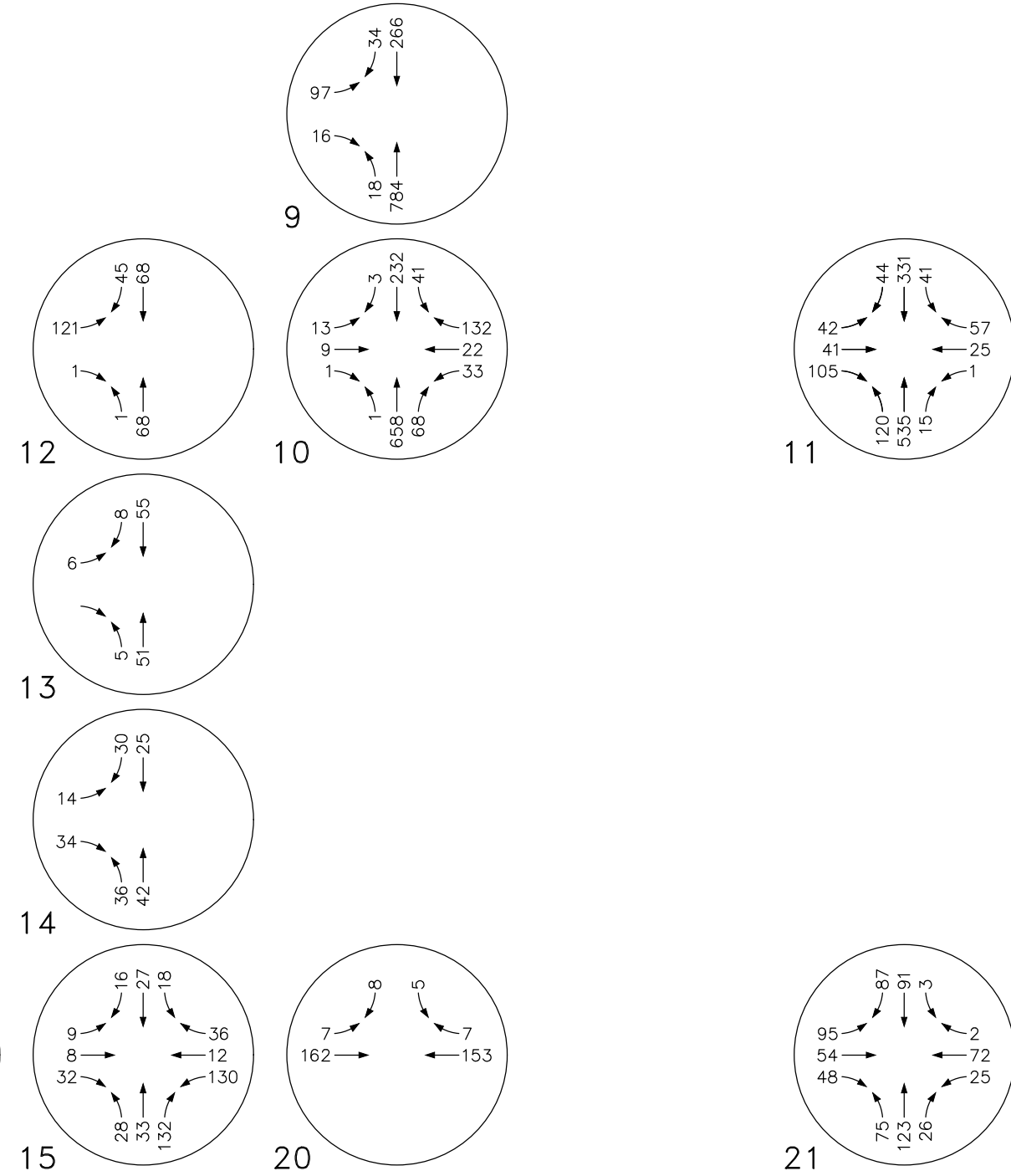
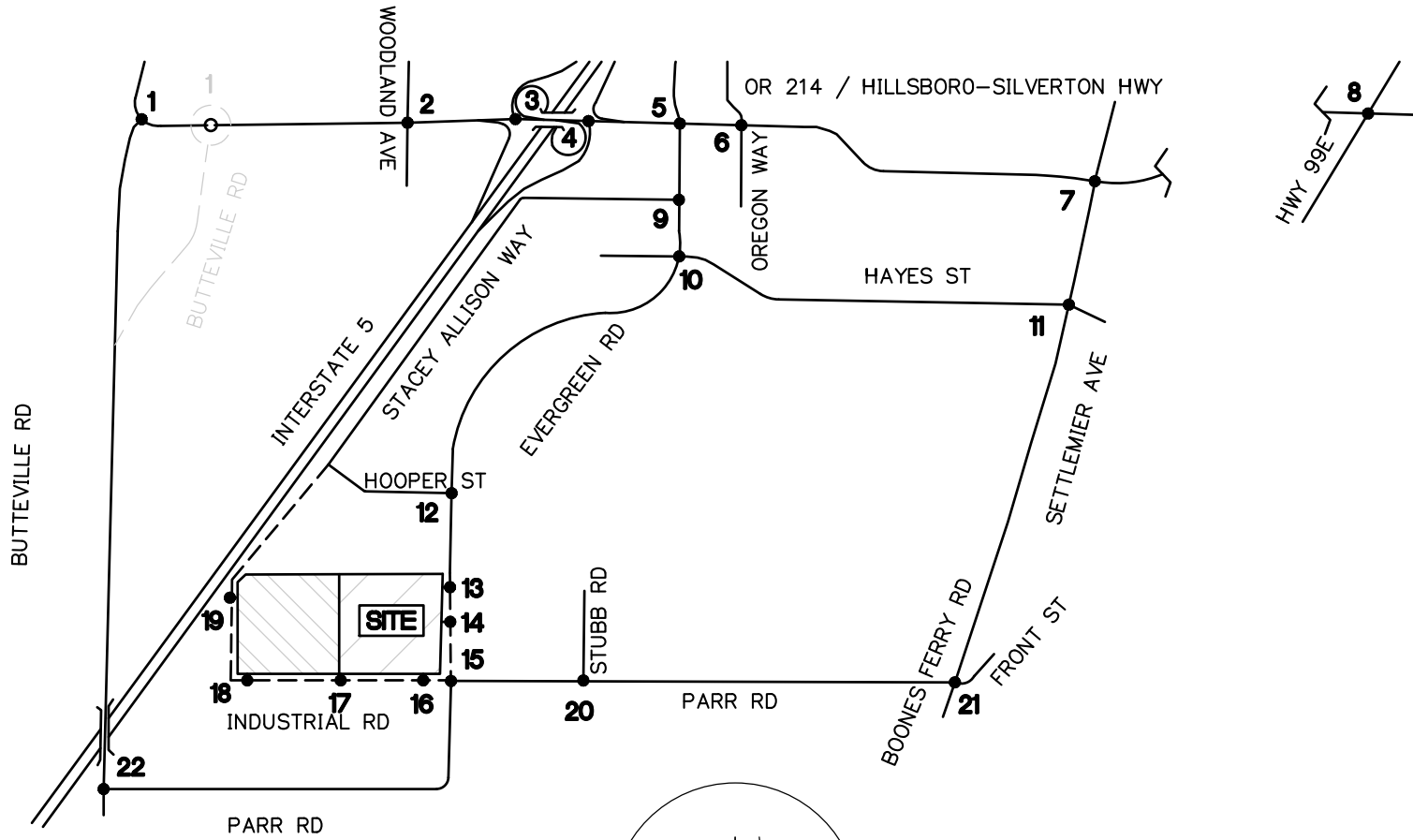
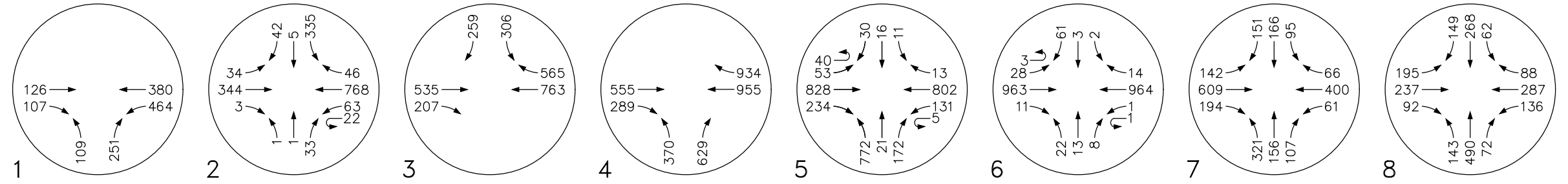
TRIP ASSIGNMENT
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FIGURE
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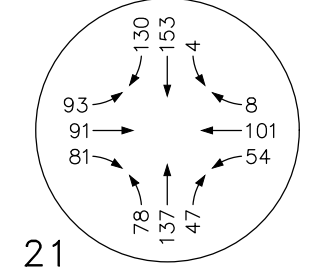
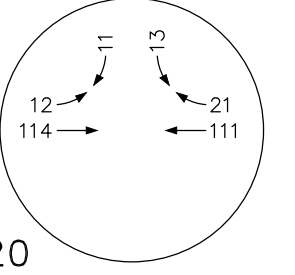
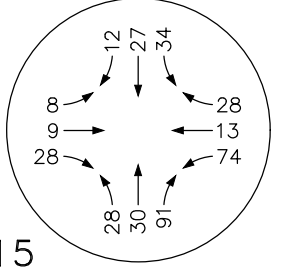
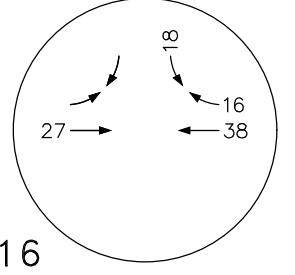
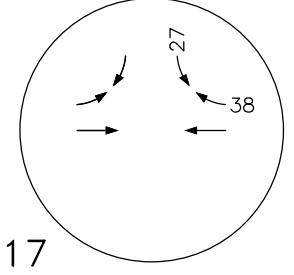
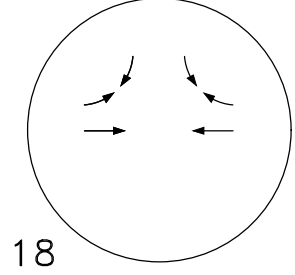
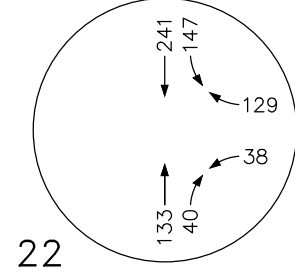
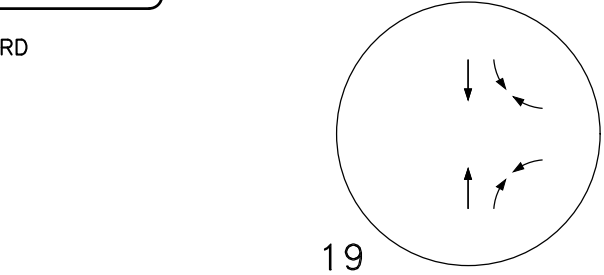
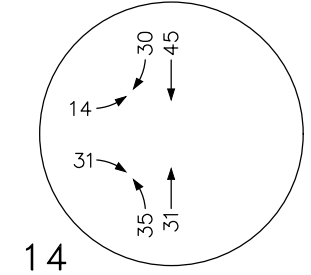
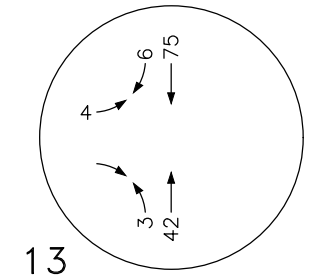
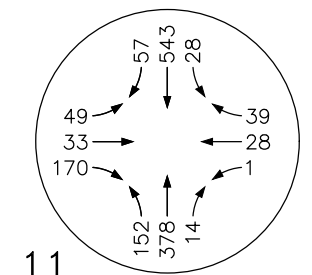
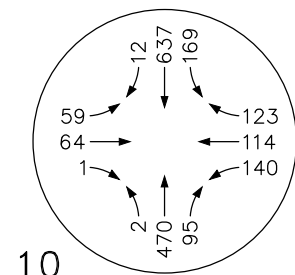
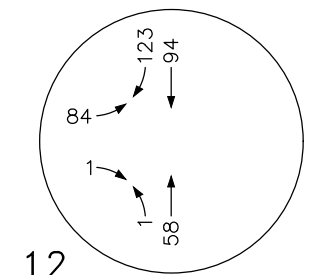
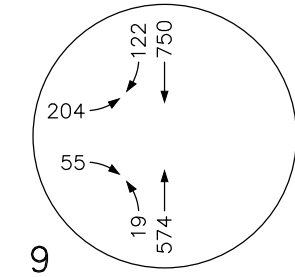
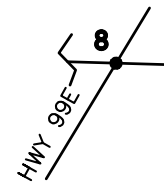
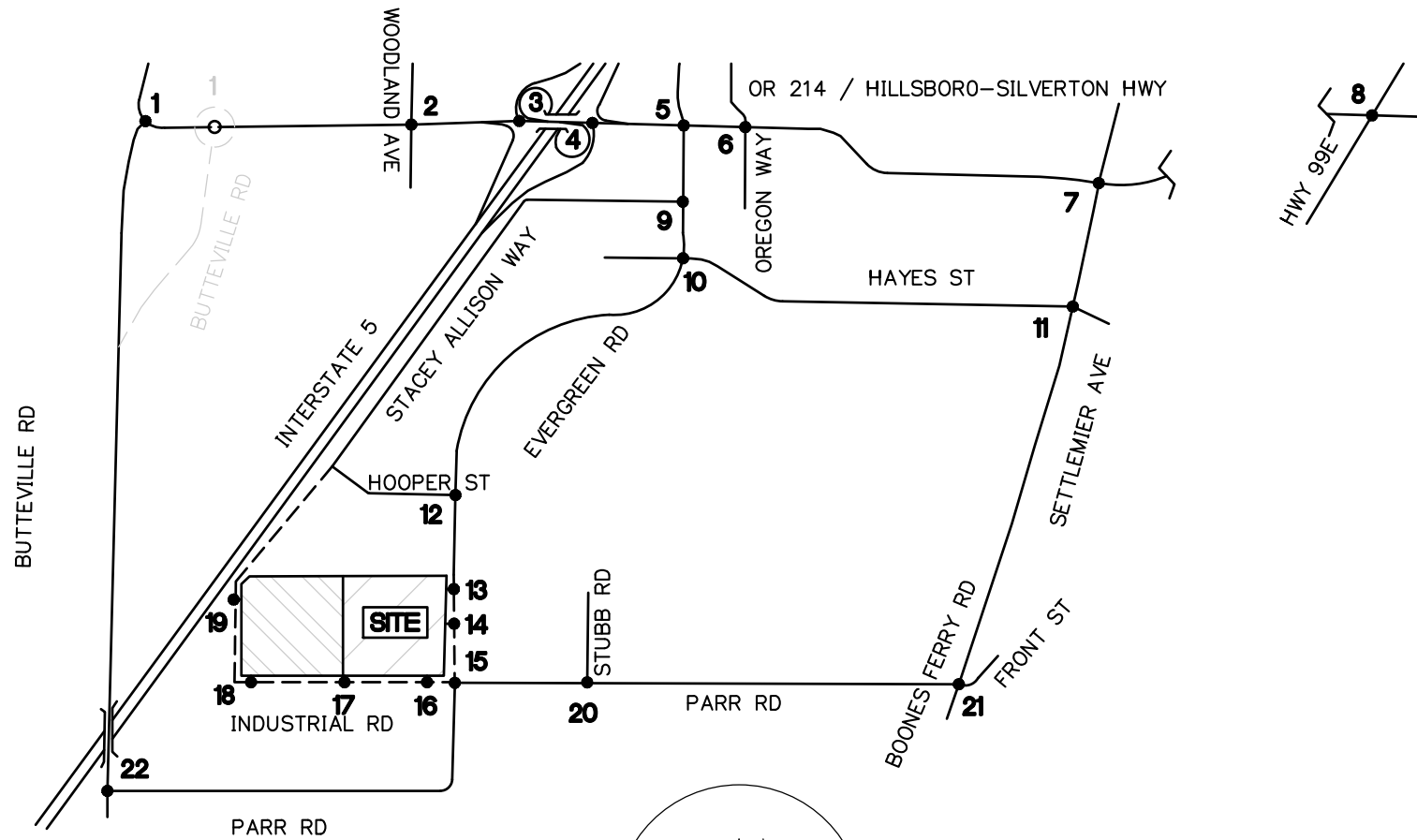
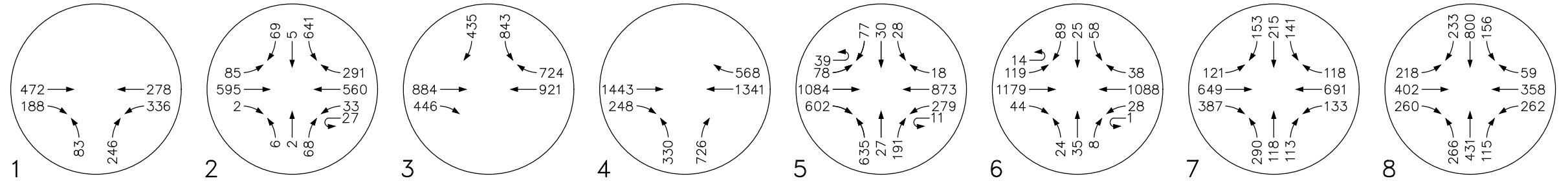
PHASE 1 POST-DEVELOPMENT
 TRAFFIC VOLUMES W/
 KALUGIN DEVELOPMENT -
 AM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
 15A

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APPENDIX B
**SCOPING
MATERIAL**

MACKENZIE.

January 12, 2022

City of Woodburn
Attention: Dago Garcia, City Engineer
190 Garfield Street
Woodburn, OR 97071

Re: **Project Gamos**
Traffic Impact Analysis Scoping
Project Number 2210452.00

Dear Dago:

Mackenzie has prepared this scoping in advance of preparing the required Traffic Impact Analysis (TIA) for the proposed warehouse project in Woodburn, Oregon. City staff has already indicated a Traffic Impact Analysis (TIA) will be required for the project. The TIA will be prepared in accordance with 3.04.05 of Woodburn Development Ordinance (WDO), requirements of the Southwest Industrial Reserve (SWIR) and Interchange Management Area (IMA).

INTRODUCTION

The client proposes to construct an 910,160 thousand square feet (KSF) warehouse with an option to expand the building by 109.12 KSF at some time in the future for a total of 982.08 KSF at full buildout. For the purposes of this application, we will assume the total square footage at full buildout.

The site is currently undeveloped and consists of Tax Lots 052W140000800 & 801. The total acreage is approximately 50.72 and zoning is Southwest Industrial Reserve (SWIR).

The site is bounded by Parr Road at the southeast corner and Evergreen Road is stubbed at the northeast corner of the site. At the northwest corner of the site, the Stacey Allison Road right of way is stubbed, but the improved roadway is currently 1,200 feet from the site. The City's Transportation Plan calls for Evergreen Road to be extended to the south where it will intersect with Parr Road. Similarly, Stacey Allison is planned to extend along the west boundary of the site to provide access and circulation to parcels to the west and south of the site. A local industrial road is shown on the City's Transportation Plan along the south end of the site, connecting the Evergreen Road/Parr Road intersection with Stacey Allison Road. A short cul-de-sac segment of this roadway is proposed from Evergreen Road to provide access to the site.

According to the *Woodburn Development Ordinance* (WDO) amended April 13, 2020 the site is located in Sub Area D of the Interchange Management Area (IMA) District Overlay. Sub Area D is comprised of Tax Lots 052W14 00800, 00900, 01000, and 01100. Table 2.05A of the WDO states the four (4) lots that comprise Sub Area D have approximately 106 buildable acres and an allotted vehicle trip budget of 1,199 maximum peak hour vehicle trips. This means that the site should have an already establish trip budget of 574 maximum peak hour trips.



TRIP GENERATION

Trip generation estimates for the proposed project were developed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. The ITE land use with characteristics most closely matching the proposed development is "Warehouse" Land Use Code (LUC) 150. Table 1 presents the trip generation estimates for the proposed new warehouse at full buildout.

TABLE 1 – TRIP GENERATION ESTIMATES									
Land Use	ITE LUC	Size	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Warehouse	150	982.08 KSF	109	32	141	40	104	144	1,590

As presented in Table 1, the proposed development is estimated to generate 141 AM peak hour, 144 PM peak hour, and 1,590 daily trips. This project will be a new development on the site. Thus, these are all net new trips, and are over the threshold for a TIA.

Additionally, per WDO Section 2.05.02, proposed developments within the IMA Subarea D that are estimated to generate more than 20 peak hour trips are required to submit a TIA. The site is subject to a trip budget as specified in this section of the WDO as the trip budgets applies to commercial and industrial parcels, and the subject site will be an industrial use.

TRIP DISTRIBUTION

The project trip distribution was assumed to be similar to other nearby projects, such as project Basie on the west side of Interstate 5. The proposed trip distribution is as follows:

1. 25% to/from the north along I-5
2. 35% to/from the south along I-5
3. 10% to/from the north/west along OR 219
4. 15% to/from the northeastern area of Woodburn and communities beyond
5. 10% to/from the southeast area of Woodburn and communities beyond
6. 5% to/from the south along Butteville Road

The specific routing will consider travel distances and times given the available roadway connections at completion of the project. We anticipate most trucks and some employees will choose to utilize Butteville Road to access Interstate 5 from the west side, especially when arriving from the north and departing to the south. While a longer distance, this route has higher travel speeds and fewer intersections, as well fewer residences as compared to using Evergreen Road and the east approach of OR 214 to Interstate 5.

STUDY AREA

Based on City recommendations and the general distribution of the estimated 141 AM peak hour and 144 PM peak hour trips, we propose to analyze the following intersections:

1. OR 214/Evergreen Road
2. OR 214/Oregon Way
3. Evergreen Road/Hayes Street
4. Evergreen Road/Stacey Alison Way
5. Evergreen Road/Hooper Street
6. Evergreen Road/Parr Road
7. Boones Ferry Road/Settlemier Avenue/Parr Road
8. Stubb Road/Parr Road
9. Butteville Road/Parr Road
10. OR 219/Butteville Road

We note that analysis of the OR 219/I-5 interchange is not necessary as the IMA Sub Area D has allotted vehicle budget, and the project is estimated to generate less than the allotted trips for Sub Area D. Thus, no analysis of the I-5 interchange should be required.

While staff suggested analysis of the intersection of OR 214 with Lawson Avenue, this intersection is limited to right turns on the Lawson approach and no site trips are anticipated to utilize Lawson Avenue.

TRAFFIC IMPACT ANALYSIS

The TIA will review AM and PM peak hour conditions at the study area intersections for the following scenarios:

1. 2022 Existing
2. 2023 Pre-Development without project
3. 2023 Post-Development with project

BACKGROUND GROWTH

Existing through volumes on OR 214 and OR 219 will be seasonally adjusted to evaluate conditions for the 30th highest hour of annual traffic as per ODOT's APM using the commuter trend from the 2020 Seasonal Trend Table. The seasonally adjusted factor will be calculated depending on the date of the traffic counts.

We will apply an annual growth rate of 1% to estimate background growth from the year of counts to pre-development conditions in 2023. By comparison, ODOT's 2040 Future Volume Table indicates rates below 0.5% per year on all segments of OR 214 and 219. The addition of in-process trips will be added in addition to these background growth traffic volumes.

IN PROCESS PROJECTS

We will include the following projects as in-process for our analysis.

1. Project Basie
2. Allison Way Apartments

3. Woodland Crossing Apartments
4. Woodburn Senior Living Apartments
5. Smith Creek Development

We have copies of all project TIA's.

We are aware of the proposed residential development at the SE corner of Parr/Evergreen but understand no application has been made at this time.

Please provide copies of any other approved in-process projects to be included in this analysis.

CAPACITY AND QUEUING

Intersection capacity analysis and queuing will be examined at the study intersections using Synchro and SimTraffic software. We will obtain the traffic signal timing plans for the signalized intersection along OR 214/OR 219 from ODOT. All analyses will be in conformance with ODOT standards as presented in their Analysis Procedures Manual, Version 2.

Where intersection capacity is limited due to site impacts, mitigation measures such as turn lanes and traffic signal will be assessed. Signal warrants will be reviewed in accordance with the Manual on Uniform Traffic Control Devices.

SAFETY

Crash data for the study area will be compiled and evaluated for safety. Intersection sight distance evaluations will be based on AASHTO methodology and will include an assessment of stopping sight distance where appropriate.

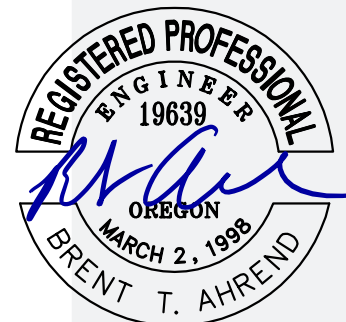
Please confirm the study area and assumptions as outlined above and provide in-process trip information for approved developments as noted. Let us know if you have any questions.

Sincerely,

Brent Ahrend, PE
Associate Principal | Traffic Engineer

Enclosure(s): Site Plan, Study Area intersections, Proposed Scoping Map

- c: Casey Knecht – Oregon Department of Transportation
Peter Skei – Specht



EXPIRES: 12/31/23

Brent Ahrend

From: Brent Ahrend
Sent: Wednesday, January 19, 2022 5:26 PM
To: dago.garcia@ci.woodburn.or.us; KNECHT Casey
Cc: Lee D. Leighton; Scott Moore; Ryan Weston; Peter Skei; Dan Handel; jamie.johnk@ci.woodburn.or.us; Clara Layton
Subject: RE: 2210452.00 - Project Gamos

Dago & Casey,

We received employment information from the proposed building tenant this morning, indicating higher employment numbers than would be anticipated at a typical warehouse use, so wanted to provide this updated information as you consider our scoping letter. The schedule is such that the peak of the site occurs prior to the typical morning and after the typical afternoon peak commute times.

An average weekday would be as follows:

150 Day shift employees shift 7:00A-5:30P
350 Day shift employees shift 7:30A-6:00P
100 Night shift employees shift 6:00P-4:30A
350 Night shift employees shift 6:30P-5:00A
300-400 trucks spaced throughout the day/night

Looking at arrival rates over a 90 minute period around each shift start and end time results in the following total generation:

System peaks

7-8 AM 278 trips (244 enter, 34 exit)
5-6 PM 228 trips (105 enter, 123 exit)

Site peaks

6:30-7:30 AM 362 trips
5:45-6:45 PM 601 trips

Let us know if you have any questions.

Thanks,

Brent Ahrend, PE
D 971.346.3781

Mackenzie Email [Disclaimer](#)

From: Brent Ahrend
Sent: Tuesday, January 18, 2022 12:24 PM
To: dago.garcia@ci.woodburn.or.us
Cc: Lee D. Leighton <LLeighton@mcknze.com>; Scott Moore <SMoore@mcknze.com>; Ryan Weston <RWeston@mcknze.com>; Peter Skei <pskei@spechtprop.com>
Subject: 2210452.00 - Project Gamos

Dago,

I wanted to follow up on the status of the City's review of our TIA scoping letter. It does not appear City staff has downloaded the letter, so I am attaching a copy here. Please forward to others that may need to review as well.

Perhaps we can discuss the TIA scoping at our meeting scheduled for 2 PM this afternoon?

Thanks,

Brent Ahrend, PE
Associate Principal | Transportation
MACKENZIE.
Architecture | Interiors | Engineering | Planning
D 971.346.3781 P 503.224.9560 W mcknze.com
RiverEast Center, 1515 SE Water Avenue #100, Portland, OR 97214

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Oregon

Kate Brown, Governor

Department of Transportation

Region 2 Tech Center

455 Airport Road SE, Building A
Salem, Oregon 97301-5397
Telephone (503) 986-2990
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DATE: February 23, 2022

TO: Casey Knecht, PE
Development Review Coordinator

FROM: Arielle Ferber, PE
Traffic Analysis Engineer

SUBJECT: Project Gamos (Woodburn, OR) – Outright Use
TIA Review Comments

ODOT Region 2 Traffic has completed our review of the submitted traffic impact analysis (dated January 24, 2022) to address traffic impacts due to development southwest of the Evergreen Road at Sweetwater Avenue intersection in the city of Woodburn, with respect to consistency and compliance with ODOT's Analysis Procedures Manual, Version 2 (APM). The APM was most recently updated in October 2020. The current version is published online at: <http://www.oregon.gov/ODOT/TD/TP/Pages/APM.aspx>. As a result, we submit the following comments for the City's consideration:

Analysis items to note:

- This study utilized the outdated Highway Capacity Manual (HCM) 2000 and did not utilize methodology from the current HCM 6th Edition for reporting the signalized intersections v/c operations. The analysis should be updated utilizing current analysis methodologies for the signalized intersections.
- This study does not contain a simulation-based queuing analysis. Such analysis would have been scoped if this study had been required under ODOT's authority.

Recommended analysis items to be addressed:

1. Study Area:

- The OR 219 at Woodland Avenue intersection is projected to experience an increase of over 50 peak hour trips in the Evergreen Extension scenario. Therefore, it is recommended to be included as a study area intersection.
- The OR 219 at I-5 SB Ramps and OR 214 at I-4 NB Ramps are recommended to be included as study area intersections. While the development is projected to generate less than the allotted trips for Sub Area D, ODOT still recommends the OR 219 at I-5 SB Ramps and OR 214 at I-4 NB Ramps be analyzed so that any potential impacts may be quantified.

2. The *Oregon Highway Plan (OHP)* v/c mobility target for OR 219 (district highway, non-UGB, 55 MPH) at the Butteville Road intersection is 0.90 rather than 0.95 as cited (*OHP* Table 6). The study shall be updated to compare operations to the accurate mobility standard.
3. Crash Analysis:
 - The crash analysis section states that crash data from 2016 – 2020 was utilized. However, 2020 crash data is still preliminary, therefore, the crash analysis should review 2015 – 2019 crash data only.
 - For some intersections the total number of crashes is inconsistent between Table 2 (either Crash Type or Severity) and Table 3. Reviewing the supporting crash data in the Appendix, it appears to be due to incorrect values of PDO crashes in Table 2. Table 2 and Table 3 should be updated as appropriate, including crash rates.
 - For the OR 219 at Butteville Road intersection, the ODOT 90th percentile crash rate for a rural 3ST is 0.475, not 0.860.
 - The crash analysis should also include review for top 15% SPIS locations within the study area and at study area intersections for the most recent three years (2017, 2018, and 2019 SPIS lists).
 - More detailed discussion of INJ A, fatal, bike, and ped crashes is recommended.
4. Trip Generation:
 - When site specific trip generation is proposed, additional trip generation information should be provided, such as a traffic schedule of arrivals and departures.
 - The additional trip generation information provided via email (dated 1/19/2022) identified trip generation rates for the system peak and site peak. As the site peak trips are projected to be significantly higher, and are expected to occur during the same time as the nearby Project Basie, it is recommended that both the system peaks and site peaks be analyzed.
5. The proposed site will generate 244 total arriving and 34 departing PM trips. However, it appears 243 arriving trips and 35 departing trips have been identified to access the site, per Figure 9A.
6. Figures 9A, 9B, 10A, and 10B have imbalances between several varying intersections. For example, 14 northbound trips exit the Butteville Road at Parr Road intersection but only 13 northbound trips arrive at the OR 219 at Butteville Road intersection. The study should ensure the accurate number of trips entering and exiting the site are identified across the study area prior to performing intersection reanalysis work.
7. A peak hour factor (PHF) of 0.92 was utilized for study area intersections for all analysis conditions. However, the PHF identified by the actual count data should be used for existing conditions (*APM* Version 2, Section 5.8.2). Therefore, the analysis should use the appropriate PHF for the current year analysis for all intersections.
8. A PHF of 0.92 was utilized for study area intersections for the future year analysis. However, analyses of future years should typically use the appropriate default PHF (*APM* Version 2, Section 5.8.3), unless the count PHF is greater. The analysis should use either the count PHF or appropriate default PHF, whichever is greater.
9. Historical traffic counts from the Project Basie TIA were collected in April 2021 (seasonal adjustment of 1.13) and May 2021 (seasonal adjustment of 1.05). The OR 214 at Evergreen Road intersection count was collected in May 2021 and application of the 1.13 seasonal factor, while conservative, may have overestimated traffic volumes. Use of the 1.05 seasonal factor is recommended.

10. Typically, ODOT will not run analyses with zero vehicles making available permitted movements. Rather, if count data does not identify any vehicles within the peak hour making a movement, we recommend assuming a low volume (1 or 2) rather than zero. The algorithms within Synchro utilize different formulas if there are zero conflicting vehicles.
11. The study recommends installation of a traffic signal at the Evergreen Road at Stacey Allison Way and Evergreen Road at Hayes Street intersection. ODOT recommends that either a preliminary or full MUTCD traffic signal warrant analysis be conducted to determine if the intersections meet signal warrants.
12. The study recommended mitigations at the OR 214 at Evergreen Road, Evergreen Road at Stacey Allison Way, and Evergreen Road at Hayes Street intersections. ODOT recommends the study analyze a build with mitigations scenario to determine the appropriateness of the recommended mitigations.
13. Table 1:
 - OR 214/OR 219 speed limit varies from 30 – 55 MPH within the study area
 - OR 214/OR 219 travel lanes varies from 2 4 lanes within the study area
 - Butteville Road is under County jurisdiction, not ODOT
14. Additional items:
 - Page 1 – The share of budgeted trips for the site as a percentage of buildable acres is noted as 608. However, assuming the 1,199 trips * (50.72 acres/106 acres) gives 574 trips, not 608.
 - Table 5 should report v/c operations for the OR 219 at Butteville Road intersection for all analysis conditions.
 - Figure 3 depicts incorrect laneage on the northbound approach of the Evergreen Road at Hooper Street intersection.
 - Figure 11B is missing the SBR volume at the OR 214 at Oregon Way intersection.
 - The raw traffic counts for the Settlemier Avenue at Front Street and Parr Road at Stubb Road intersection should be included in the Appendix.
 - Table 5 should report v/c operations for the OR 219 at Butteville Road intersection for all analysis conditions.

Proposed mitigation comments:

15. ODOT maintains jurisdiction of the Hillsboro-Silverton Highway No. 140 (OR 219/OR 214) and Pacific Highway No. 01 (I-5) and ODOT approval shall be required for all proposed mitigation measures to this facility.
16. No mitigation measures to a state highway have been proposed. This conclusion may be appropriate, but Region Traffic is unable to assess the effects comments # 1 - #12 above will have on the operational results or the conclusions of the study without reanalysis.

Thank you for the opportunity to review this traffic impact analysis. As the analysis software files were not provided, Region 2 Traffic has only reviewed the submitted report.

It is likely comments #1 - #12 will have an effect on the operational analysis results which may be significant enough to have an effect on the conclusions of the study. If the City determines any of the above comments will merit the need for reanalysis, we would be willing and able to assist with a second round of review.

If there are any questions regarding these comments, please contact me at (971) 208-1290 or Arielle.Ferber@ODOT.state.or.us



February 23, 2022

MacKenzie
Attn: Lee Leighton
15115 SE Water Avenue, Suite 100
Portland, OR 97201

RE: Completeness status of DR 22-02, PLA 22-01, VAR 21-01, EXCP 22-01:
Chewy Distribution Facility

Dear Mr. Leighton:

Thank you for submitting a Design Review (DR), Property Line Adjustment (PLA), Variance (VAR) and Street Exception (EXCP) application package on January 24, 2022 for the subject property. Staff reviewed the degree of completion of the package and determined it to be incomplete as of today's date. You are receiving this letter in compliance with Oregon Revised Statutes (ORS) [227.178\(2\)](#).

It's understood that aspects of the application may be modified to address/improve transportation impacts at the southeast corner of the site to allow access to Parr Rd. If so, these revisions would impact the TIA, driveways, utilities, storm drainage, landscaping or other elements of the site plan. Review of any revisions will trigger additional comments. However, the items that need to be addressed in order to be deemed complete based on the current submittal include:

1. Please see the items listed in the attached Memorandum from Chuck Green, PE working under contract with the City, for the incompleteness items and comments on the Traffic Impact Analysis. It includes comments received from ODOT and the County on the TIA.
2. Please see the applicable items listed in the attached "Gamos Project: Public Works Comments" dated February 23, 2022. It includes general notes as well as completeness items.
3. The application includes a variance request from the driveway spacing requirements and two street exceptions from the requirements for street improvements along Stacey Allison and the east/west connector. However, WDO 5.03.03 only permits deviations that don't exceed the minimum standards of Section 3.01. The proposed plan does not provide the minimum standards and therefore requires a variance application. Please convert those exception applications into variance requests and provide responses to the criteria of 5.03.12 for each of these frontages.

Related to the driveway spacing request are the provisions in WDO 3.04.03 which states that minor arterials should be accessed via shared driveways and should take access from lower classification streets. It is recommended that you provide more details as to why two driveways are necessary on a minor arterial and the impact of those driveways.

4. Please provide architectural elevations with colors and descriptions of materials for the proposed wall along the northern property line and any proposed accessory structures, such as the guard houses.
5. Provide information about the use of the space/floor plan, in particular areas to be used for office, locker rooms, warehousing, racking, and a description of the type of storage.
6. Modify the landscape plans to indicate the proposed wall along the north property line.
7. The landscape plans need to provide the landscaping and P/U calculations for each yard in accordance with 3.06. Be aware that the “other yards” require 1 PU per 50 sf, exclusive of paved areas. Keep in mind that this is the amount of landscaping required, the location can be dispersed and/or grouped.
8. Provide the location of the proposed gates on the plans.
9. Provide plans/details of the parking lot striping and parking space details indicating conformance with the requirements of WDO 3.05.
10. Please confirm how the requirements of 3.07.10 B.1. relating to “avoiding long blank walls” is being met. There is little if any undulation to the rooflines on three sides.
11. The survey indicates a private well on the property to be “relocated by others”. Please provide information about this proposed relocation or other plans for the well.
12. Details of the plans for the ultimate modifications to Parr and Evergreen need to be included with the proposal.
13. Provide a Fire Access Plan illustrating fire truck access, turning movements, hose distances, hydrants and any other relevant information for Fire review. A roof plan indicating structures and access points should be included. Contact Jim Walker with the Woodburn Fire District if you have any questions (503-982-2360 or jim.walker@woodburnfire.com).
14. Provide details on the height and design of the proposed lighting on the building and in the parking lots

The following are items are not required as part of the completeness review, but are specific comments and recommendations you should be aware of and address:

- The current proposal does not provide a public access onto Parr Rd. at this time. This results in all truck and employee traffic using Evergreen Rd. As we have discussed, this is problematic in that results in significant traffic burdens on the local street system and incompatibilities with the surrounding residential neighborhoods. Every effort should be made to provide this public access onto Parr Road.
- The proposal to not provide any ROW or improvements for Stacey Allison Way along the boundary of the property is not likely to be supported by staff. Deferring those boundary acquisition and improvements costs onto the City in the future is not likely to be supported by Staff at this time.
- Staff could be supportive of not completing the east/west connection (“Local Industrial Street”) provided an access drive, which lines up at the Parr Rd intersection, is provided along the south property line ensuring shared access for the development to the south.
- It is strongly recommended that the applicant have discussions at this point in the process with the surrounding neighbors, especially the residential subdivision of the north and the property owner at the northeast corner of Parr Rd and the future Evergreen extension. Please keep me informed on the details of those discussions.
- In order to mitigate some of the impacts of the building height, you should expect a condition of approval requiring the landscaping to be significantly enhanced along the north and east property lines (similar to the Amazon development). The proposed wall along the north property should be set back to allow for landscaping on the north side. Proposing the landscaping at this time and incorporating it into the plan would be advised in order to avoid site conflicts later. Please ensure that the landscape plans include all utility easements
- As discussed in the attached comments related to the TIA, no required TDM measures, pedestrian or transit improvements have been proposed: These measures should include, at a minimum, a list of enforceable, programmatic TDM strategies and measures that will ensure that the applicant will be reducing transportation impacts from the development over time. Some suggested measures from staff to include are:
 - a. Incentives for ride-sharing, using transit, biking or walking to work. This can include bus passes, preferred car-pool parking spaces, indoor bike parking facilities, or on-site lockers and showers.
 - b. A ‘marketing’ plan that provides timely information to workers.
 - c. Providing an annual report to the City which includes a review of targets, performance measures and the effectiveness of marketing efforts made.
 - d. Establishing an on-site TDM manager for monitoring and enforcement.
- You should also provide at least two protected pedestrian accesses onto the site leading to the entrance of the building. They should include clearly delineated crossings at drive aisles.

- A transit shelter with access and drop-off should be provided in order to serve future transit users to the site.
- Be aware that the City prohibits the use of barbed wire or razor wire on fencing.
- All signage and fences require separate permits.

Feel free to have anyone on your team call and ask clarifying questions of Staff, but make all resubmittals through this department. Please contact me at 503-980-2445 or chris.kerr@ci.woodburn.or.us with questions.

Sincerely,



Chris Kerr
Community Development Director


cc: Peter Skei, VP Specht Development, Inc. (via email)
Dago Garcia, P.E., City Engineer
Jamie Johnk, Economic Development Director

Attachments: Memorandum, Chuck Green, PE February 23, 2022
Memorandum, Dago Garcia, PE, Public Works Department comments



Memorandum

To: Woodburn Development Review: Chris Kerr, Community Development Director

From: Chuck Green, PE 

Copies: File

Date: February 23, 2022

Subject: Review of Project Gamos/Chewy Traffic Impact Study Scoping Memorandum

Otak Project #: 40141

Development Review Reference: DR 22-02, EXCP 22-01, PLA 22-01, & VAR 22-01

This memo serves as my review of the January 12, 2022 memorandum from Brent Ahrend of Mackenzie Engineering entitled "Project Gamos Traffic Impact Analysis Scoping". Included are my comments, findings and recommendations as far as the TIA scoping. This includes most of the comments also received from the Oregon Department of Transportation Region 2 Traffic staff (Arielle Ferber and Casey Knecht), and provided directly to the Applicant, in an email dated January 27, 2022.

The TIA scoping memo was reviewed with input from the following documents:

- Oregon Department of Transportation (ODOT) Analysis Procedures Manual (APM), Version 2 as Revised, November 2020 with new Appendix 3E, "Traffic Volume Development During Disruptive Events" including the effects of the COVID-19 Pandemic
- City of Woodburn's Comprehensive Plan (September 2019)
- City of Woodburn's Transportation System Plan (September 2019)
- City of Woodburn's Transit Plan Update (November 2010)
- Woodburn Development Ordinance (WDO), as revised in April 2020, including Section 2.05.02 Interchange Management Area Overlay District, and Section 3.04.05 Traffic Impact Analysis.
- Recent development traffic impact analyses in the site vicinity including Project Basie.

Summary of Findings

The review of the developer's proposed Traffic Impact Analysis scope has the following findings and recommendations:

General Requirements

Per the WDO, "A Traffic Impact Analysis (TIA) is required for all land use applications subject to the provisions of this Section. The TIA must meet City and ODOT administrative rule (OAR Chapter 734, Division 51) requirements and shall include an evaluation and recommendation of feasible Transportation Demand Management (TDM)

measures that will minimize peak hour vehicle trips generated by the proposed development. This proposal is contained with Subarea D of the IMA, and thus subject to this requirement. Other requirements for analysis of transportation impacts from City code and development standards apply as well.

Trip Generation

- An internet search indicates Chewy plans several fulfillment centers of about this size around the country. Staying consistent with the process used for Project Basie, this site should be analyzed as a fulfillment center (ITE Land Use Code 155) instead of a traditional warehouse or the Applicant should provide a response as to how this fits the Warehouse definition instead of a Fulfillment Center. Additionally, the Applicant should indicate whether this is a sorting or non-sorting facility.
- There are inconsistencies in the square footage of the current and future phases of the development proposal. The scoping memo indicates "... client proposes to construct an 910,160 thousand square feet (KSF) warehouse with an option to expand the building by 109.12 KSF at some time in the future for a total of 982.08 KSF at full buildout. For the purposes of this application, we will assume the total square footage at full buildout." These square footage numbers (910,160 and 109,120) add up to 1,019,280 square feet. The Preliminary TIA submitted shows a total of 910,160 square feet, for a discrepancy of over 100,000 square feet. Use of the buildout square footage for the analysis is acceptable.
- The Applicant will need to determine if the site will cause the PM peak of the surrounding system to change like Project Basie/Amazon did, to the PM peak of the site. System PM peak trip generation rates for comparison:
 - Mackenzie TIA (this one): 0.15 trips/KSF
 - ITE, Code 150: 0.18 trips/KSF
 - ITE, Code 155 (sorting): 1.20/KSF
 - ITE, Code 155 (non-sort): 0.16/KSF.

Trip Distribution

- The TIA should analyze two trip distribution scenarios: one with a connection of Evergreen Road to Parr Road, one without (the preliminary TIA submitted for this site did do these two scenarios). If this site is not going to connect Evergreen through to Parr, there is no direct way to get to Butteville Road. Also, there would be no way to get to Parr Road either to go to the east. The trip distribution should be based on what is reasonably expected in the next 5 years (or up to site buildout, whichever is last). Otherwise, all trips to I-5 south would likely use Evergreen to OR 214 to I-5. All trips to the east would likely go north to OR 214 or through other City streets.
- Other trip distribution percentages appear reasonable and consistent with Project Basie/Amazon.

Traffic Operations and Safety

- The TIA should include I-5 ramps for traffic and safety impact analysis. While the trip generation may stay within the trip budget of the IMA, that only affects the improvements and Interchange System Development Charge (ISDC) included in the Woodburn Development Ordinance. As the Project Basie/Amazon study concluded, there are still queuing and storage (operational) that the IMA study would not have picked up. For a detailed operational and queuing analysis of OR 214/219 through the I-5 interchange area, Mackenzie should acquire Kittelson's VISSIM model developed for the Project Basie TIA for this analysis.

- The TIA should also analyze the following intersections:
 - Woodland Avenue at OR 219
 - Settlemier at Hayes
 - OR 214 at Settlemier and
 - OR 214 at 99E.

Using the site PM peak likely increases trip assignments to these intersections, as well as trip distribution reflecting whether trips can get to Parr via an Evergreen extension.

- The TIA should incorporate ODOT comment on use of an average of the commuter and summer trends from the 2020 Seasonal Trend Table to calculate 30th highest hour.
- The TIA should also include the following previously-completed TIAs:
 - Port of Willamette
 - Woodburn Eastside Apartments, and
 - Schultz Farm PUD.

The TIA should also include two recently-submitted development proposals along Parr Road south and east of the site.

- The Applicant should be aware that proportionate share mitigation contributions due to collision rate and/or mobility threshold exceedances have been previously conditioned at:
 - Evergreen at Hayes
 - Evergreen at Stacey Allison Way
 - I-5 both NB and SB ramps
 - OR 214 at Evergreen
 - OR 214 at Settlemier
 - OR 214 at 99E
 - Butteville/Parr intersection (Marion County), if Evergreen is connected to Parr.
- The TIA should assess the impacts of construction traffic on streets along the primary construction access route(s).
- For state highways, the safety analysis needs to be consistent with the ODOT Analysis Procedures Manual.

Transportation Demand Management

- There is no mention in the TIA scoping memo of the following required items; these are required items for the TIA:
 - Transportation Demand Management/ Commute Trip Reduction
 - Bicycle and pedestrian modes
 - Public transportation, especially analyzing transit operations and capacity pursuant to the Woodburn Transit System Plan.



**Gamos Project
Public Works Comments
February 23, 2022
for
Plans Submitted January 24, 2022**

Prior to deem application complete:

1. Applicant to extend Stacy Allison Way and Evergreen Road as acknowledged on the City's Transportation System Plan (TSP). Street extension improvements include construction of public and franchise utility systems to the southerly limits of the project.
2. Applicant to provide for the installation of all franchise utilities on the entire public improvement areas and shall provide any required easements for these facilities. All permanent utility services to the development shall be underground. Streetlight installation are under PGE option B.
3. Applicant to provide plans for the construction of Evergreen Road and Parr Road intersection according to City and Marion County requirements.
4. Applicant to provide plans to tie proposed water main on Stacy Allison Way (at existing or future street improvements, pending timing of this development and construction of Stacy Allison Way Apartments Ph2 project).
5. Pending timing of construction of Stacy Allison Way Apartments Ph2 project, applicant would be required to extend/improved Stacy Allison Way road from Hooper Street to their northerly property line. The Applicant, not the City, is responsible for obtaining easements and right-of-way dedications from other property owners for the construction of a public street.
6. Applicant to financially contribute to the installation of a water main across I-5 to tie in to the new water main that is being installed by the Amazon project. Contribution pending applicant analysis of flow requirements for their development.
7. All required on-site and off-site detention area(s) for the runoff from this site will need to be provided in accordance with a final Engineer stamped storm drainage hydraulic analysis. All on-site and off-site detention areas shall be maintained by the property owner in perpetuity.

8. Applicant to obtain easements or deed dedications for the installation of the storm drainage system between their property and existing storm detention facility located along the east side of I-5 interstate. Extension of the existing storm drainage facility located along I-5 will be private detention facility. Dedications shall be recorded to the city prior to deem all public improvements complete.

Applicant to provide more information on proposed storm drainage system on the west side of the development. All existing public drainage facilities are gravity systems.

9. When applicable dead end streets shall comply with City of Woodburn and Woodburn Fire District requirements for dead end streets.

General Notes:

10. All City-maintained facilities located on private property shall require a minimum of 16-foot wide utility easement conveyed to the City by the property owner. This is the applicant's responsibility to provide, not the City's. Utilities of unusual depth, size or location may require a larger width.
11. If required, a Permit from the Oregon Division of State Lands and US Army Corps of Engineering will need to be obtained to mitigate/delineated wetlands. This shall be obtained prior to city issuance of permit. Other required regulatory permits shall also be obtained by the applicant, as applicable.
12. The water mains serving this development shall be a looped system, shall be sized in accordance with flow and fire protection requirements. The water mains shall have a 4ft minimum cover from final grade.
13. Fire hydrant locations and fire protection requirements shall be as per the Woodburn Fire District and City of Woodburn requirements.
14. Actual fire hydrant locations and in-line valving locations shall not be determined until the final Civil plan final review.
15. Public infrastructure will be constructed in accordance with plans approved by public works and Marion County when applicable.
16. All right-of-way and public utility easement dedications shall be recorded prior to deemed all public improvements complete.



May 19, 2022

MacKenzie
Attn: Lee Leighton
15115 SE Water Avenue, Suite 100
Portland, OR 97201

SENT VIA EMAIL

RE: Completeness status of DR 22-02, PLA 22-01, VAR 21-01, EXCP 22-01:
Phased Speculative Industrial Development (formerly Chewy/Gamos)

Dear Mr. Leighton:

Thank you for submitting a revised Design Review (DR), Property Line Adjustment (PLA), Variance (VAR) and Street Exception (EXCP) application package on April 21, 2022 for the subject property. Staff reviewed the degree of completion of the package and determined it to be incomplete as of today's date. You are receiving this letter in compliance with Oregon Revised Statutes (ORS) [227.178\(2\)](#).

The revised proposal is for a two-phased project with two alternative development options as part of Phase 2. No specific tenant (user) is proposed at this time. The items that need to be addressed in order to be deemed complete include:

1. The items listed in the attached Memorandum from Chuck Green, PE working under contract with the City.
2. Please see the attached Memorandum from Janelle Shanahan, PE, Marion County Public Works, which identifies required modifications to the TIA.
3. Please address the incompleteness items in the attached Memorandum "Public Works Comments" from Dago Garcia, PE dated May 18, 2022. It includes general notes as well as completeness items.
4. Please note that no comments have been received yet from the Oregon Department of Transportation (ODOT) on the revised project or TIA, you should reach out to them directly (Arielle Ferber, PE, ODOT Traffic Analysis Engineer).

The project will have significant impacts on the surrounding transportation facilities and provides limited alternatives to mitigate those impacts. Due to the various agencies required

as part of the review, staff would recommend that the applicant coordinate a group meeting with all of the above parties to discuss the comments and alternatives.

5. City Planning Division comments:

- a. Since the submittal, the applicant has requested to remove the Property Line Adjustment (PLA) from the consolidated application package so that it can be processed separately. Staff has agreed to this request and initiated the PLA process. Please adjust the application materials accordingly with your resubmittal.
- b. Supplement your revised request with a Phasing Plan application that addresses the requirements of 5.03.05. It should specify the timing of all public improvements (e.g. street improvements/dedications).
- c. Please indicate all easements on the landscape plans and address any conflicts. Please get confirmation from PGE that the proposed 5 foot utility easement is sufficient for their purposes. If easements needs to be widened, it may impact the site/landscaping/civil plans.
- d. As noted in the TIA, measures will be need to be included with the proposal that effectively minimize and reduce vehicular traffic. While some of these must be coordinated with a final known tenant, not all do. These can include enhancements to on and off-site transit, pedestrian/bicycle infrastructure as well as TDM measures.
- e. The building height variance references a 55 foot building, however, none of the proposed architectural renderings (or cross-sections) indicate that height. Please delineate heights for each portions of the buildings and modify the plans accordingly.
- f. Provide details on the proposed swing gates. Height, directions, locking mechanism, etc. Are these proposed for nightly security, will they include manned security?

The following are items are not required as part of the completeness review, but are specific comments and recommendations you should be aware of and address:

- Please be aware that, at the time this was prepared, Staff had not received any comments or heard from the Woodburn Fire Department. Owing to the size and height of the structure, it would be advisable to contact Jim Walker with the Woodburn Fire District for feedback (503-982-2360 or jim.walker@woodburnfire.com).
- The applicant is strongly encouraged to provide enhanced landscaping (e.g. quantity, height, depth) along the northern and eastern property lines to mitigate any adverse impacts of the building mass and truck activity on the public.
- The applicant is strongly recommended to have discussions about the plans with the surrounding neighbors, especially the residential subdivision of the north and the property owner at the northeast corner of Parr Rd and the future Evergreen extension. Please keep me informed on the details of those discussions.

- To clarify the impacts of the new building on the existing residential neighbors, please add a rendering of the “Site Selections and Shadow Plans (A3.11) indicating a profile cross section from the northern property line (include the proposed wall).

Feel free to have anyone on your team call and ask clarifying questions of City, County Staff but make all resubmittals through this department. Please contact me at 503-980-2445 or chris.kerr@ci.woodburn.or.us with questions.

Sincerely,



Chris Kerr
Community Development Director

cc: Peter Skei, VP Specht Development, Inc.
Dago Garcia, P.E., City Engineer
Janelle Shanahan, PE Marion County Public Works

Attachments: Memorandum, Chuck Green, PE May 16, 2022
Memorandum, Dago Garcia, PE, Woodburn Public Works Department May 18, 2022
Memorandum, Janelle Shanahan, PE Marion County Public Works May 19, 2022



**Project Weisz 50 Acres Site
Public Works Comments
May 18, 2022**

Prior to deem application complete:

1. Applicant to provide plans for the construction of Evergreen Road and Parr Road intersection according to City and Marion County requirements.
2. Evergreen Road transition to the east side shall start from Parr Road and not from the north side.
3. Applicant to provide an estimate of their proposed water and sewer usages for city's review.
4. Number of driveways and spacing shall comply with Woodburn Development Ordinance and minimum sight distance requirements (between driveways and street intersections).
5. Applicant to provide plans to tie proposed water main on Stacy Allison Way (at existing or future street improvements, pending timing of this development and construction of Stacy Allison Way Apartments Ph2 project).
6. Pending timing of construction of Stacy Allison Way Apartments Ph2 project, applicant would be required to extend/improved Stacy Allison Way road from Hooper Street to their northerly property line. The Applicant, not the City, is responsible for obtaining easements and right-of-way dedications from other property owners for the construction of a public street.
7. Applicant to financially contribute to the installation of a water main across I-5 to tie in to the new water main that is being installed by the Amazon project. Contribution pending applicant analysis of flow requirements for their development.
8. All required on-site and off-site detention area(s) for the runoff from this development will need to be provided in accordance with a final Engineer stamped storm drainage hydraulic analysis. The property owner shall maintain all on-site and off-site detention areas in perpetuity. Detention areas are not allowed in the right-of-way or public utility easements. All detentions facilities shall be in private property, except "the detention facility adjacent to I-5, and maintain in perpetuity by the Developer/Property owner.

9. Applicant to obtain easements or deed dedications for the installation of the storm drainage system between their property and existing storm detention facility located along the east side of I-5 interstate. Extension of the existing storm drainage facility located along I-5 may be public when the property dedication is completed. Dedications shall be recorded to the city prior to Civil Plans approval.

Applicant to provide more information on proposed storm drainage system on the west side of the development. All existing public drainage facilities are gravity systems.

10. A permit from the Oregon Division of State Lands and US Army Corps of Engineering will need to be obtained to mitigate/delineated wetlands. Permit shall be obtained prior to approved civil plans, wetlands cannot encroach future public roads. The applicant, as applicable, shall also obtain other required regulatory permits.
11. Applicant to provide a plan profile of existing 18" water main located on the east side of proposed Evergreen Road extension. Minimum water main cover shall be 4ft; existing main may need to be relocated.
12. Engineer of record to submit a pavement design for all proposed public streets. Street cross-section (asphalt thickness, base rock, etc.) pending review of Engineer of Record pavement design report.
13. When applicable dead end streets (permanent or temporary) shall comply with City of Woodburn and Woodburn Fire District requirements for dead end streets.
14. Private fire protections system pending Woodburn Fire District and Building Division review and approval.

General Notes:

15. Applicant to verify that both Civil and Road Drawings display the same proposed public utility pipes within the proposed public roads.
16. All City-maintained facilities located on private property shall require a minimum of 16-foot wide utility easement conveyed to the City by the property owner. This is the applicant's responsibility to provide, not the City's. Utilities of unusual depth, size or location may require a larger width.
17. The water mains serving this shall be sized in accordance with flow and fire protection requirements. The water mains shall have a 4ft minimum cover from final

grade.

18. Fire hydrant locations and fire protection requirements shall be as per the Woodburn Fire District and City of Woodburn requirements.
19. Actual public fire hydrant locations and in-line valving locations shall not be determined until the final Civil plan final review.
20. Civil plans approval are done at the time of construction permits. Public infrastructure will be constructed in accordance with plans approved by public works and Marion County when applicable.
21. All right-of-way and public utility easement dedications shall be recorded prior to deem all public improvements complete.



Marion County

OREGON

PUBLIC WORKS

(503) 588-5036

May 19, 2022

Chris Kerr, Community Development Director
City of Woodburn

**BOARD OF
COMMISSIONERS**

Danielle Bethell
Colm Willis
Kevin Cameron

RE: Specht Industrial

Dear Chris,

DIRECTOR

Brian Nicholas, P.E.

We appreciate the opportunity to review and comment on the TIA dated April 20, 2022, provided for the Phased Specht Industrial (Weisz 50 Acres) in the City of Woodburn. Marion County has jurisdiction of Parr Road and Butteville Road in the vicinity of the proposed project. We offer the following comments:

ADMINISTRATION

**BUILDING
INSPECTION**

1. A development agreement shall be required with the developer to address necessary mitigations and proportionate share on county facilities, such as the intersection of Butteville Road & Parr Road and the proposed new intersection of Evergreen Road and Parr Road.

**EMERGENCY
MANAGEMENT**

2. The County 2005 Transportation System Plan (TSP) identifies a project at the intersection of Butteville Road & Parr Road, which would involve modifications to the grade and intersection configuration. Furthermore, a high crash rate was calculated in the TIA at the same intersection. The project must contribute a proportionate share to the intersection improvements. Proportionate share amount is determined based on contributing daily traffic generated by the proposed project at this intersection.

ENGINEERING

**ENVIRONMENTAL
SERVICES**

3. Please specify the percentage of SB traffic at Butteville Road & Parr Road (#22) on Figures 9A and 9B. It is unclear how much of the 10% to/from NW of Butteville Road & OR219 and the 60% to/from I-5 is anticipating using Butteville Road.

OPERATIONS

4. The TIA incorrectly assumes that all intersections are within the city limits (page 9) and incorrectly lists Industrial Road and Stacy Allison as County roads (page 11).

PARKS

PLANNING

5. Currently Parr Road at the location of the proposed Evergreen connection/intersection is under County jurisdiction, and design review and permit approval from county is required. This intersection is being proposed as an all-way stop controlled intersection, but I do not see any warrant analysis or operations of how the intersection functions as a TWSC intersection.

SURVEY

6. The intersection of Butteville Road & Parr Road meets the left-turn lane warrant for the southbound left-turn movement under all evening peak hour scenarios. Thus, a left-turn lane is warranted under existing conditions. We would like to see how the proposed project impacts the intersection and what length of left-turn lane is required.

To: Chris Kerr
From: Janelle Shanahan
RE: Specht Industrial
May 16, 2022

Page 2

7. The amount of new truck traffic being generated by the proposed project needs to be noted and the impact to Parr Road needs to be assessed.

Sincerely,

Janelle Shanahan, PE
Marion County Public Works
Email: jshanahan@co.marion.or.us
Ph: (503) 566-4147

c: Lani Radtke, PE, Marion County Engineer
Carl Lund, PE, Marion County Traffic Engineer



Memorandum

To: Woodburn Development Review: Chris Kerr, Community Development Director

From: Chuck Green, PE 

Copies: File

Date: May 16, 2022

Subject: UPDATED: Review of Specht Phase Spec/Weisz (formerly Project Gamos) Traffic Impact Study Scoping (Updates February 23, 2022 and May 13, 2022 memo)

Otak Project #: 40141

Development Review Reference: DR 22-02, EXCP 22-01, PLA 22-01, & VAR 22-01

This memo serves as an update to my February 2022 of the traffic impact analysis scoping for the project formerly known as Project Gamos. This is based on a review of the April 20, 2022 Traffic Impact Study (TIA) submitted by Brent Ahrend of Mackenzie Engineering.

The April TIA notes that the scope of the study is based on the scoping review and Project Incompleteness memo from the earlier work. Below are my comments, findings and recommendations as far as the TIA scoping.

The TIA was developed for "Option A" of the site development, to "expand the Phase 1 building (512,798 sq. ft.) to the west to contain up to a total of 974,648 SF with corresponding expansion of onsite trailer storage/fleet parking, passenger vehicle parking, stormwater detention facilities, and landscaping. Note that the total square feet of 974,648 is higher than the "Option B" discussed in the TIA, which has a total of 862,576 square feet. Note that the two buildings referenced in the project plans and narrative total 974,498 square feet instead of 974,648, but that difference is inconsequential and the TIA uses the higher number.

The TIA scoping memo was reviewed with input from the following documents:

- Oregon Department of Transportation (ODOT) Analysis Procedures Manual (APM), Version 2 as Revised, November 2020 with new Appendix 3E, "Traffic Volume Development During Disruptive Events" including the effects of the COVID-19 Pandemic
- City of Woodburn's Comprehensive Plan (September 2019)
- City of Woodburn's Transportation System Plan (September 2019)
- City of Woodburn's Transit Plan Update (November 2010)
- Woodburn Development Ordinance (WDO), as revised in April 2020, including Section 2.05.02 Interchange Management Area Overlay District, and Section 3.04.05 Traffic Impact Analysis.
- Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition (September 2021) and Trip Generation Handbook, 3rd Edition (September 2017).

- Recent development traffic impact analyses in the site vicinity including Project Basie.

Summary of Findings

The completeness review of the developer's proposed Traffic Impact Analysis scope has the following findings and recommendations; this is not a detailed review of the TIA analysis or findings, which will come later:

General Requirements

Per the WDO, "A Traffic Impact Analysis (TIA) is required for all land use applications subject to the provisions of this Section. The TIA must meet City and ODOT administrative rule (OAR Chapter 734, Division 51) requirements and shall include an evaluation and recommendation of feasible Transportation Demand Management (TDM) measures that will minimize peak hour vehicle trips generated by the proposed development. This proposal is contained with Subarea D of the IMA, and thus subject to this requirement. Other requirements for analysis of transportation impacts from City code and development standards apply as well.

Study Area

The April TIA increased the number of intersections studied from the previous TIA, but still did not list two locations recommended to be included in the February TIA scoping memo:

- Settlemier at Hayes and
- OR 214 at Settlemier.

Both of those intersections were included in the operations and safety analysis, however.

They also note "staff suggested analysis of the intersection of OR 214 with Lawson Avenue" but that must have been in a discussion with ODOT Region 2 staff, as it was not one of the locations I recommended earlier. It is a right-in/right-out intersection that provides more of a frontage road (to I-5) secondary access to the commercial strip west of Evergreen. It would not carry many, if any, trips to the Specht site unless they were pass-by trips. I am OK with not including that intersection in the analysis.

Trip Generation and System Development Charges

- The April TIA's trip generation uses ITE Land Use Code 156 which is "High-Cube Parcel Hub Warehouse." It is unclear at this point whether the project application is for a Chewy regional fulfillment center. The April TIA indicates a more general hub warehouse use, which is defined by ITE as a building used "primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses." This would make the proposal different from a fulfillment center.
- The sample size used by ITE to develop trip generation calculations for Land Use Code 156 is small, only four (4) case studies where AM and PM peak hour trip generation of the adjacent street system was observed, and only two (2) cases where the generator's (the site's) PM peak hour trip generation was captured. According to ITE's Trip Generation Handbook, with a limited number of case studies such as this, caution is expressed for using the fitted curve rates where there are four case studies, and where there are only two case studies, use of the fitted curve equation is not recommended. Thus, use of average rates for the TIA is acceptable.

- My calculations for trip generation using ITE's 11th Edition Trip Generation Manual query tool are slightly different from Mackenzie's. See below:
 - Weekday: Mackenzie 4,466 trips, Otak's calculation = 4,513 trips, a difference of 1%.
 - AM Peak Hour: Mackenzie (average rate) = 675 trips, Otak (average rate) = 682 trips, a difference of 1%.
 - PM Peak Hour (system): Mackenzie = 617 trips, Otak = 624 trips, again a 1% difference. Note that using the fitted curve rate for PM peak trip generation of the surrounding street system yields 1,120 PM peak hour trips, but there are only four case studies.
 - PM Peak Hour (generator): Mackenzie did not include in their trip generation table, Otak = 692 trips, 12% higher than Mackenzie's PM Peak of the surrounding system calculation. ITE's Trip Generation tool does not calculate a fitted curve trip generation for the PM peak of the generator (site) due to only two case studies. The average rate in this case should be acceptable.

- As PM Peak Hour Trips will be used to assess Transportation and Interchange System Development Charges (TSDC, IDC), there are two questions which need to be clarified or resolved as part of this TIA:
 - The April TIA's trip generation uses ITE Land Use Code 156 which is "High-Cube Parcel Hub Warehouse." Does the site's intended use match the ITE Land Use Code definition? That is not clear from the building plans as these are speculative plans without a specific tenant or use. The actual tenant(s) may develop a more trip-intensive use. It is unclear at this point whether the project application is for a Chewy regional fulfillment center. The April TIA indicates a more general hub warehouse use, which is defined by ITE as a building used "primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses." This would make the proposal different from a fulfillment center.
 - What is the appropriate PM peak hour to use, *System Peak* or *Peak Hour of the Generator*? The *System Peak Hour* is based on the peak hour of the adjacent road system (typically 4:30-5:30 PM or 5-6 PM) while the *Peak Hour of the Generator* is based on the peak hour of the site's trip generation. As was the case with Project Basie, the site peak trip generation rates were significantly higher than the site's trip generation rates during the system peak. Project Basie's site peak trip generation numbers were high enough to actually change the peak of the adjacent system. Accordingly, a methodology was developed during the Project Basie review to use the system peak trip generation to assess SDC changes. The TIA should be revised to include a similar analysis to what Project Basie did to determine the appropriate PM peak hour to use for analysis and SDC assessments.

Mackenzie did analyze trips and level-of-service for both PM Peak system and generator in the TIA. With the additional 75 trips generated during the generator peak compared to the system peak, it does not appear that this would change the system peak like what Project Basie will be doing. However, when tracking trips for the Interchange Management Area, the higher number should be used, or Mackenzie should produce a calculation that covers the 5-6 PM peak hour used previously for the IMA trips, as the site's PM peak (system and site) straddle that peak hour.

Trip Distribution

The April TIA assumed the extension of Evergreen Road to the south and connecting to Parr Road with a new intersection. The trip distribution rates shown for this scenario match what was developed for the same scenario for the earlier TIA. The rates appear reasonable.

Traffic Operations and Safety

- The April TIA's additional intersections included in the analysis included the I-5 ramps for traffic and safety impact analysis as requested earlier by both the City and ODOT.
- The TIA should incorporate ODOT comment on use of an average of the commuter and summer trends from the appropriate Seasonal Trend Table to calculate 30th highest hour, including any adjustments for COVID-19 since the traffic counts are recent.
- The Applicant was made aware that proportionate share mitigation contributions due to collision rate and/or mobility threshold exceedances have been previously conditioned at the intersections below. They appear to recognize that but do not offer specific calculations in the April TIA:
 - Evergreen at Hayes
 - Evergreen at Stacey Allison Way
 - I-5 both NB and SB ramps
 - OR 214 at Evergreen
 - OR 214 at Settlemier
 - OR 214 at 99E
 - Butteville/Parr intersection (Marion County), if Evergreen is connected to Parr.
- The April TIA did address the impacts of construction traffic on streets along the primary construction access route(s): "Trip generation impacts of construction traffic was requested to be addressed by the City but is not typically included in these reports. The applicant has indicated construction traffic will be directed to use Butteville Road to access the site from the south instead of using Evergreen Road. The number of trips and the time of day they will be traveling will depend on the construction schedule and is unknown at this time." That would be acceptable as a condition of approval.
- For state highways, the safety analysis appears to be consistent with the ODOT Analysis Procedures Manual.

Cumulative Impacts

Both the Specht Development proposal and another in close proximity, 8708 Parr Road – Kalugin, are currently in the initial scoping and review cycles, and thus are not considered "in-process" with regard to the traffic operations analysis. There is a substantial overlap in terms of the intersections being studied and potentially impacted. While both include a general assumption for background traffic growth, neither addresses the trips from the other proposal. If both proposals are approved, it is very likely that the cumulative additional (new) trips added to intersections such as Parr Road/Evergreen Road, Parr Road/Stubb Road, Parr Road at Butteville Road, and others will exceed the background traffic growth assumptions. To best address this, the cumulative trips generated by both proposals should be used to develop a composite and comprehensive impact analysis, instead of segmenting or piecemealing the analysis.

Transportation Demand Management

- The April TIA does mention Transportation Demand Management and does list existing bicycle, pedestrian and transit facilities. However, the only analysis isn't really an analysis, it's a list and a deferral: "The trip generation assumptions used in this analysis do not account for potential Transportation Demand Management (TDM) strategies. Without a specific tenant or tenants, the owners can not commit to specific strategies, but will consider the following when tenants are selected:

- Carpool/rideshare
 - Transit subsidies
 - Bicycle storage facilities/showers
 - Flexible work schedules/shift changes outside typical peak hours.
- No specific impact analysis, mitigation or proportionate share contributions were analyzed and recommended for bicycle and pedestrian facilities, and for transit facilities and service. These items are required to be analyzed in more detail than what was presented in the April TIA:
- Transportation Demand Management/ Commute Trip Reduction
 - Bicycle and pedestrian modes
 - Public transportation, especially analyzing transit operations and capacity pursuant to the Woodburn Transit System Plan.



Oregon

Kate Brown, Governor

Department of Transportation

Region 2 Tech Center

455 Airport Road SE, Building A

Salem, Oregon 97301-5397

Telephone (503) 986-2990

Fax (503) 986-2839

DATE: June 1, 2022

TO: Casey Knecht, PE
Development Review Coordinator

FROM: Arielle Ferber, PE
Traffic Analysis Engineer

SUBJECT: Weisz Project (Woodburn, OR) – Outright Use
TIA Review Comments

ODOT Region 2 Traffic has completed our review of the submitted traffic impact analysis (dated January 24, 2022) to address traffic impacts due to development southwest of the Evergreen Road at Sweetwater Avenue intersection in the city of Woodburn, with respect to consistency and compliance with ODOT's Analysis Procedures Manual, Version 2 (APM). The APM was most recently updated in October 2020. The current version is published online at: <http://www.oregon.gov/ODOT/TD/TP/Pages/APM.aspx>. As a result, we submit the following comments for the City's consideration:

Analysis items to note:

- This study utilized the outdated Highway Capacity Manual (HCM) 2000 and did not utilize methodology from the current HCM 6th Edition for reporting the signalized intersections v/c operations. ODOT recommends use of HCM 6 methodology for determining v/c operations. While the operational analysis will be impacted, it is unlikely that the overall results of the analysis will change.

Recommended analysis items to be addressed:

1. Crash Analysis:

- For the OR 219 at Butteville Road intersection, the ODOT 90th percentile crash rate for a rural 3ST is 0.475, not 0.860.
- Table 2 lists OR 219 at I-5 SB with 34 crashes, however, it should be 33.
- The crash analysis should also include review for top SPIS locations within the study area and at study area intersections for the most recent three years (2017, 2018, and 2019 SPIS lists).
- Detailed crash analysis discussion for OR 219 at OR 99E should be included due to it exceeding ODOT 90th percentile crash rate as well as an INJ A and pedestrian crashes.

2. Utilizing the weighted average rate method of trip generation for Land Use Code 156 (High-Cube Parcel Hub) results in 4,513 daily trips, 682 AM peak trips (341 in, 341 out), and 624 PM peak trips (424 in, 200 out). In addition to potentially impacting the operational results of the analysis the increase in trips also increases the trips over the parcel's IAMP allotment. ODOT recommends the applicant coordinate with the City regarding the potential to exceed the parcel's IAMP allotment or reduce the planned intensity of the development to fit within the allotment.
3. The proposed site will generate 338 arriving and 337 departing AM peak hour trips. However, it appears 357 arriving and 339 departing trips at the site have been identified, per Figure 12A. The study should ensure the accurate number of trips arriving and departing the site are identified across the study area prior to performing any intersection reanalysis work.
4. The proposed site will generate 420 arriving and 197 departing PM peak hour trips. However, it appears 199 departing trips have been identified leaving the site, per Figure 12B. The study should ensure the accurate number of trips arriving and departing the site are identified across the study area prior to performing any intersection reanalysis work.
5. A peak hour factor (PHF) of 1.00 was utilized for study area intersections for all analysis conditions. However, the PHF identified by the actual count data should be used for existing conditions (*APM* Version 2, Section 5.8.2). Therefore, the analysis should use the appropriate PHF for the current year analysis for all intersections.
6. A PHF of 1.00 was utilized for study area intersections for the future year analysis. However, analyses of future years should typically use the appropriate default PHF (*APM* Version 2, Section 5.8.3), unless the count PHF is greater. The analysis should use either the count PHF or appropriate default PHF, whichever is greater.
7. The *Oregon Highway Plan (OHP)* v/c mobility target for OR 99E (regional highway, within UGB, non-MPO, 35 MPH) at the intersection with OR 214 is 0.90 rather than 0.95 as cited (*OHP* Table 6 was revised on 12/21/2011). The study should be updated to compare operations to the accurate mobility standard. This will have an effect on the operational analysis results and could have an effect on the conclusions of the study.
8. The OR 214 at OR 99E intersection exceeds mobility targets in the 2025 Post-Development, however, there is no discussion. Discussion should be added as well as potential mitigation measures to meet the intersection's OHP mobility target.
9. Our review identified the following errors in the Synchro analysis:
 - Typically, ODOT will not run analyses with zero vehicles making available permitted movements. Rather, if count data does not identify any vehicles within the peak hour making a movement, we recommend assuming a low volume (1 or 2) rather than zero. The algorithms within Synchro utilize different formulas if there are zero conflicting vehicles.
 - The OR 219 at Butteville Road intersection is currently an unsignalized two-way stop controlled intersection and it should be analyzed as such in the existing conditions.
 - The OR 219 at Woodland Avenue intersection was analyzed with the incorrect volumes for the WBL and WBR movements for all scenarios.
 - The Butteville Road at Parr Road intersection was analyzed with the incorrect volumes for the NBR movement for all scenarios.
 - The OR 214 at I-5 NB Ramp intersection was analyzed with the incorrect volumes for the WBT movement for all scenarios.

- Settlemier Avenue at Hayes Street eastbound approach should be an exclusive left-turn lane and shared through-right lane, not shared left-through-right
- In the 2024 Post scenario the NBL movement at the Evergreen Road at South Access intersection should be 66, not 65
- In the 2024 Post scenario the NBT movement at the Parr Road at Industrial Road/Evergreen Road should be 22, not 21

10. Our review identified the following errors:

- Table 1:
 - OR 214/OR 219 travel lanes varies from 2 4 lanes within the study area
 - Butteville Road is under County jurisdiction, not ODOT
- Table 2 lists OR 219 at I-5 SB with 34 crashes, however, it should be 33.
- Under Performance Measures on page 9, OR 219 is located within the Urban Growth Boundary (UGB) of Woodburn, but is not located within an MPO.
- Table 4 incorrectly shows the OR 219 at Butteville Road intersection mobility target as LOS E when it should be 0.90.
- Figure 1 displays the planned OR 219 at Butteville Road roundabout as a single lane roundabout when it is planned as a partial multilane roundabout.
- In Figure 3 Evergreen Road at Hooper Street eastbound approach incorrectly shown as exclusive left- and right-turn lane when it should be a shared left-right lane
- In Figure 4A traffic volumes for the OR 219 at Butteville Road intersection do not align with raw count volumes.
- In Figure 4B at the OR 99E at OR 214 intersection the WBL movement is displayed as 134, however, the raw count shows 233.
- Synchro reports for the Industrial Road at Stacy Allison Access intersection were not provided in the Appendix.

Proposed mitigation comments:

11. ODOT maintains jurisdiction of the Hillsboro-Silverton Highway No. 140 (OR 219/OR 214), Pacific Highway No. 01 (I-5), and Pacific Highway No. 081 (OR 99E) and ODOT approval shall be required for all proposed mitigation measures to this facility.
12. No mitigation measures to a state highway have been proposed. While this conclusion may be appropriate the above comments, in particular comments #2 - #8, will have an impact on the operational results which may be significant enough to have an effect on the conclusions of the study. If the City determine any of the above comments will merit the need for reanalysis, we would be willing and able to assist with a second round of review.
13. While the study included signal warrant analysis at the Evergreen Road at Hayes Street and Evergreen Road at Stacy Allison Way intersection it only reviewed MUTCD Warrant 3: Peak Hour. Warrant 3 is typically only applicable in unusual cases such as at office complexes, manufacturing plants, or industrial complexes which attract or discharge large numbers of vehicles over a short period of time. Analysis using Warrant 1 and Warrant 2 would be more appropriate in this case. As the study has only peak hour counts at the intersection, it is recommended that the ODOT preliminary traffic signal warrant analysis be conducted instead to determine if the intersections are potentially good candidates for signalization (APM, Section 12.4.1).

14. The study recommended several potential mitigation measures. To determine the most appropriate mitigation measures it is recommended that the study analyze post-development with mitigation scenarios.

Thank you for the opportunity to review this traffic impact analysis. As the analysis software files were not provided, Region 2 Traffic has only reviewed the submitted report.

It is likely the above comments, particularly comments #2 - #8, will have an effect on the operational analysis results which may be significant enough to have an effect on the conclusions of the study. If the City determines any of the above comments will merit the need for reanalysis, we would be willing and able to assist with a second round of review.

If there are any questions regarding these comments, please contact me at (971) 208-1290 or Arielle.Ferber@ODOT.state.or.us



Oregon

Kate Brown, Governor

Department of Transportation

Region 2 Tech Center

455 Airport Road SE, Building A

Salem, Oregon 97301-5397

Telephone (503) 986-2990

Fax (503) 986-2839

DATE: August 11, 2022

TO: Casey Knecht, PE
Development Review Coordinator

FROM: Arielle Ferber, PE
Traffic Analysis Engineer

SUBJECT: Phased Speculative Industrial (Woodburn, OR) – Outright Use
TIA Review Comments

ODOT Region 2 Traffic has completed our review of the submitted revised traffic impact analysis (dated July 21, 2022) to address traffic impacts due to development southwest of the Evergreen Road at Sweetwater Avenue intersection in the city of Woodburn, with respect to consistency and compliance with ODOT's Analysis Procedures Manual, Version 2 (APM). The APM was most recently updated in June 2022. The current version is published online at: <http://www.oregon.gov/ODOT/TD/TP/Pages/APM.aspx>. As a result, we submit the following comments for the City's consideration:

Analysis items to note:

- This study utilized the outdated Highway Capacity Manual (HCM) 2000 and did not utilize methodology from the current HCM 6th Edition for reporting the signalized intersections v/c operations. ODOT recommends use of HCM 6 methodology for determining v/c operations when possible. While the operational analysis will be impacted, it is unlikely that the overall results of the analysis will change.

Recommended analysis items to be addressed:

1. The study's approach of assuming a 50/50 split of different land uses across both planned buildings as well as the planned reassessment at a future date following selection of tenant(s) is atypical. It is recommended that the applicant coordinate with the City to confirm that this approach is acceptable.
2. Typically build conditions for each phase should be analyzed separately with appropriate build years. It appears that Phase 1 and Phase 1 + 2 were analyzed using the same future build year as a way to simplify the analysis. The applicant should coordinate with the City to confirm that the assumption to use a single future build year for both phases is appropriate.

3. Crash Analysis:
 - The crash analysis should also include review for top SPIS locations within the study area and at study area intersections for the most recent three years (2018, 2019, and 2020 SPIS lists).
 - Detailed crash analysis discussion for Evergreen Road at Stacy Allison Way intersection should be included due to it exceeding its respective ODOT 90th percentile crash rate.
4. Our review identified the following errors regarding traffic volume development in the Figures. These errors may have an impact on the operational result and/or calculations for determining the development's proportionate share of mitigations:
 - In Figure 5B it appears that the seasonal factors were not applied appropriately resulting in traffic volumes lower than expected. In Figure 5A it appears the seasonal factor at the OR 214 at Oregon Way intersection was not applied correctly.
 - Site related trips (auto) have imbalances across the network in all scenarios for both AM and PM peak hours. While some are minor, some are more significant such as the following examples:
 - Figure 9A is missing 112 auto site related trips on the Evergreen Road at Hooper St intersection southbound through movement.
 - Figure 12D has the incorrect number of site related trips (auto) entering and exiting the site.
 - Figure 14D is missing 21 auto site related trips on the Evergreen Road at Hooper St intersection southbound right-turn movement.
 - It appears that Phase 1 + 2 Post-Development Traffic Volumes w/o Stacy Allison Way Extension (Figures 17 A and 17B) were not calculated appropriately. Several movements across the network have traffic volumes lower than the Pre-Development (Figures 8A and 8B).

Proposed mitigation comments:

5. ODOT maintains jurisdiction of the Hillsboro-Silverton Highway No. 140 (OR 219/OR 214), Pacific Highway No. 01 (I-5), and Pacific Highway No. 081 (OR 99E) and ODOT approval shall be required for all proposed mitigation measures to this facility.
6. The above comments may have an impact on the operational analysis results but would most likely not impact the overall conclusions of the analysis. However, it should be noted that comment #4 will most likely have an impact on determining the proportionate share cost calculations.
7. While the study included signal warrant analysis at the Evergreen Road at Hayes Street and Evergreen Road at Stacy Allison Way intersection it reviewed MUTCD Warrant 3: Peak Hour, which is typically only applicable in unusual cases such as at office complexes, manufacturing plants, or industrial complexes which attract or discharge large numbers of vehicles over a short period of time. In addition, while the analysis reviewed Warrant 1 and Warrant 2, as only peak hour counts were collected results of this type are limited. ODOT's preliminary traffic signal warrant analysis to determine if the intersections are potentially good candidates for signalization (APM, Section 12.4.1) may be appropriate, however, collection of a longer count and a full MUTCD signal warrant analysis is recommended.

8. The study recommended several potential mitigation measures. To determine the most appropriate mitigation measures it is recommended that the study analyze post-development with mitigation scenarios.
9. The study recommends proportionate share for potential mitigation measures at several state highway intersections. The applicant, and the City, should be aware that ODOT does not have a way to collect or administer proportionate shares. Therefore, collection of proportionate shares would need to be through the City. In addition, both the City and the applicant shall be aware no approval for any proposed mitigations have been issued at this time and proposed mitigations shall not be considered approved for installation until formal written approval has been issued. Approval request will need to be submitted to Region 2 Traffic and be accompanied by the appropriate analysis justifying such request. The approval process takes time and any approval could possibly have added features required to obtain such approval.

Thank you for the opportunity to review this traffic impact analysis. As the analysis software files were not provided, Region 2 Traffic has only reviewed the submitted report.

While the above comments may have an impact on the results of the operational analysis it is unlikely to impact the overall conclusions of the analysis. However, it should be noted that comment #4 may have an impact on proportionate share cost calculations. If the City determine any of the above comments will merit the need for reanalysis, we would be willing and able to assist with a second round of review.

If there are any questions regarding these comments, please contact me at (971) 208-1290 or Arielle.Ferber@ODOT.state.or.us

James Abbott

From: Brent Ahrend <BAhrend@mcknze.com>
Sent: Wednesday, August 17, 2022 4:30 PM
To: Chuck Green; FERBER Arielle
Cc: Chris Kerr; Dan Handel; James Abbott; Lee D. Leighton
Subject: RE: ODOT TIA Review Comments for Woodburn Specht Industrial
Attachments: 972bbf63-08c4-471b-8a35-778662322b27.png

Chuck,

Thanks for the quick feedback and coordination with Arielle!

We will prepare a supplemental analysis as requested. It will take a few days to get this together, so expect to have it early next week.

Based on our discussion last week, you though we could be deemed complete with the understanding this supplemental analysis would be timely provided. Can you and the City confirm the traffic analysis portion of the application can be considered complete?

We will let you know if we have any additional questions as we wrap this up.

Thanks,

Brent Ahrend, PE
Associate Principal | Transportation
D 971.346.3781 E bahrend@mcknze.com

MACKENZIE.

From: Chuck Green <Chuck.Green@otak.com>
Sent: Wednesday, August 17, 2022 2:56 PM
To: Brent Ahrend <BAhrend@mcknze.com>; FERBER Arielle <Arielle.FERBER@odot.oregon.gov>
Cc: Chris Kerr <Chris.Kerr@ci.woodburn.or.us>; Dan Handel <Dan.Handel@ci.woodburn.or.us>; James Abbott <JAbbott@mcknze.com>; Lee D. Leighton <LLeighton@mcknze.com>
Subject: RE: ODOT TIA Review Comments for Woodburn Specht Industrial

Brent, Arielle and I have coordinated and find that use of the 1.05 seasonal adjustment factor is acceptable east of I-5, including at the OR 214/Oregon Way intersection, as you note below. Also, as you note, Kittelson in the Project Basie TIA used a seasonal adjustment factor of 1.13 west of I-5 and at the interchange and that is acceptable for consistency. As you note, adopting these as consistent factors will result in more balanced traffic volumes between intersections for the base year.

For revising the traffic operational analysis, I would suggest that where base year intersection volumes and volumes under this revised scenario are within three percent (3%) of each other, there is no need to re-run the operational analysis for those specific intersections. As there are some non-ODOT intersections where site trips or turning movements may have been missing, we will need those corrected for all affected scenarios and the operational analysis corrected as well.

We are requesting you issue a TIA addendum with the following:

1. Documenting the seasonal adjustment factor methodology including how you got to the 1.13 and 1.05 factors.
2. Revised base year traffic volumes using the revised seasonal adjustment factors
3. Revised operational analyses for OR 214 for those intersections with more than 3% volume adjustments in the base year (which will thus include the various future-year scenarios)
4. Correction to missing site trip assignments (figures) and operational analyses for the various scenarios affected (only those where the corrections change the analysis)
5. Summary in the trip generation section as to the requested “trip budgets” for each of the phases.

This is not a request to reissue a new TIA. If you just want to revise the existing TIA’s V/C tables with clouds around the values that have changed, that would be acceptable. But we would also need the Synchro/HCM reports for the revised analyses as an appendix to the addendum.

Please let me know if you have any questions.

Chuck Green, PE (OR, WA, CO) | Senior Project Manager
Otak, Inc.

Direct: 360.906.6795 | Cell: 360.449.2132 | Main: 360.737.9613

From: Brent Ahrend <BAhrend@mcknze.com>
Sent: Tuesday, August 16, 2022 5:08 PM
To: Chuck Green <Chuck.Green@otak.com>; FERBER Arielle <Arielle.FERBER@odot.oregon.gov>
Cc: Chris Kerr <Chris.Kerr@ci.woodburn.or.us>; Dan Handel <Dan.Handel@ci.woodburn.or.us>; James Abbott <JAbbott@mcknze.com>; Lee D. Leighton <LLeighton@mcknze.com>
Subject: RE: ODOT TIA Review Comments for Woodburn Specht Industrial

Arielle and Chuck,

We wanted to respond to your questions about the highway volumes in this email. Once we confirm the approach to address the seasonal adjustments and correct the error in our PM volume estimates, we can address the other items and determine if further analysis is required.

We reviewed comments from Project Gamos (original site application) and the Report by Kittelson for Project Baise. Our review shows that our calculation of 1.39 for the adjustment at the Oregon Way intersection is consistent with prior work. Both of these projects used the average of “Commuter” & “Summer” Seasonal Trend Adjustment Factors. We verified our calculations by reviewing the ODOT seasonal trend spreadsheet, and confirming our equation by achieving the same results as Kittelson’s report of 1.13 for April and 1.05 for May for the remaining highway intersections in the study area.

We have attached ODOT’s Seasonal Trend Excel Sheet for review of our adjustment calculations.

We have also gone an additional step and reviewed the available historic counts at ODOT’s Traffic Monitoring System and found counts from 2010 and 2017 along the highway for Oregon Way and Evergreen Road. We compared the historic 2017 counts with the May 2021 counts and February 2022 counts.

- The directional volume patterns and quantity from 2017 is similar considering the 4-5 year gap
- The 2021 and 2022 raw count data is already well balance, with or without the base year growth
- It is the 1.39 seasonal adjustment applied to the 2022 TMC that creates the imbalance between intersections

The solution to the imbalance issue would be to provide a similar adjustment factor to the intersections. We propose to apply a seasonal adjustment factor of 1.13 to the interchange and intersections west of it. We propose to apply a

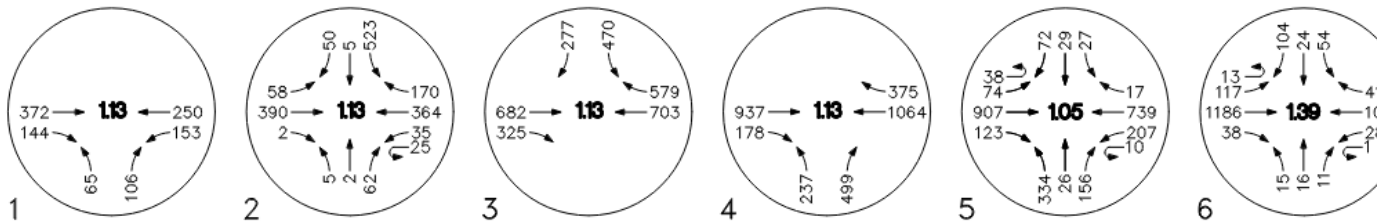
seasonal adjustment factor of 1.05 to the intersections east of the interchange, including Oregon Way. This would be geographically and count date consistent.

During review of the PM peak hour seasonal adjustment calculations, we discovered an error in our volume spreadsheet where the AM adjustment was added to the PM raw volume. This occurred at intersections along the Highway 214/219 corridor.

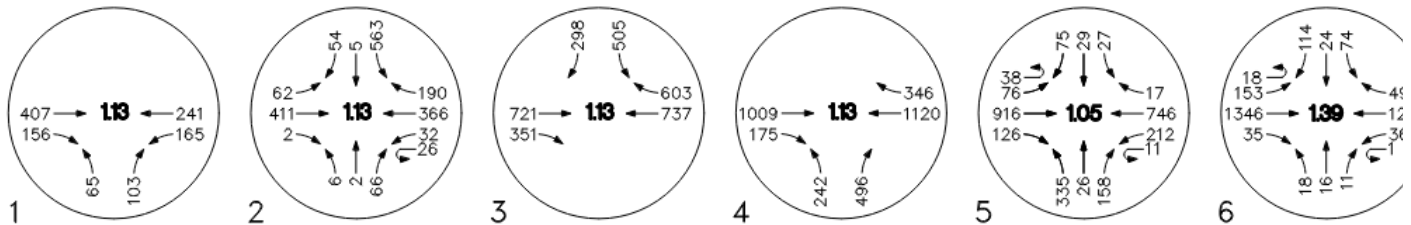
Below is the previously submitted highway volumes and the new volumes. The change is very significant at Oregon Way (intersection 6).

We have also provided what the volumes would be at Oregon Way and HWY 214 if an adjustment factor of 1.05 was used (spreadsheet snip), and you can see the volumes between adjacent intersections are much more balanced.

Previously Submitted Seasonally Adjusted Volumes



Formula Corrected Seasonally Adjusted Volumes



		86	24	56		
OR 214/ Oregon Way						
		116	14		37	
		1014		1.05	906	
		26			1	27
	6	14	16	8		

Please confirm adjusting the Oregon Way volume with the same 1.05 seasonal factor would be acceptable for this analysis, and if so, will updated capacity calculations be required?

Thank you,

Brent Ahrend, PE
 Associate Principal | Transportation
 D 971.346.3781 E bahrend@mcknze.com

MACKENZIE.

From: Chuck Green <Chuck.Green@otak.com>
Sent: Friday, August 12, 2022 1:09 PM
To: Brent Ahrend <BAhrend@mcknze.com>
Cc: Chris Kerr <Chris.Kerr@ci.woodburn.or.us>; Dan Handel <Dan.Handel@ci.woodburn.or.us>
Subject: FW: ODOT TIA Review Comments for Woodburn Specht Industrial

Brent, I tried calling your direct line and there was no answer and it did not go into voice mail. I'm forwarding to you the email discussion I had with Arielle Ferber from ODOT on a couple other items in our review of the TIA and the need for response and follow-up.

Three items are identified here and I'm passing these along after discussing with Chris Kerr this morning:

1. The site trip tracking is missing turning movements in a couple of the scenarios along Evergreen Rd, and this appears to impact the turning movements at adjacent intersections and thus LOS analysis. We are requesting that you re-look at the site trip assignments and make corrections to either missing or miscalculated turning movements and issue a revised operational analysis of the "with site" scenarios. Some examples are attached below in my discussion with ODOT.
2. There is no backup to show how you arrived at the seasonal adjustment factors (see the email chain below). With what is included now, the volumes along OR 214 are choppy and imbalanced between intersections. We are requesting that you show us how you arrived at the seasonal adjustment factors and then balance the OR 214 base year volumes and re-run the analyses for OR 214 in the various scenarios.
3. ODOT in March revised the OR 214 at Evergreen signal from FYA to protected lefts, in response to the elevated crash rate at the intersection. Thus, the City will not be conditioning Specht or future developments from proportionate share contributions at this intersection as it appears ODOT has performed the mitigation project a few months ago.

Please let me know if you have any questions.

Thanks,

Chuck Green, PE (OR, WA, CO) | Senior Project Manager
Otak, Inc.

Direct: 360.906.6795 | Cell: 360.449.2132 | Main: 360.737.9613

From: FERBER Arielle <Arielle.FERBER@odot.oregon.gov>
Sent: Thursday, August 11, 2022 3:40 PM
To: Chuck Green <Chuck.Green@otak.com>; KNECHT Casey <Casey.KNECHT@odot.oregon.gov>
Cc: Dan Handel <Dan.Handel@ci.woodburn.or.us>; Chris Kerr <Chris.Kerr@ci.woodburn.or.us>
Subject: RE: ODOT TIA Review Comments for Woodburn Specht Industrial

Chuck,

I concur with your assessment and what you plan to request from Mackenzie.

There are several site trip inconsistencies throughout the analyzed scenarios, to many to detail out individually. Having them review all their site trip assignments would be prudent.

As for the seasonal factor, I believe they used an average of commuter and seasonal trend. The value for February 1st is 1.39 and is consistent with what I have recommended be used for other projects in the area. With that being said, you're correct to point out that they should be supplying those calculations within the Appendix. Collection of a February count is not ideal, and can result in overly high seasonal factors and potentially odd results (which I believe is most likely the culprit of the large imbalance). The high seasonal factor at the OR 214 @ Oregon Way intersection appears to factor up the counts too high relative to the other adjacent intersections. There aren't many accesses between Oregon Way and Evergreen Road so those intersections shouldn't have such a large drop between them.

Thanks!

Arielle Ferber, P.E.

Traffic Analysis Engineer

ODOT Region 2

455 Airport Rd. SE, Bldg. A, Salem, OR 97031

(971) 208-1290 *New Phone Number*

From: Chuck Green

Sent: Thursday, August 11, 2022 2:52 PM

To: KNECHT Casey <Casey.KNECHT@odot.oregon.gov>; Arielle.FERBER@odot.oregon.gov

Cc: Dan Handel <Dan.Handel@ci.woodburn.or.us>; Chris Kerr <Chris.Kerr@ci.woodburn.or.us>

Subject: RE: ODOT TIA Review Comments for Woodburn Specht Industrial

Casey and Arielle, thanks for your comments. I've caught a few more site trip tracking inconsistencies (missing trips at some intersections). I have an internal coordination meeting with the City team on this and other traffic matters on Tuesday morning. I'm considering requesting that Mackenzie do a complete recheck of their site trip assignment tracking and correct errors and missing trip assignments, as this may have a slight impact at the Evergreen/Hooper intersection which seems to be where they are losing trips in their analysis – this seems to cascade through the LOS analysis of the "site plus background trips" scenarios.

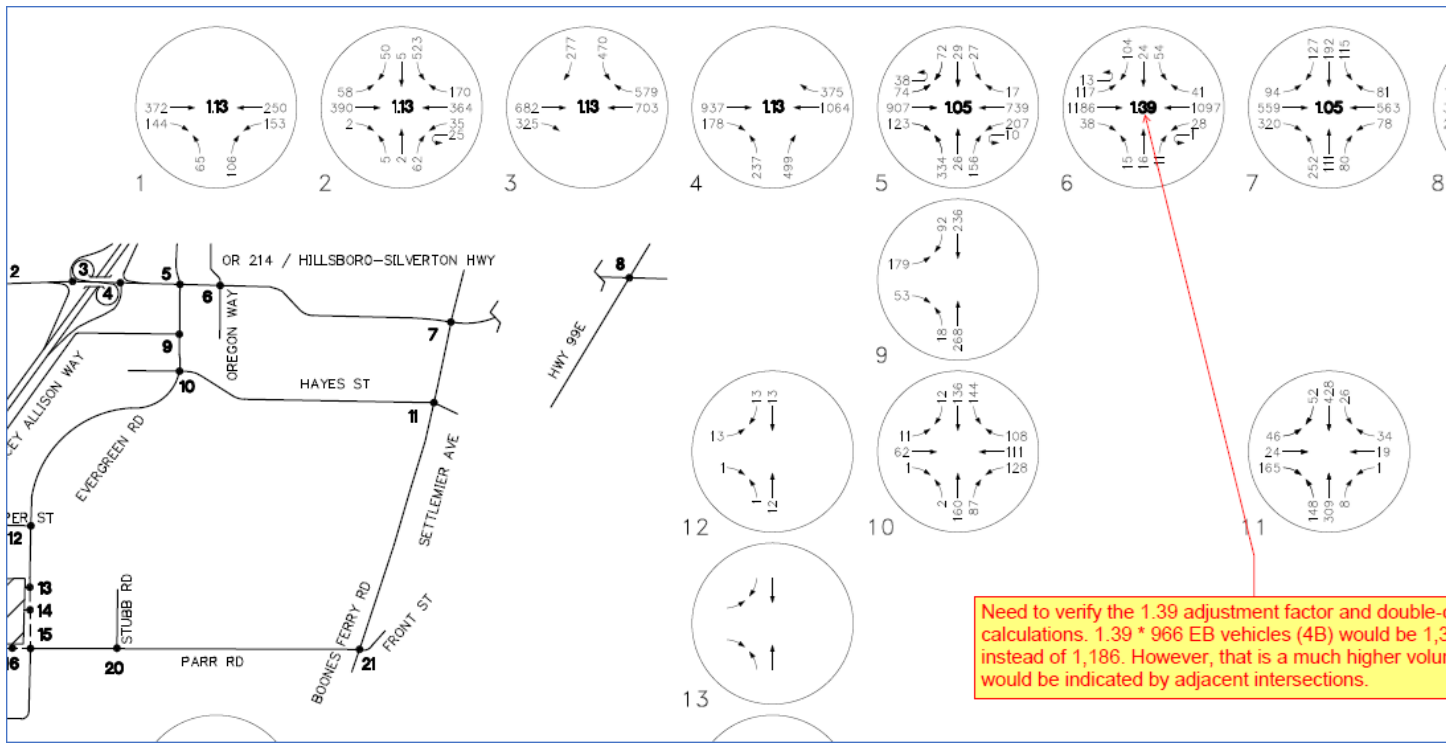
I also cannot find how they arrived at their seasonal adjustment factors. Maybe you found it, I can't. I don't see a writeup as to the On-Site ATR method (there doesn't appear to be one), nor the ATR Characteristics Table (the closest ATR is south of OR 214 on 99E and indicates the highway system in the area is "Commuter", which makes sense). I believe they may be using the ATR Seasonal Trend Method but I can't find their calculations as to how they arrived at the adjustment factors either in the TIA body or the appendix.

I ran a quick attempt at calculating what I believe these factors should be which are in the attached spreadsheet. I think Mackenzie's factors are a little high, and the 1.39 adjustment factor applied at OR 214 and Oregon Way would result in what I believe is an unrealistic base year volume. See below.

I'm thinking of requesting Mackenzie issue an addendum to show how they arrived at the seasonal adjustment factors, and perhaps do a volume balancing between intersections along OR 214 to establish reasonable base year volumes and V/C ratios. With so many different count dates and years, and a variety of adjustment factors which may or may not be correctly applied, the base year traffic volumes along OR 214 appear to be pretty choppy (non-technical term for unbalanced) from intersection to intersection.

Please let me know your thoughts.

Thanks.

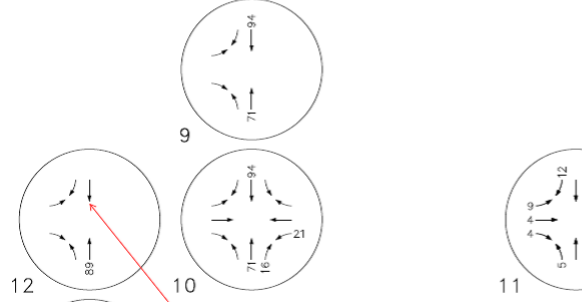
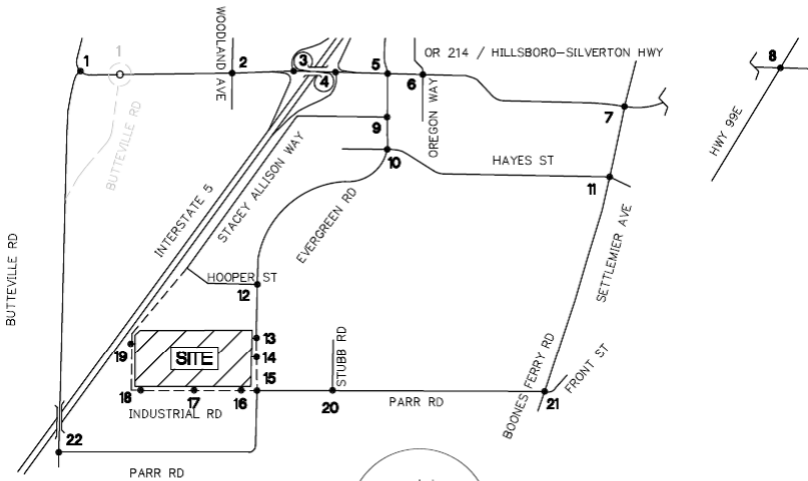
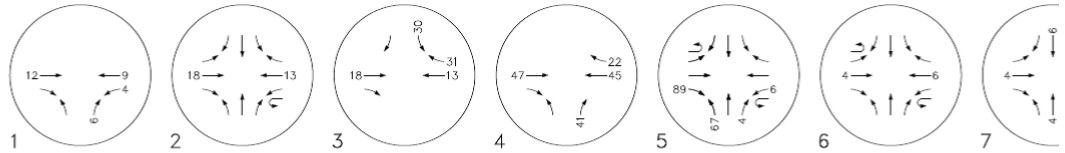




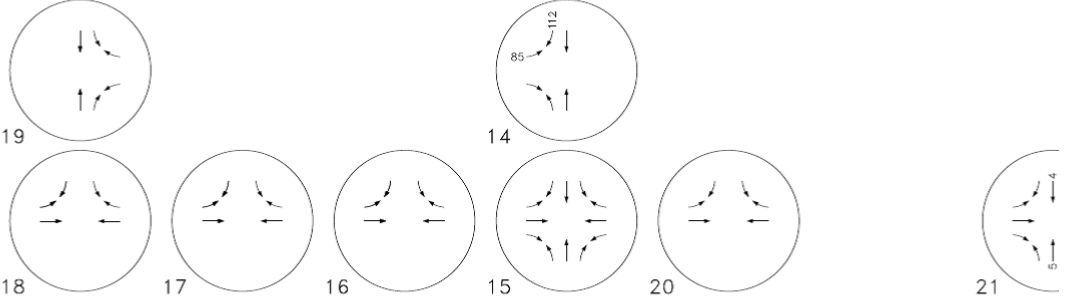
NOT TO SCALE

AM PEAK HOUR

Enter - 118
Exit - 89
Total - 207



Missing 112 SB site trips. Also, Intersection of 115 SB site trips instead of 112.



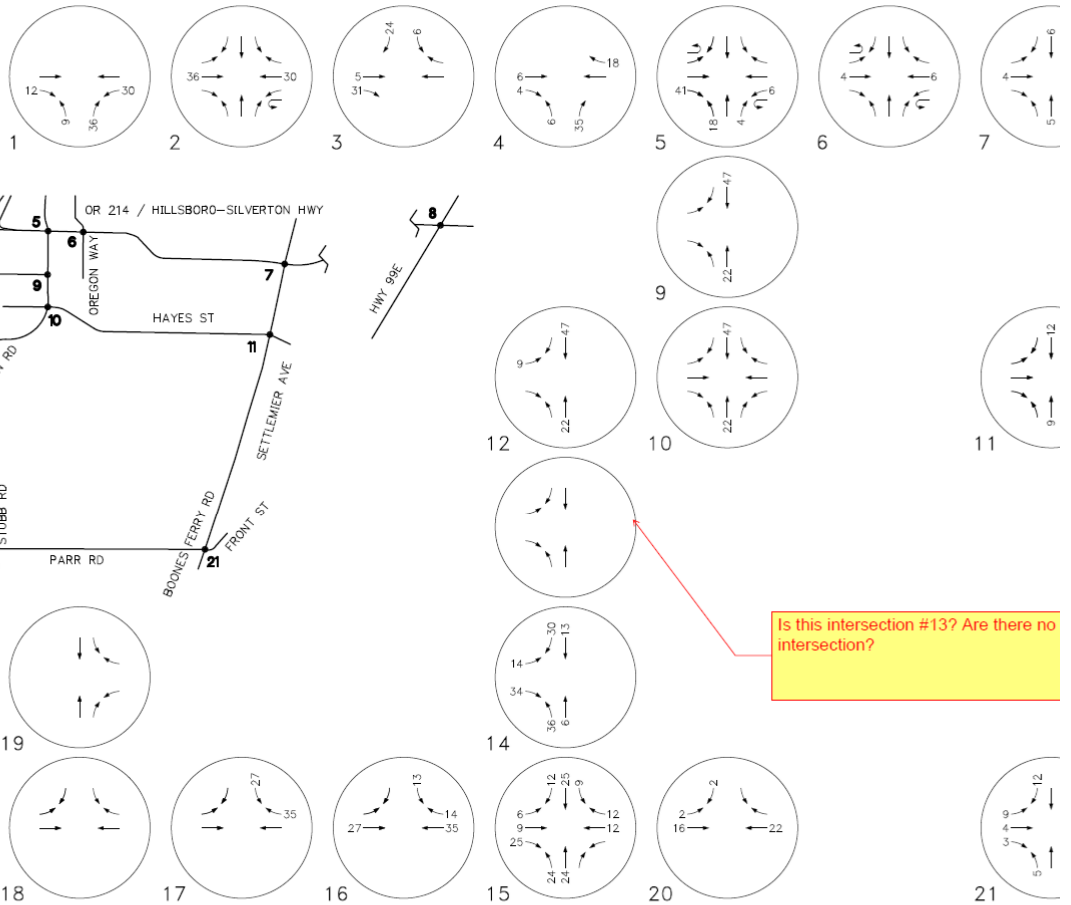
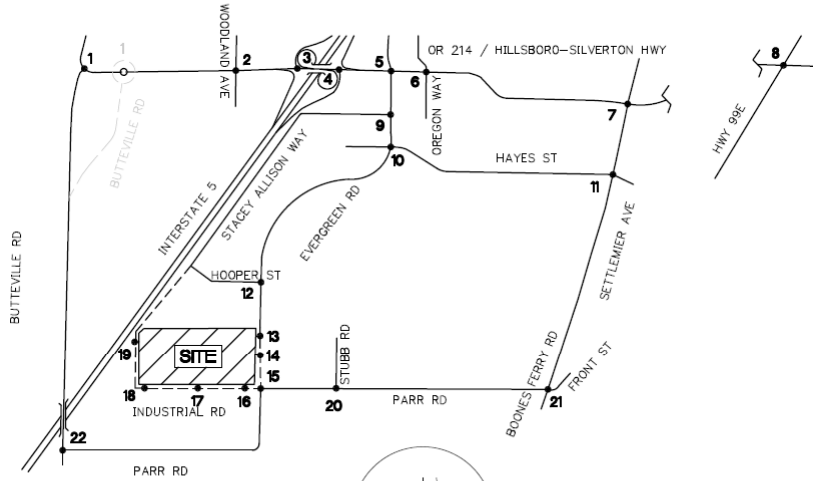
M	Portland 503.224.8090 www.mckmza.com	Vancouver 360.995.7179	Seattle 206.719.9992	DATE: 07.19.2022	PHASE 1 AUTO A W/O PARR ROAD AM PEAK HOUR WEISZ PROPERTY WOODBURN, OR
	Architecture - Interiors Planning - Engineering			DRAWN BY: JHA	
	MACKENZIE			CHECKED BY: BTA	
	© 1985-2022 ALL RIGHTS RESERVED THIS DRAWING IS THE PROPERTY OF MACKENZIE AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT PERMISSION.			JOB NO: 222008500	



NOT TO SCALE

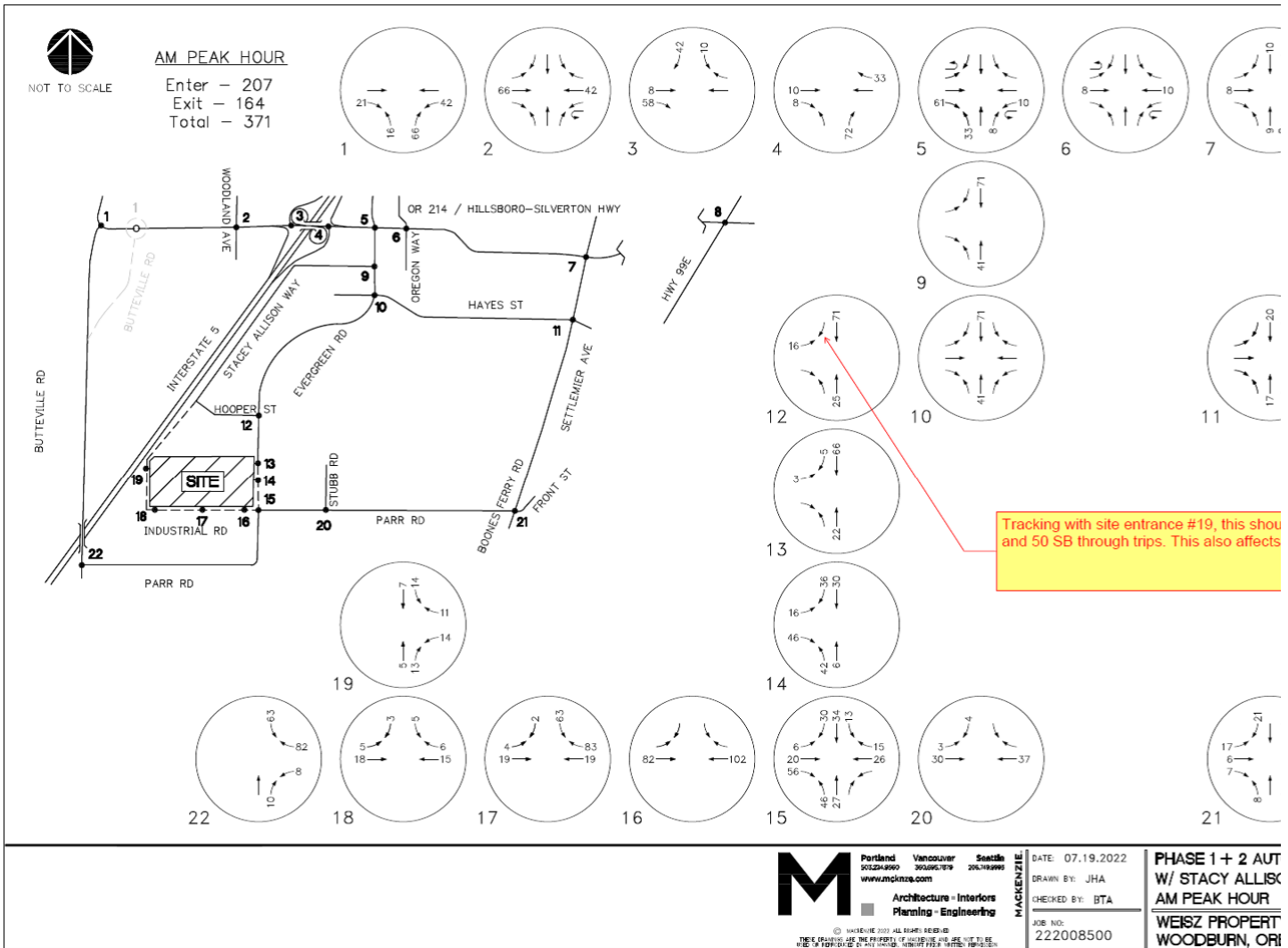
AM PEAK HOUR

Enter - 118
Exit - 89
Total - 207



Is this intersection #13? Are there no intersection?

M	Portland 503.224.8960	Vancouver 360.695.1879	Seattle 206.749.8993	DATE: 07.19.2022	PHASE 1 AUTO A/ W/ PARR ROAD C AM PEAK HOUR WEISZ PROPERT WOODBURN, OR
	www.mckinzie.com			DRAWN BY: JHA	
Architecture • Interiors Planning • Engineering				CHECKED BY: BTA	MCKENZIE
© MCKENZIE 2022 ALL RIGHTS RESERVED THIS DRAWING IS THE PROPERTY OF MCKENZIE AND IS NOT TO BE USED IN ANY MANNER WITHOUT WRITTEN PERMISSION.				JOB NO: 222008500	



Chuck Green, PE (OR, WA, CO) | Senior Project Manager
Otak, Inc.

Direct: 360.906.6795 | Cell: 360.449.2132 | Main: 360.737.9613

From: KNECHT Casey <Casey.KNECHT@odot.oregon.gov>

Sent: Thursday, August 11, 2022 12:57 PM

To: Dan Handel (Dan.Handel@ci.woodburn.or.us) <Dan.Handel@ci.woodburn.or.us>

Cc: Chuck Green <Chuck.Green@otak.com>; FERBER Arielle <Arielle.FERBER@odot.oregon.gov>; Brent Ahrend <BAhrend@mcknze.com>; Maxwell Hepburn (mhepburn@co.marion.or.us) <mhepburn@co.marion.or.us>; Carl Lund <CLund@co.marion.or.us>; Curtis Stultz <Curtis.Stultz@ci.woodburn.or.us>; dago.garcia@ci.woodburn.or.us

Subject: ODOT TIA Review Comments for Woodburn Specht Industrial

Dan,

Attached are ODOT's comments for the Specht Industrial proposal in Woodburn. The conclusions of the TIA are not likely to change by addressing these comments, but it may affect proportionate share calculations. Please contact Arielle or me with any questions.

Casey Knecht, P.E.

Development Review Coordinator | ODOT Region 2

503-986-5170 | casey.knecht@odot.oregon.gov

APPENDIX C
**TRANSIT
INFORMATION**

Bus Schedule

Monday through Friday
9:00 a.m. to 6:00 p.m.

FARES

Children five (5) and under ride free

Exact Change Only

Single Ride	\$1.25
All Day Pass	\$3.00
4 Ride Pass	\$5.00
20 Ride Pass	\$18.75

Free Medical Transportation

Free transportation to medical appointments in all areas between Portland and Salem is available for elderly Woodburn residents and those with disabilities. Donations are accepted.

Horario del Autobús

Lunes a Viernes
9:00 a.m. a 6:00 p.m.

TARIFAS

Niños de 5 años o menos viajan gratis

Sólo Cambio Exacto

Viaje sencillo	\$1.25
Pase de todo el día	\$3.00
Pase de 4 viajes	\$5.00
Pase de 20 viajes	\$18.75

Transporte Médico Gratis

Transportación gratis a todas las citas médicas en todas las áreas entre Portland y Salem para los adultos mayores que viven en Woodburn y personas con discapacidad. Se aceptan donaciones.

Dial-A-Ride

The Dial-A-Ride program provides transportation for people with disabilities and the elderly living within Woodburn who are not able to utilize the fixed route bus.

The fully-accessible van operates Monday - Friday from 9:00 a.m. - 6:00 p.m. with a cost of \$5.00 per round trip.

Dial-A-Ride

El programa Dial-A-Ride ofrece transporte para las personas con discapacidades y los adultos mayores que no pueden utilizar el servicio fijo de transporte.

La camioneta completamente equipada opera de Lunes a Viernes de 9:00 a.m. a 6:00 p.m. con un costo de \$5.00 el viaje redondo.



EXPRESS LOOP

503-982-5233

Oregon Relay 711
woodburntransit.org

Date Effective 7/1/19

Bus Schedule

Monday through Friday
9:00 a.m. to 6:00 p.m.

This material is available in alternative formats upon request.

Este material está disponible en Formatos alternativos, pregunte en la oficina.

Horario del Autobús

Lunes a Viernes
9:00 a.m. to 6:00 p.m.

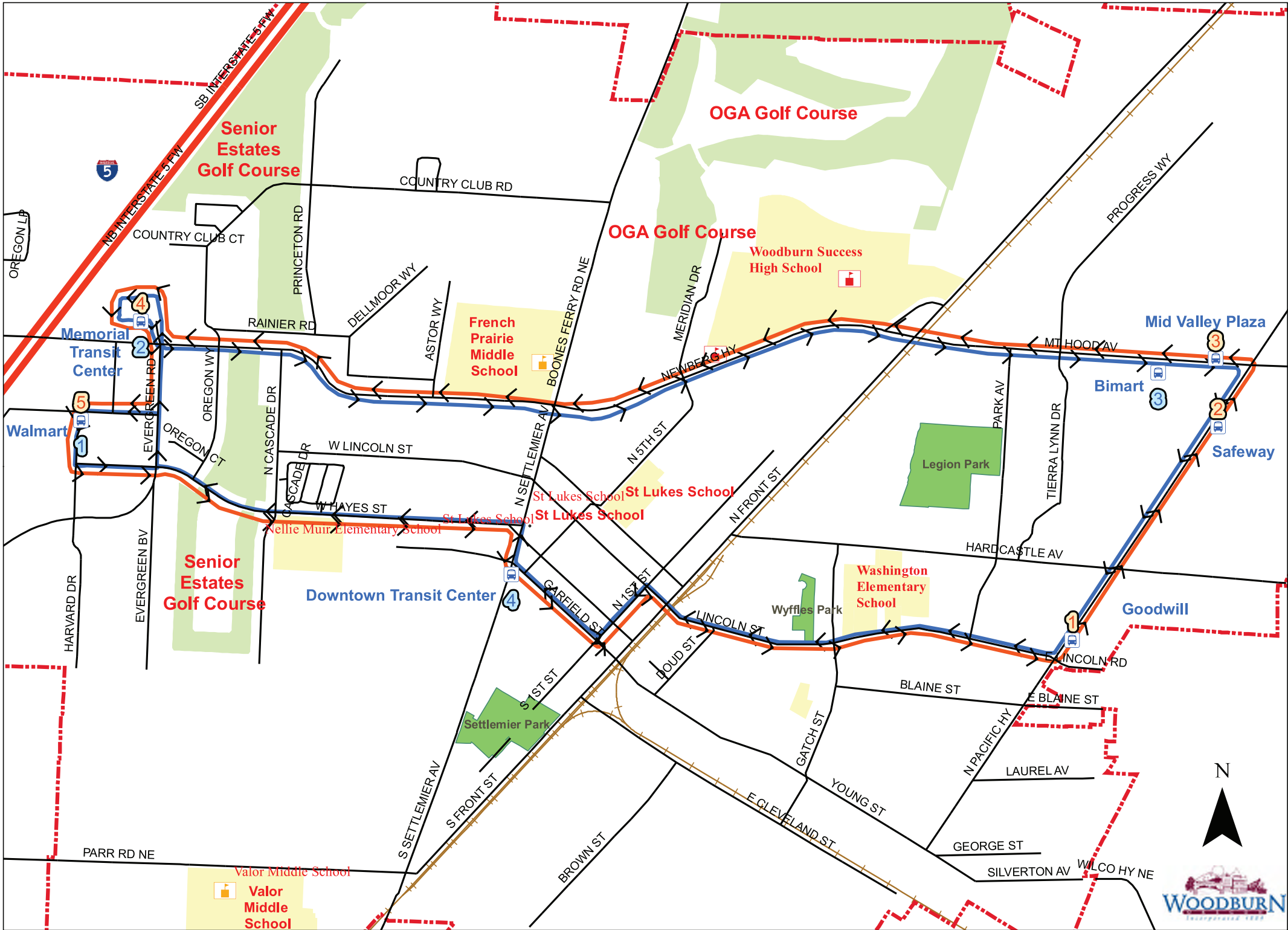
Downtown Transit Center	Walmart	Wo Memorial Transit Center	BiMart	Downtown Transit Center	Goodwill	Safeway	Plaza	Wo Memorial Transit Center	Walmart	Downtown Transit Center
1-A	2	3	4	5	6	7	8	9	10	11
9:00	9:07	9:10	9:17	9:30	9:35	9:37	9:40	9:45	9:50	10:00
10:00	10:07	10:10	10:17	10:30	10:35	10:37	10:40	10:45	10:50	11:00
11:00	11:07	11:10	11:17	11:30	11:35	11:37	11:40	11:45	11:50	12:00
12:00	12:07	12:10	12:17	12:30	12:35	12:37	12:40	12:45	12:50	1:00
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5:00	5:07	5:10	5:17	5:30	5:35	5:37	5:40	5:45	5:50	6:00

Requests for reasonable accommodation may be made either orally or in writing. The request can be submitted in any written format. Alternative means of filing a request, such as personal interviews, phone calls, or taped requests, will be made available for persons with disabilities if unable to communicate their request in writing or upon request. Las solicitudes razonables de adaptabilidad pueden hacerse oralmente o por escrito. La solicitud se puede presentar en cualquier formato escrito. Otros medios alternativos para presentar una solicitud, tales como entrevistas personales, llamadas telefónicas o solicitudes grabadas, estarán disponibles para personas con discapacidad, si no pueden comunicar su solicitud por escrito o cuando se solicite.



ADA ACCESSIBLE



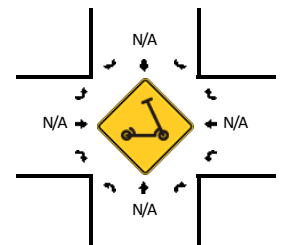
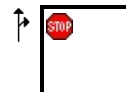
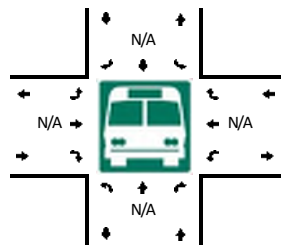
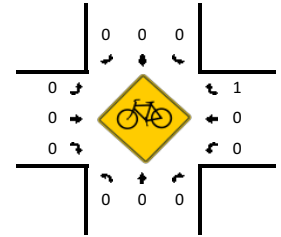
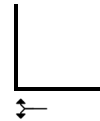
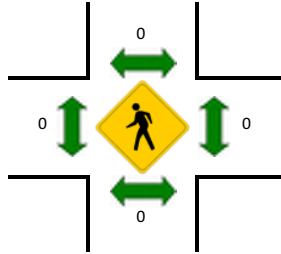
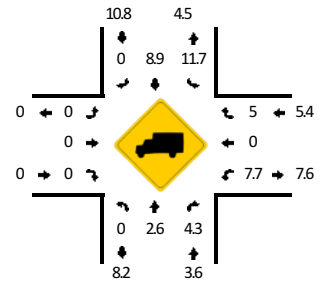
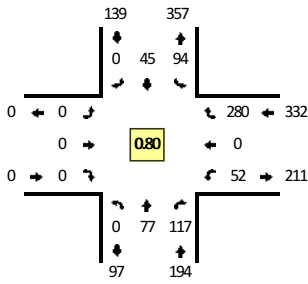


APPENDIX D
**TRAFFIC
COUNT
SUMMARIES**

LOCATION: Butteville Rd NE -- OR-219
CITY/STATE: Woodburn, OR

QC JOB #: 15405708
DATE: Wed, Apr 14 2021

Peak-Hour: 6:30 AM -- 7:30 AM
 Peak 15-Min: 6:40 AM -- 6:55 AM



5-Min Count Period Beginning At	Butteville Rd NE (Northbound)				Butteville Rd NE (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	1	12	0	5	1	0	0	0	0	0	0	3	0	7	0	29	
6:05 AM	0	3	10	0	5	1	0	0	0	0	0	0	2	0	15	0	36	
6:10 AM	0	5	8	0	3	2	0	0	0	0	0	0	3	0	20	0	41	
6:15 AM	0	5	9	0	5	1	0	0	0	0	0	0	0	0	21	0	41	
6:20 AM	0	9	5	0	7	4	0	0	0	0	0	0	4	0	17	0	46	
6:25 AM	0	9	8	0	11	2	0	0	0	0	0	0	5	0	17	0	52	
6:30 AM	0	5	16	0	7	7	0	0	0	0	0	0	3	0	23	0	61	
6:35 AM	0	4	9	0	8	4	0	0	0	0	0	0	3	0	29	0	57	
6:40 AM	0	18	10	0	4	2	0	0	0	0	0	0	1	0	42	0	77	
6:45 AM	0	10	11	0	2	2	0	0	0	0	0	0	5	0	40	0	70	
6:50 AM	0	4	9	0	4	3	0	0	0	0	0	0	8	0	34	0	62	
6:55 AM	0	5	11	0	8	3	0	0	0	0	0	0	5	0	22	0	54	626
7:00 AM	0	7	6	0	7	5	0	0	0	0	0	0	2	0	20	0	47	644
7:05 AM	0	7	8	0	10	3	0	0	0	0	0	0	4	0	16	0	48	656
7:10 AM	0	5	9	0	13	2	0	0	0	0	0	0	1	0	11	0	41	656
7:15 AM	0	4	11	0	9	3	0	0	0	0	0	0	7	0	9	0	43	658
7:20 AM	0	5	10	0	5	5	0	0	0	0	0	0	10	0	16	0	51	663
7:25 AM	0	3	7	0	17	6	0	0	0	0	0	0	3	0	18	0	54	665
7:30 AM	0	12	9	0	9	1	0	0	0	0	0	0	6	0	17	0	54	658
7:35 AM	0	6	4	0	9	5	0	0	0	0	0	0	4	0	16	0	44	645
7:40 AM	0	6	7	0	9	5	0	0	0	0	0	0	8	0	15	0	50	618
7:45 AM	0	4	10	0	9	6	0	0	0	0	0	0	1	0	14	0	44	592
7:50 AM	0	11	11	0	15	4	0	0	0	0	0	0	7	0	16	0	64	594
7:55 AM	0	6	4	0	11	3	0	0	0	0	0	0	4	0	15	0	43	583
8:00 AM	0	4	7	0	20	4	0	0	0	0	0	0	4	0	12	0	51	587
8:05 AM	0	4	4	0	8	4	0	0	0	0	0	0	2	0	9	0	31	570
8:10 AM	0	1	9	0	8	2	0	0	0	0	0	0	3	0	7	0	30	559
8:15 AM	0	1	5	0	17	2	0	0	0	0	0	0	3	0	11	0	39	555
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8:35 AM	0	1	7	0	17	5	0	0	0	0	0	0	6	0	10	0	46	510
8:40 AM	0	6	12	0	8	3	0	0	0	0	0	0	3	0	18	0	50	510
8:45 AM	0	3	7	0	19	3	0	0	0	0	0	0	4	0	9	0	45	511
8:50 AM	0	5	6	0	16	1	0	0	0	0	0	0	5	0	10	0	43	490
8:55 AM	0	3	6	0	7	2	0	0	0	0	0	0	4	0	7	0	29	476
9:00 AM	0	5	8	0	1	3	0	0	0	0	0	0	6	0	10	0	33	458
9:05 AM	0	1	5	0	10	0	0	0	0	0	0	0	4	0	14	0	34	461

5-Min Count Period Beginning At	Butteville Rd NE (Northbound)				Butteville Rd NE (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	0	3	4	0	13	0	0	0	0	0	0	0	1	0	11	0	32	463
9:15 AM	0	2	6	0	5	2	0	0	0	0	0	0	3	0	4	0	22	446
9:20 AM	0	3	7	0	7	0	0	0	0	0	0	0	4	0	16	0	37	456
9:25 AM	0	3	10	0	9	2	0	0	0	0	0	0	5	0	8	0	37	445
9:30 AM	0	1	4	0	15	1	0	0	0	0	0	0	2	0	3	0	26	434
9:35 AM	0	1	12	0	10	3	0	0	0	0	0	0	4	0	9	0	39	427
9:40 AM	0	2	6	0	4	1	0	0	0	0	0	0	5	0	4	0	22	399
9:45 AM	0	1	3	0	9	0	0	0	0	0	0	0	7	0	8	0	28	382
9:50 AM	0	6	8	0	7	1	0	0	0	0	0	0	3	0	7	0	32	371
9:55 AM	0	3	3	0	12	5	0	0	0	0	0	0	7	0	16	0	46	388
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	128	120	0	40	28	0	0	0	0	0	0	56	0	464	0	836	
Heavy Trucks	0	0	4		4	0	0		0	0	0		8	0	8		24	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	4		4	
Scooters																		

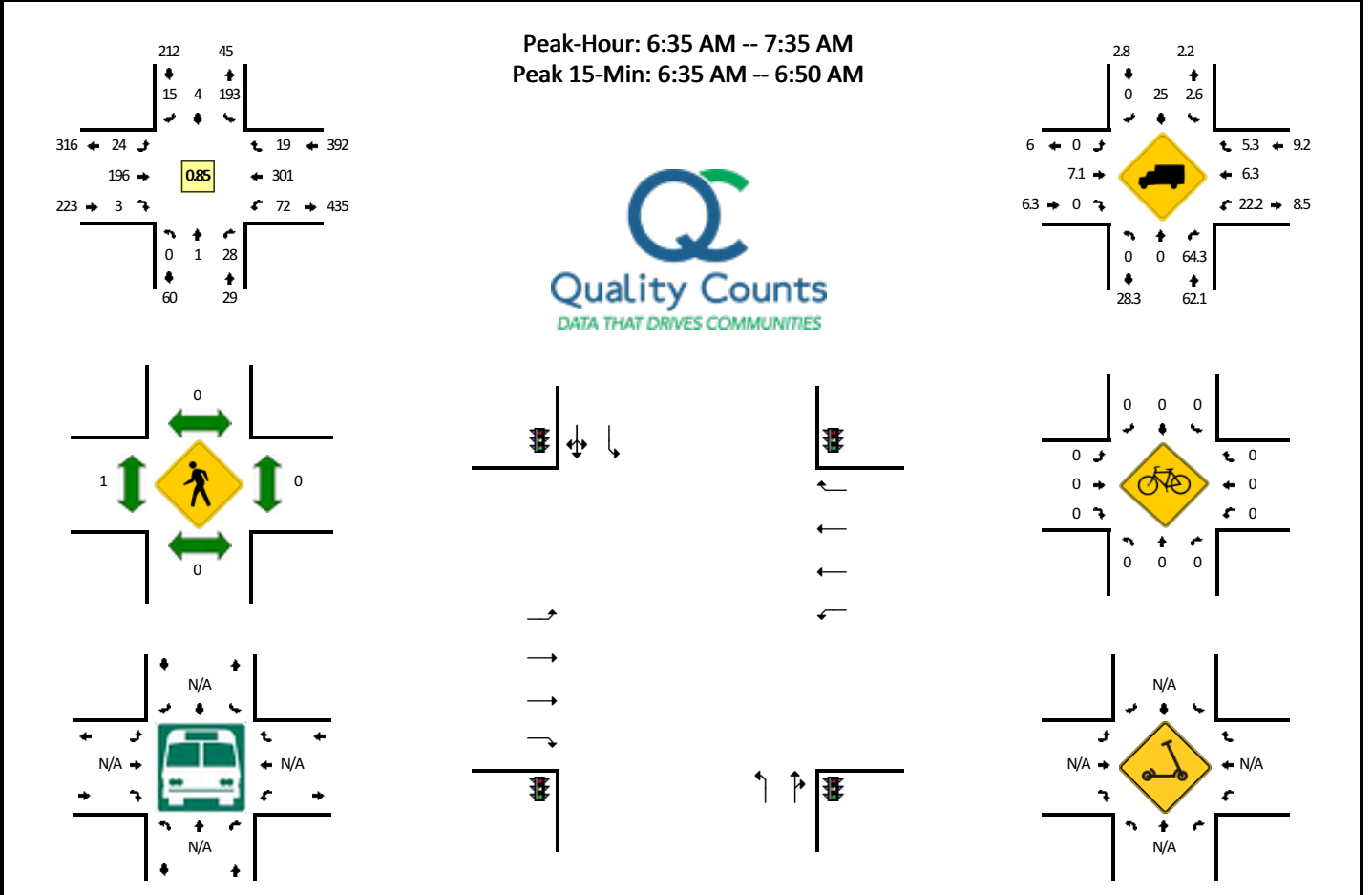
Comments:

Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: S Woodland Ave -- OR-219
CITY/STATE: Woodburn, OR

QC JOB #: 15405712
DATE: Wed, Apr 14 2021



5-Min Count Period Beginning At	S Woodland Ave (Northbound)				S Woodland Ave (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	0	3	0	13	0	0	0	3	18	0	0	3	10	1	0	51	
6:05 AM	0	0	15	0	12	0	1	0	0	13	0	0	4	18	3	0	66	
6:10 AM	2	0	8	0	12	0	1	1	1	13	0	0	4	18	1	0	61	
6:15 AM	0	0	5	0	16	0	0	0	0	13	0	0	4	19	1	1	59	
6:20 AM	0	0	6	0	8	0	2	0	1	12	0	0	3	19	2	2	55	
6:25 AM	0	0	1	0	17	0	0	0	2	22	0	0	2	21	2	0	67	
6:30 AM	0	0	1	0	13	0	1	0	1	22	1	0	2	23	2	0	66	
6:35 AM	0	1	1	0	10	2	1	0	1	20	0	0	3	31	3	3	76	
6:40 AM	0	0	1	0	17	0	2	0	3	16	0	0	6	47	1	2	95	
6:45 AM	0	0	3	0	14	0	0	0	2	11	0	0	2	46	1	1	80	
6:50 AM	0	0	3	0	13	0	2	0	1	13	0	0	5	28	3	1	69	
6:55 AM	0	0	1	0	13	1	1	0	4	16	0	0	7	24	0	0	67	812
7:00 AM	0	0	4	0	15	0	0	0	1	13	0	0	5	20	3	5	66	827
7:05 AM	0	0	1	0	20	0	2	0	0	20	1	0	0	17	1	0	62	823
7:10 AM	0	0	2	0	13	1	1	0	3	22	0	0	3	7	0	1	53	815
7:15 AM	0	0	3	0	12	0	0	0	2	18	0	0	4	25	0	3	67	823
7:20 AM	0	0	3	0	26	0	2	0	3	15	1	0	9	20	1	1	81	849
7:25 AM	0	0	2	0	16	0	3	0	3	17	0	0	6	18	4	0	69	851
7:30 AM	0	0	4	0	23	0	1	1	1	15	1	0	3	18	2	2	71	856
7:35 AM	0	0	1	0	16	0	4	0	0	14	0	0	3	20	2	1	61	841
7:40 AM	0	0	2	0	22	0	1	0	3	13	1	0	4	16	1	1	64	810
7:45 AM	0	1	2	0	18	1	1	0	1	21	2	0	5	15	4	0	71	801
7:50 AM	1	0	2	0	10	0	1	0	3	19	1	0	9	18	3	2	69	801
7:55 AM	0	0	1	0	13	0	3	0	2	13	0	0	5	17	2	1	57	791
8:00 AM	1	1	0	0	16	0	2	0	3	27	1	0	3	9	2	2	67	792
8:05 AM	0	0	1	0	15	0	1	0	1	14	0	0	9	10	1	1	53	783
8:10 AM	0	0	1	0	13	0	0	0	3	14	0	0	6	12	1	3	53	783
8:15 AM	0	0	1	0	14	0	0	0	2	20	0	0	1	12	3	1	54	770
8:20 AM	0	1	1	0	19	0	1	0	0	18	0	0	2	9	1	4	56	745
8:25 AM	0	1	2	0	13	0	1	0	2	17	0	0	3	12	3	0	54	730
8:30 AM	0	0	5	0	14	1	1	0	0	13	0	0	3	12	4	4	57	716
8:35 AM	0	0	2	0	12	0	2	0	2	23	0	0	3	15	1	1	61	716
8:40 AM	0	0	4	0	16	0	3	0	2	11	0	0	4	19	7	4	70	722
8:45 AM	1	0	1	0	17	0	1	0	2	31	0	0	1	15	2	1	72	723
8:50 AM	0	0	7	0	13	2	1	0	6	15	2	0	2	10	3	1	62	716
8:55 AM	0	0	4	0	8	0	0	0	2	13	0	0	4	13	4	2	50	709
9:00 AM	2	2	4	0	18	0	2	0	1	10	1	0	1	21	5	1	68	710
9:05 AM	0	0	1	0	16	1	2	0	1	15	0	0	4	15	2	1	58	715

5-Min Count Period Beginning At	S Woodland Ave (Northbound)				S Woodland Ave (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	0	0	3	0	14	0	2	0	2	10	0	0	0	9	1	2	43	705
9:15 AM	0	0	2	0	16	0	0	0	2	11	0	0	3	8	1	2	45	696
9:20 AM	0	0	4	0	20	1	1	0	0	16	0	0	1	24	1	3	71	711
9:25 AM	0	0	1	0	15	1	0	0	5	14	0	0	3	12	1	0	52	709
9:30 AM	0	0	4	0	16	0	0	0	4	18	0	0	4	4	6	0	56	708
9:35 AM	1	1	3	0	22	1	0	0	2	18	1	0	2	16	4	2	73	720
9:40 AM	0	0	4	0	11	0	3	0	1	13	1	0	5	10	2	0	50	700
9:45 AM	0	0	2	0	15	0	0	0	4	14	0	0	3	18	4	3	63	691
9:50 AM	1	1	4	0	27	1	2	1	1	12	0	0	3	11	2	2	68	697
9:55 AM	0	0	4	0	17	0	0	0	1	12	0	0	7	21	6	0	68	715
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	4	20	0	164	8	12	0	24	188	0	0	44	496	20	24	1004	
Heavy Trucks	0	0	8		0	0	0		0	4	0		4	16	0		32	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																	0	

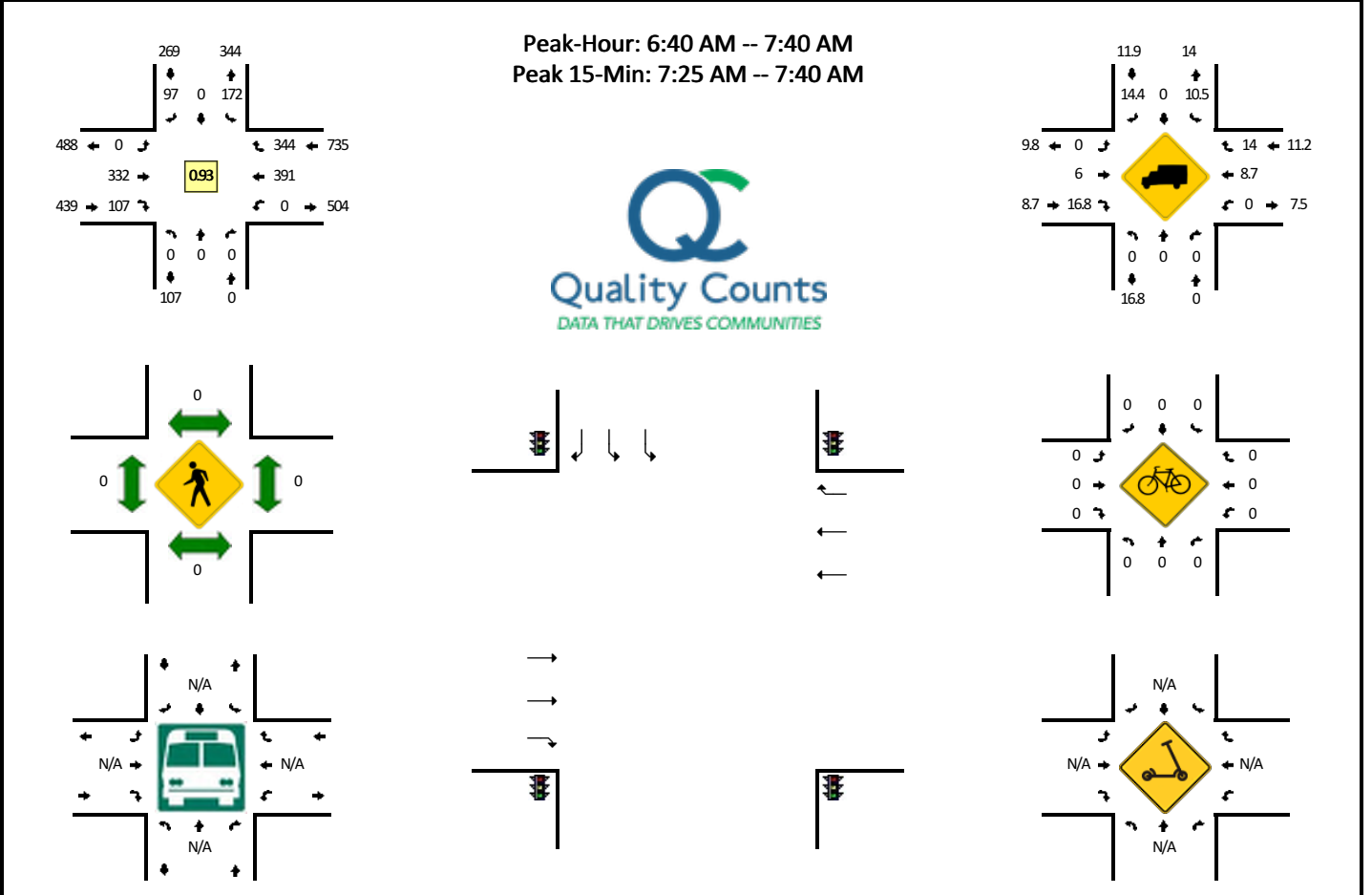
Comments:

Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: I-5 SB Ramps -- OR-219
CITY/STATE: Woodburn, OR

QC JOB #: 15405714
DATE: Wed, Apr 14 2021



5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	0	0	0	7	0	2	0	0	24	5	0	0	15	23	0	76	
6:05 AM	0	0	0	0	5	0	6	0	0	26	14	0	0	24	27	0	102	
6:10 AM	0	0	0	0	12	0	7	0	0	22	11	0	0	25	23	0	100	
6:15 AM	0	0	0	0	5	0	6	0	0	29	6	0	0	24	26	0	96	
6:20 AM	0	0	0	0	8	0	8	0	0	19	8	0	0	19	24	0	86	
6:25 AM	0	0	0	0	8	0	7	0	0	24	11	0	0	27	20	0	97	
6:30 AM	0	0	0	0	15	0	11	0	0	29	11	0	0	32	28	0	126	
6:35 AM	0	0	0	0	9	0	8	0	0	26	5	0	0	41	36	0	125	
6:40 AM	0	0	0	0	15	0	1	0	0	30	8	0	0	50	25	0	129	
6:45 AM	0	0	0	0	19	0	8	0	0	27	6	0	0	55	19	0	134	
6:50 AM	0	0	0	0	12	0	11	0	0	24	4	0	0	41	22	0	114	
6:55 AM	0	0	0	0	19	0	7	0	0	24	8	0	0	35	26	0	119	1304
7:00 AM	0	0	0	0	13	0	7	0	0	24	11	0	0	27	22	0	104	1332
7:05 AM	0	0	0	0	8	0	13	0	0	32	7	0	0	23	33	0	116	1346
7:10 AM	0	0	0	0	15	0	6	0	0	26	14	0	0	13	31	0	105	1351
7:15 AM	0	0	0	0	8	0	9	0	0	26	11	0	0	35	24	0	113	1368
7:20 AM	0	0	0	0	14	0	7	0	0	30	11	0	0	32	29	0	123	1405
7:25 AM	0	0	0	0	13	0	8	0	0	33	7	0	0	25	29	0	115	1423
7:30 AM	0	0	0	0	18	0	10	0	0	34	9	0	0	21	34	0	126	1423
7:35 AM	0	0	0	0	18	0	10	0	0	22	11	0	0	34	50	0	145	1443
7:40 AM	0	0	0	0	11	0	10	0	0	20	15	0	0	25	34	0	115	1429
7:45 AM	0	0	0	0	23	0	7	0	0	31	11	0	0	30	20	0	122	1417
7:50 AM	0	0	0	0	19	0	13	0	0	27	8	0	0	35	15	0	117	1420
7:55 AM	0	0	0	0	15	0	6	0	0	23	6	0	0	25	25	0	100	1401
8:00 AM	0	0	0	0	18	0	8	0	0	31	10	0	0	19	23	0	109	1406
8:05 AM	0	0	0	0	16	0	9	0	0	18	15	0	0	23	26	0	107	1397
8:10 AM	0	0	0	0	20	0	13	0	0	19	11	0	0	20	19	0	102	1394
8:15 AM	0	0	0	0	15	0	7	0	0	28	7	0	0	22	29	0	108	1389
8:20 AM	0	0	0	0	14	0	10	0	0	30	11	0	0	17	23	0	105	1371
8:25 AM	0	0	0	0	20	0	6	0	0	20	11	0	0	17	27	1	102	1358
8:30 AM	0	0	0	0	19	0	7	0	0	22	14	0	0	25	32	0	119	1351
8:35 AM	0	0	0	0	20	0	11	0	0	30	9	0	0	22	29	0	121	1327
8:40 AM	0	0	0	0	18	0	10	0	0	19	15	0	0	32	33	0	127	1339
8:45 AM	0	0	0	0	21	0	9	0	0	36	15	0	0	23	15	0	119	1336
8:50 AM	0	0	0	0	20	0	9	0	0	26	10	0	0	19	25	0	109	1328
8:55 AM	0	0	0	0	14	0	8	0	0	24	6	0	0	38	18	0	108	1336
9:00 AM	0	0	0	0	15	0	10	0	0	22	6	0	0	18	21	0	92	1319
9:05 AM	0	0	0	0	19	0	12	0	0	28	6	0	0	19	18	0	102	1314

5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	0	0	0	0	21	0	7	0	0	21	11	0	0	20	25	0	105	1317
9:15 AM	0	0	0	0	25	0	9	0	0	16	11	0	0	24	23	0	108	1317
9:20 AM	0	0	0	0	20	0	11	0	0	30	13	0	0	26	25	0	125	1337
9:25 AM	0	0	0	0	17	0	4	0	0	21	8	0	0	20	18	0	88	1323
9:30 AM	0	0	0	0	20	0	12	0	0	27	8	0	0	23	19	0	109	1313
9:35 AM	0	0	0	0	17	0	9	0	0	37	8	0	0	36	23	0	130	1322
9:40 AM	0	0	0	0	14	0	16	0	0	25	7	0	0	27	17	0	106	1301
9:45 AM	0	0	0	0	31	0	13	0	0	25	8	0	0	27	19	0	123	1305
9:50 AM	0	0	0	0	26	0	12	0	0	36	7	0	0	26	22	0	129	1325
9:55 AM	0	0	0	0	23	0	15	0	0	27	9	0	0	39	19	0	132	1349
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	196	0	112	0	0	356	108	0	0	320	452	0	1544	
Heavy Trucks	0	0	0	0	24	0	12	0	0	24	16	0	0	36	56	0	168	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

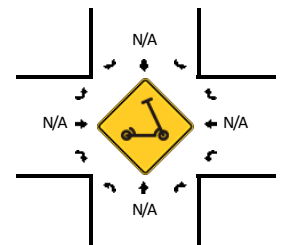
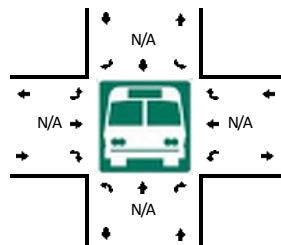
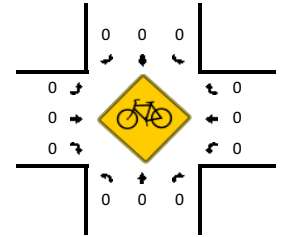
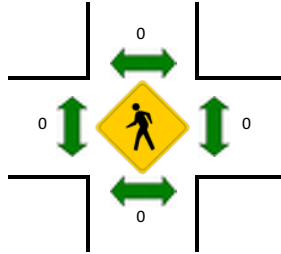
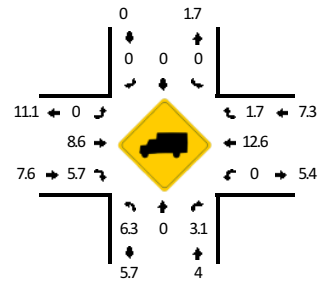
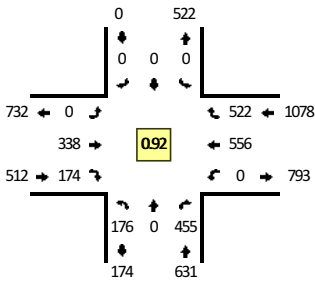
Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: I-5 NB Ramps -- OR-219
CITY/STATE: Woodburn, OR

QC JOB #: 15405716
DATE: Wed, Apr 14 2021

Peak-Hour: 6:40 AM -- 7:40 AM
Peak 15-Min: 6:40 AM -- 6:55 AM



5-Min Count Period Beginning At	I-5 NB Ramps (Northbound)				I-5 NB Ramps (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	7	0	23	0	0	0	0	0	0	19	14	0	0	29	53	1	146	
6:05 AM	4	0	21	0	0	0	0	0	0	15	14	0	0	47	53	0	154	
6:10 AM	11	0	23	0	0	0	0	0	0	14	19	0	0	38	47	0	152	
6:15 AM	12	0	20	0	0	0	0	0	0	15	21	0	0	42	40	0	150	
6:20 AM	8	0	23	0	0	0	0	0	0	14	11	0	0	35	55	0	146	
6:25 AM	15	0	34	0	0	0	0	0	0	14	16	0	0	30	48	0	157	
6:30 AM	14	0	31	0	0	0	0	0	0	30	14	0	0	49	44	0	182	
6:35 AM	19	0	33	0	0	0	0	0	0	24	13	0	0	57	37	0	183	
6:40 AM	25	0	43	0	0	0	0	0	0	27	18	0	0	51	49	0	213	
6:45 AM	32	0	46	0	0	0	0	0	0	23	13	0	0	35	44	0	193	
6:50 AM	20	0	49	0	0	0	0	0	0	33	13	0	0	45	38	0	198	
6:55 AM	22	0	30	0	0	0	0	0	0	30	14	0	0	38	41	0	175	2049
7:00 AM	10	0	36	0	0	0	0	0	0	25	11	0	0	40	50	0	172	2075
7:05 AM	6	0	27	0	0	0	0	0	0	26	14	0	0	51	43	0	167	2088
7:10 AM	9	0	37	0	0	0	0	0	0	23	19	0	0	29	44	0	161	2097
7:15 AM	9	0	25	0	0	0	0	0	0	21	10	0	0	52	38	0	155	2102
7:20 AM	14	0	41	0	0	0	0	0	0	28	18	0	0	49	36	0	186	2142
7:25 AM	6	0	47	0	0	0	0	0	0	32	19	0	0	50	44	0	198	2183
7:30 AM	9	0	34	0	0	0	0	0	0	37	17	0	0	48	42	0	187	2188
7:35 AM	14	0	40	0	0	0	0	0	0	33	8	0	0	68	53	0	216	2221
7:40 AM	11	0	36	0	0	0	0	0	0	23	5	0	0	50	32	0	157	2165
7:45 AM	15	0	54	0	0	0	0	0	0	36	16	0	0	34	38	0	193	2165
7:50 AM	15	0	36	0	0	0	0	0	0	37	9	0	0	38	35	0	170	2137
7:55 AM	8	0	36	0	0	0	0	0	0	35	4	0	0	42	30	0	155	2117
8:00 AM	5	0	31	0	0	0	0	0	0	36	10	0	0	39	32	0	153	2098
8:05 AM	7	0	40	0	0	0	0	0	0	26	6	0	0	37	36	0	152	2083
8:10 AM	7	0	29	0	0	0	0	0	0	36	7	0	0	34	33	0	146	2068
8:15 AM	6	0	29	0	0	0	0	0	0	33	10	0	0	45	34	1	158	2071
8:20 AM	9	0	33	0	0	0	0	0	0	29	15	0	0	34	25	0	145	2030
8:25 AM	4	0	32	0	0	0	0	0	0	35	4	0	0	42	28	0	145	1977
8:30 AM	9	0	33	0	0	0	0	0	0	33	11	0	0	50	15	0	151	1941
8:35 AM	12	0	24	0	0	0	0	0	0	41	10	0	0	38	27	0	152	1877
8:40 AM	5	0	19	0	0	0	0	0	0	31	7	0	0	60	31	0	153	1873
8:45 AM	5	0	31	0	0	0	0	0	0	41	14	0	0	33	26	0	150	1830
8:50 AM	9	0	29	0	0	0	0	0	0	43	5	0	0	37	12	0	135	1795
8:55 AM	11	0	30	0	0	0	0	0	0	32	6	0	0	39	19	0	137	1777
9:00 AM	8	0	27	0	0	0	0	0	0	22	11	0	0	35	21	0	124	1748
9:05 AM	7	0	21	0	0	0	0	0	0	32	14	0	0	30	23	0	127	1723

5-Min Count Period Beginning At	I-5 NB Ramps (Northbound)				I-5 NB Ramps (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	5	0	21	0	0	0	0	0	0	36	5	0	0	37	25	0	129	1706
9:15 AM	11	0	25	0	0	0	0	0	0	28	8	0	0	36	29	0	137	1685
9:20 AM	10	0	19	0	0	0	0	0	0	39	10	0	0	41	17	0	136	1676
9:25 AM	6	0	28	0	0	0	0	0	0	35	7	0	0	33	28	0	137	1668
9:30 AM	9	0	31	0	0	0	0	0	0	36	13	0	0	32	22	0	143	1660
9:35 AM	15	0	24	0	0	0	0	0	0	39	12	0	0	45	35	0	170	1678
9:40 AM	11	0	32	0	0	0	0	0	0	31	6	0	0	30	25	0	135	1660
9:45 AM	14	0	36	0	0	0	0	0	0	43	12	0	0	40	17	0	162	1672
9:50 AM	10	0	37	0	0	0	0	0	0	47	5	0	0	33	24	0	156	1693
9:55 AM	11	0	24	0	0	0	0	0	0	51	6	0	0	49	24	0	165	1721
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	308	0	552	0	0	0	0	0	0	332	176	0	0	524	524	0	2416	
Heavy Trucks	12	0	20		0	0	0		0	24	8		0	64	16		144	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																	0	

Comments:

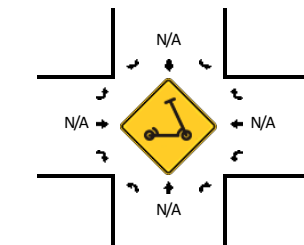
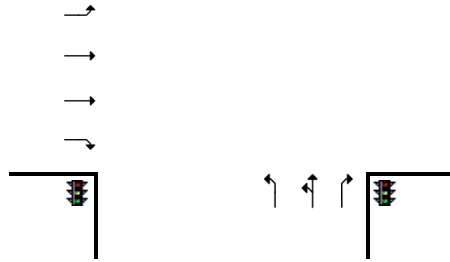
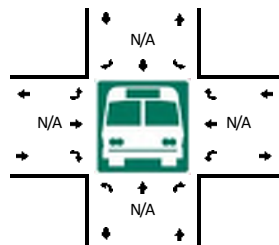
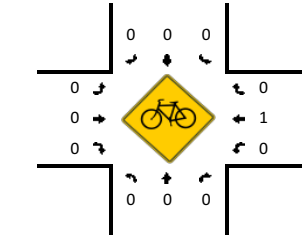
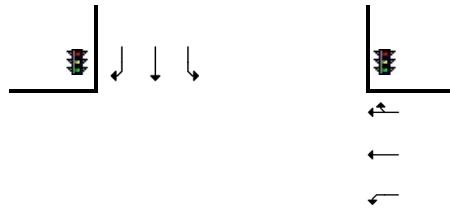
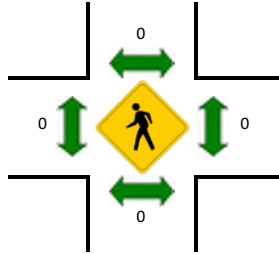
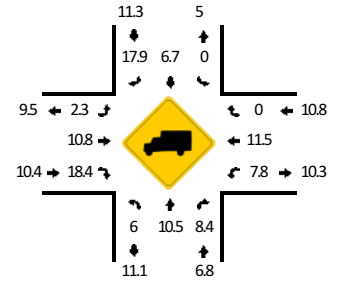
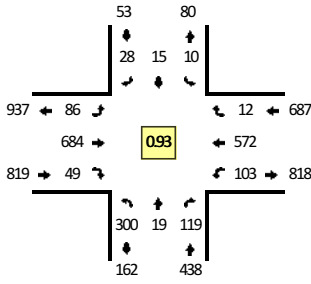
Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Evergreen Rd -- OR 214
CITY/STATE: Woodburn, OR

QC JOB #: 15462405
DATE: Tue, May 25 2021

Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:45 AM -- 8:00 AM



5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	26	0	5	0	1	0	1	0	2	37	4	2	5	51	0	0	134	
6:05 AM	26	1	4	0	0	1	4	0	4	29	2	5	4	37	2	1	120	
6:10 AM	19	0	3	0	2	0	2	0	2	22	0	3	6	53	1	0	113	
6:15 AM	19	0	6	0	0	0	2	1	6	30	2	3	4	50	2	0	125	
6:20 AM	24	0	5	0	2	2	4	0	2	37	1	4	7	50	2	0	140	
6:25 AM	31	1	8	0	1	2	2	0	2	37	0	4	0	56	0	1	145	
6:30 AM	32	0	6	0	0	0	1	0	2	46	1	4	3	52	3	1	151	
6:35 AM	23	0	5	0	2	1	2	0	0	41	2	4	3	45	2	1	131	
6:40 AM	23	0	5	0	1	0	1	0	3	51	2	3	11	63	2	0	165	
6:45 AM	24	1	8	0	0	0	3	0	1	59	2	1	5	51	1	1	157	
6:50 AM	29	0	10	0	1	1	1	0	1	55	3	0	5	42	2	0	150	
6:55 AM	24	4	4	0	1	0	1	0	2	62	4	3	7	46	1	1	160	1691
7:00 AM	24	0	6	0	0	3	0	0	1	51	4	1	3	46	0	0	139	1696
7:05 AM	22	1	11	0	0	2	3	0	1	63	3	2	8	45	1	1	163	1739
7:10 AM	32	0	13	0	1	2	1	0	2	56	6	3	4	48	2	0	170	1796
7:15 AM	22	1	10	0	0	1	2	0	3	58	3	4	11	54	2	1	172	1843
7:20 AM	25	2	9	0	1	1	3	0	5	53	2	3	5	38	0	0	147	1850
7:25 AM	19	1	6	0	1	3	1	0	3	61	5	6	5	54	1	0	166	1871
7:30 AM	23	2	10	0	2	0	0	0	1	45	1	4	8	63	2	0	161	1881
7:35 AM	35	0	13	0	1	2	2	0	3	50	1	1	6	50	0	0	164	1914
7:40 AM	17	2	10	0	1	1	3	0	4	65	7	4	9	46	1	1	171	1920
7:45 AM	34	2	13	0	0	2	3	0	10	67	3	2	3	45	0	0	184	1947
7:50 AM	22	3	7	0	0	0	0	0	5	69	5	2	15	33	0	2	163	1960
7:55 AM	23	1	8	0	1	1	5	0	9	65	10	2	12	50	1	0	188	1988
8:00 AM	26	4	9	0	2	0	5	0	3	32	3	4	12	46	2	0	148	1997
8:05 AM	22	0	7	0	1	2	6	0	2	50	4	5	8	32	2	0	141	1975
8:10 AM	20	1	11	0	0	2	4	0	3	40	1	0	6	49	1	0	138	1943
8:15 AM	17	2	6	0	0	2	6	0	3	36	4	4	2	47	0	0	129	1900
8:20 AM	15	3	11	0	0	0	3	0	3	54	5	5	7	45	1	1	153	1906
8:25 AM	17	1	3	0	0	0	1	0	2	34	9	2	9	35	2	1	116	1856
8:30 AM	20	0	10	0	1	0	5	0	5	35	7	4	14	33	1	0	135	1830
8:35 AM	25	1	12	0	0	0	3	0	7	40	2	1	7	40	1	1	140	1806
8:40 AM	21	0	12	0	0	0	4	0	5	43	3	4	12	41	2	1	148	1783
8:45 AM	16	1	9	0	2	2	1	0	8	37	6	3	6	41	1	0	133	1732
8:50 AM	22	4	6	0	1	1	6	0	2	39	6	2	11	31	2	0	133	1702
8:55 AM	19	1	11	0	1	0	2	0	6	36	3	1	13	25	4	1	123	1637
9:00 AM	13	4	3	0	0	0	2	0	4	48	3	1	7	36	2	0	123	1612
9:05 AM	18	1	5	0	2	0	1	0	2	28	6	2	10	39	1	1	116	1587

5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	16	1	12	0	1	5	3	0	4	36	2	4	7	41	0	0	132	1581
9:15 AM	7	3	6	0	1	0	3	0	0	30	3	1	13	27	1	0	95	1547
9:20 AM	11	1	6	0	1	1	0	0	1	36	5	1	13	61	1	0	138	1532
9:25 AM	22	2	10	0	2	1	1	0	2	32	4	3	7	31	0	0	117	1533
9:30 AM	23	1	8	0	4	3	5	0	1	42	7	4	5	37	1	0	141	1539
9:35 AM	14	1	9	0	1	3	4	0	11	40	2	2	11	36	1	0	135	1534
9:40 AM	24	0	11	0	3	3	6	0	4	54	4	4	6	46	2	0	167	1553
9:45 AM	22	1	9	0	2	3	2	0	5	33	1	0	7	32	0	1	118	1538
9:50 AM	10	3	9	0	2	0	3	0	4	49	4	2	13	36	0	1	136	1541
9:55 AM	13	2	14	0	1	3	3	0	5	44	3	2	10	44	1	0	145	1563
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	316	24	112	0	4	12	32	0	96	804	72	24	120	512	4	8	2140	
Heavy Trucks	36	4	8		0	0	12		4	72	12		8	72	0		228	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles		0				0				0				0			0	
Scooters																		

Comments:

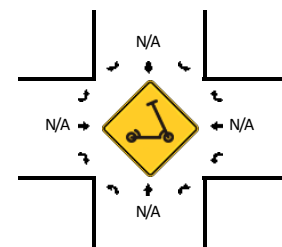
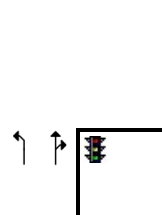
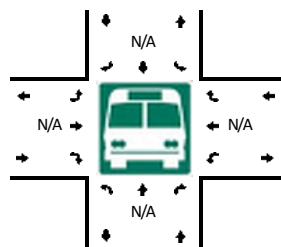
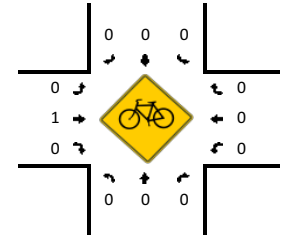
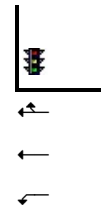
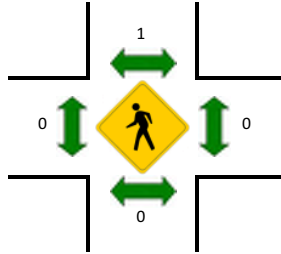
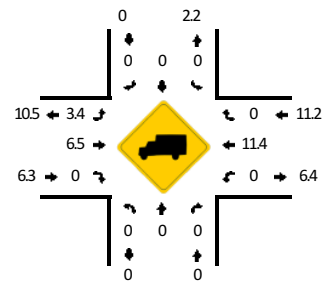
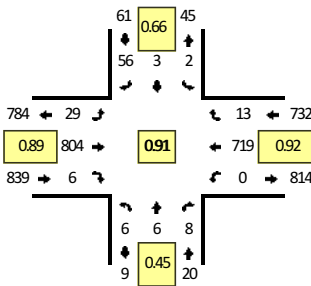
Report generated on 4/1/2022 12:17 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Country Club Rd/Oregon Wy -- Newberg Hwy
CITY/STATE: Woodburn, OR

QC JOB #: 15702403
DATE: Wed, Feb 9 2022

Peak-Hour: 6:50 AM -- 7:50 AM
 Peak 15-Min: 7:10 AM -- 7:25 AM



5-Min Count Period Beginning At	Country Club Rd/Oregon Wy (Northbound)				Country Club Rd/Oregon Wy (Southbound)				Newberg Hwy (Eastbound)				Newberg Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	0	0	0	0	0	0	0	0	34	1	0	0	53	0	0	88	
6:05 AM	0	0	1	0	0	0	6	0	1	26	0	0	0	51	0	0	85	
6:10 AM	0	0	0	0	0	0	2	0	0	23	0	0	1	60	0	0	86	
6:15 AM	0	0	0	0	1	0	1	0	1	25	0	0	0	55	2	0	85	
6:20 AM	1	0	0	0	0	1	3	0	0	36	0	0	0	47	0	0	88	
6:25 AM	0	0	1	0	0	0	2	0	0	40	0	1	0	63	0	0	107	
6:30 AM	1	0	1	0	0	0	4	0	1	33	0	0	0	63	1	0	104	
6:35 AM	0	0	0	0	0	0	5	0	0	49	1	0	1	67	0	0	123	
6:40 AM	1	0	0	0	0	0	4	0	0	46	0	0	0	70	0	0	121	
6:45 AM	0	1	1	0	0	0	3	0	0	69	0	0	0	49	1	0	124	
6:50 AM	1	0	0	0	0	0	3	0	3	81	1	1	0	62	3	0	155	
6:55 AM	0	0	0	0	0	0	1	0	1	62	1	0	0	56	0	0	121	1287
7:00 AM	1	0	0	0	0	0	5	0	3	63	0	0	0	48	1	0	121	1320
7:05 AM	0	1	1	0	0	0	4	0	1	52	1	0	0	55	0	0	115	1350
7:10 AM	0	0	0	0	0	0	1	0	3	78	1	0	0	70	0	0	153	1417
7:15 AM	1	1	1	0	0	0	6	0	0	62	0	0	0	59	1	0	131	1463
7:20 AM	0	0	0	0	0	1	9	0	2	89	0	0	0	69	1	0	171	1546
7:25 AM	1	0	0	0	1	0	6	0	0	70	0	0	0	63	1	0	142	1581
7:30 AM	2	1	1	0	0	0	3	0	1	62	0	0	0	66	0	0	136	1613
7:35 AM	0	1	2	0	0	1	5	0	4	62	1	1	0	50	2	0	129	1619
7:40 AM	0	2	2	0	0	0	8	0	3	61	0	0	0	64	0	0	140	1638
7:45 AM	0	0	1	0	1	1	5	0	5	62	1	1	0	57	4	0	138	1652
7:50 AM	0	0	0	0	3	1	3	0	4	61	0	1	1	41	0	0	115	1612
7:55 AM	0	1	0	0	5	0	2	0	4	65	2	0	0	47	3	0	129	1620
8:00 AM	0	0	0	0	4	3	2	0	3	44	2	1	0	42	2	0	103	1602
8:05 AM	0	0	1	0	3	2	5	0	1	31	0	1	0	58	1	0	103	1590
8:10 AM	1	1	0	0	1	0	9	0	6	42	4	1	0	53	1	0	119	1556
8:15 AM	1	1	0	0	1	1	5	0	1	44	0	0	1	37	4	0	96	1521
8:20 AM	2	0	1	0	2	0	8	0	1	30	1	0	0	48	0	0	93	1443
8:25 AM	0	1	0	0	0	1	4	0	4	48	0	0	0	46	1	0	105	1406
8:30 AM	0	2	0	0	1	1	5	0	2	45	0	0	1	62	1	0	120	1390
8:35 AM	0	1	0	0	3	1	6	0	4	47	1	0	1	41	2	0	107	1368
8:40 AM	1	1	0	0	0	1	5	0	1	43	2	2	1	46	1	0	104	1332
8:45 AM	0	1	0	0	2	0	4	0	2	50	1	1	0	42	5	0	108	1302
8:50 AM	0	1	1	0	2	0	5	0	1	48	2	1	0	48	5	0	114	1301
8:55 AM	1	3	1	0	2	0	3	0	1	43	0	1	0	43	1	0	99	1271
9:00 AM	0	4	0	0	1	1	9	0	10	35	4	0	1	45	2	0	112	1280
9:05 AM	1	2	1	0	1	2	10	0	4	47	1	0	0	53	3	0	125	1302

5-Min Count Period Beginning At	Country Club Rd/Oregon Wy (Northbound)				Country Club Rd/Oregon Wy (Southbound)				Newberg Hwy (Eastbound)				Newberg Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	0	3	1	0	2	1	5	0	4	59	0	0	0	49	3	0	127	1310
9:15 AM	0	3	0	0	3	0	6	0	4	55	2	0	1	50	2	0	126	1340
9:20 AM	1	1	0	0	2	1	7	0	3	51	3	0	1	58	2	0	130	1377
9:25 AM	0	2	0	0	3	1	4	0	3	41	1	1	0	46	1	0	103	1375
9:30 AM	0	0	0	0	3	0	8	0	7	56	1	0	0	59	3	0	137	1392
9:35 AM	1	2	0	0	3	1	9	0	4	62	0	0	1	65	4	0	152	1437
9:40 AM	1	1	1	0	4	1	8	0	6	51	0	0	0	48	4	0	125	1458
9:45 AM	1	3	0	0	6	5	7	0	2	43	0	3	1	50	4	0	125	1475
9:50 AM	0	1	0	0	4	2	8	0	7	46	2	1	1	60	10	0	142	1503
9:55 AM	2	0	3	0	8	2	9	0	1	59	3	2	0	40	6	0	135	1539
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	4	4	0	0	4	64	0	20	916	4	0	0	792	8	0	1820	
Heavy Trucks	0	0	0		0	0	0		0	60	0		0	88	0		148	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																	0	

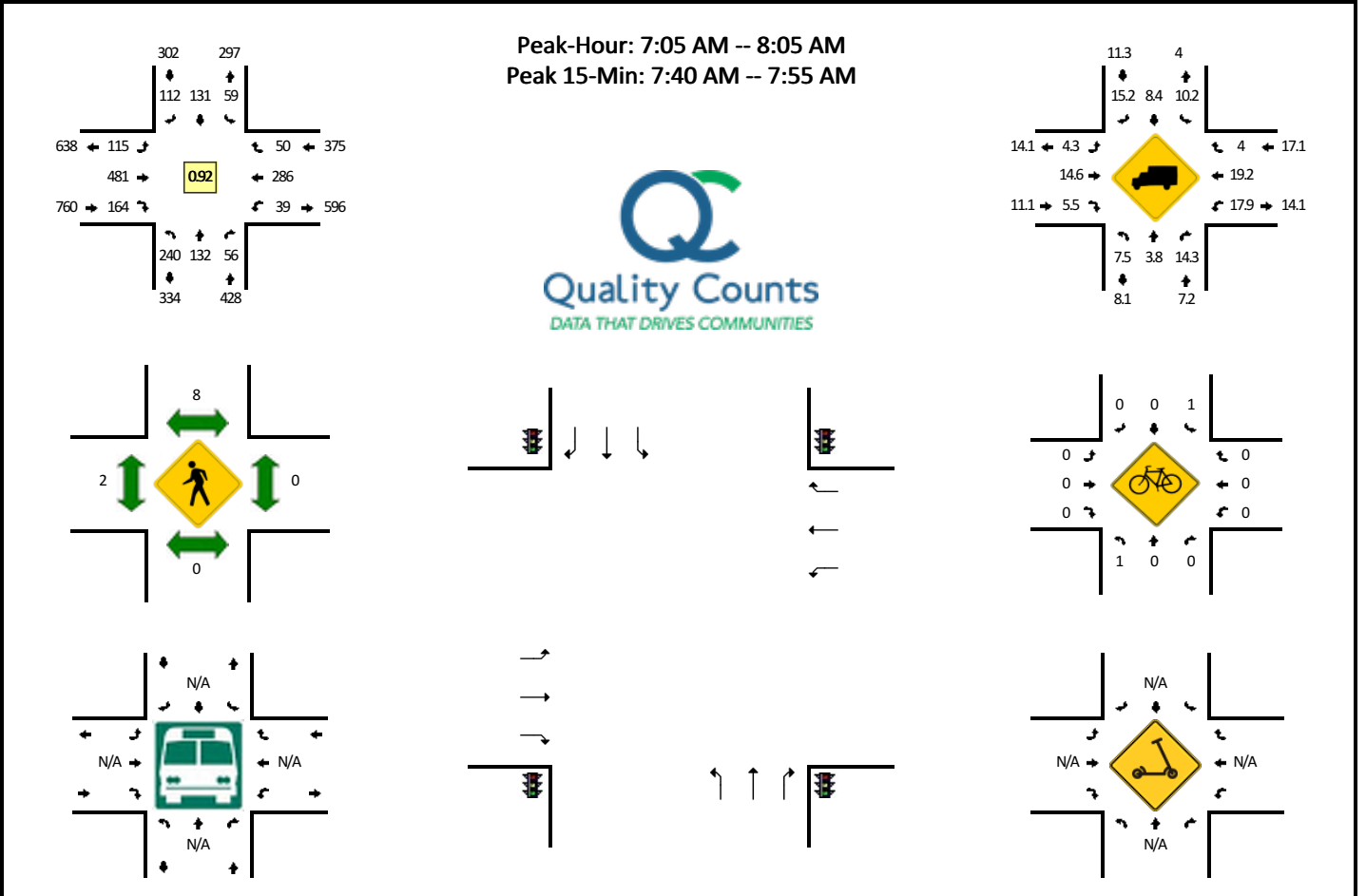
Comments:

Report generated on 2/17/2022 11:59 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: N Boones Ferry Rd/N Settlemier Ave -- OR 214
CITY/STATE: Woodburn, OR

QC JOB #: 15462407
DATE: Tue, May 25 2021



5-Min Count Period Beginning At	N Boones Ferry Rd/N Settlemier Ave (Northbound)				N Boones Ferry Rd/N Settlemier Ave (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	23	7	3	0	2	4	6	0	2	28	13	0	4	16	0	0	108	
6:05 AM	21	9	4	0	0	2	3	0	3	23	7	0	1	20	3	0	96	
6:10 AM	19	7	0	0	1	3	2	0	0	22	4	0	0	33	0	0	91	
6:15 AM	22	5	0	0	0	2	5	0	4	19	8	0	2	32	2	0	101	
6:20 AM	20	3	3	0	1	5	8	0	5	27	4	0	2	18	4	0	100	
6:25 AM	26	6	2	0	1	1	5	0	5	42	9	0	1	28	0	0	126	
6:30 AM	28	17	3	0	3	3	7	0	4	36	8	0	2	22	1	0	134	
6:35 AM	33	15	3	0	1	4	2	0	4	28	10	0	2	19	5	0	126	
6:40 AM	25	7	5	0	3	4	4	0	14	35	15	0	4	37	6	0	159	
6:45 AM	23	12	6	0	1	4	3	0	6	40	12	0	6	33	4	0	150	
6:50 AM	24	10	4	0	5	0	5	0	7	39	18	0	1	16	2	0	131	
6:55 AM	20	14	4	0	3	7	4	0	9	47	15	0	2	22	4	0	151	1473
7:00 AM	17	14	2	0	3	12	4	0	10	38	16	0	3	26	6	0	151	1516
7:05 AM	22	13	2	0	3	11	6	0	12	36	13	0	6	19	3	0	146	1566
7:10 AM	26	5	1	0	3	9	8	0	3	33	20	0	6	28	5	0	147	1622
7:15 AM	15	4	6	0	4	11	11	0	13	37	20	0	1	17	4	0	143	1664
7:20 AM	13	9	4	0	1	11	10	0	5	48	10	0	0	26	2	0	139	1703
7:25 AM	26	11	4	0	11	9	12	0	7	37	19	0	3	26	2	0	167	1744
7:30 AM	14	16	6	0	1	13	9	0	7	35	13	0	4	31	5	0	154	1764
7:35 AM	17	14	2	0	3	11	8	0	4	41	12	0	2	20	4	0	138	1776
7:40 AM	24	14	4	0	8	18	10	0	17	33	11	0	3	25	4	0	171	1788
7:45 AM	17	13	8	0	4	13	9	0	12	41	12	0	6	23	4	0	162	1800
7:50 AM	26	9	5	0	6	8	8	0	10	55	14	0	2	24	5	0	172	1841
7:55 AM	15	14	8	0	3	11	10	0	18	51	14	0	2	22	3	0	171	1861
8:00 AM	25	10	6	0	12	6	11	0	7	34	6	0	4	25	9	0	155	1865
8:05 AM	19	14	6	0	3	7	4	0	10	31	10	0	4	12	3	0	123	1842
8:10 AM	16	7	8	0	9	14	12	0	4	32	9	0	1	24	5	0	141	1836
8:15 AM	23	10	4	0	9	8	10	0	10	28	12	0	3	26	3	0	146	1839
8:20 AM	6	11	9	0	8	11	3	0	10	30	4	0	6	28	6	0	132	1832
8:25 AM	19	12	7	0	17	12	7	0	2	29	5	0	3	30	7	0	150	1815
8:30 AM	6	6	6	0	4	9	12	0	4	27	16	0	9	22	4	0	125	1786
8:35 AM	18	12	12	0	5	9	7	0	7	25	11	0	2	29	9	0	146	1794
8:40 AM	9	10	8	0	9	11	8	0	10	31	13	0	5	29	7	0	150	1773
8:45 AM	20	6	9	0	7	4	7	0	1	40	8	0	4	29	5	0	140	1751
8:50 AM	6	5	4	0	13	6	7	0	6	24	12	0	3	26	2	0	114	1693
8:55 AM	13	8	5	0	4	5	6	0	3	26	9	0	2	25	1	0	107	1629
9:00 AM	6	6	1	0	2	1	7	0	5	35	12	0	2	25	0	0	102	1576

5-Min Count Period Beginning At	N Boones Ferry Rd/N Settlemier Ave (Northbound)				N Boones Ferry Rd/N Settlemier Ave (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:05 AM	14	4	8	0	6	4	4	0	2	29	4	0	3	35	1	0	114	1567
9:10 AM	10	6	5	0	11	7	6	0	5	27	4	0	1	23	4	0	109	1535
9:15 AM	13	5	4	0	5	5	5	0	4	25	11	0	2	31	3	0	113	1502
9:20 AM	11	3	3	0	5	8	6	0	3	33	11	0	5	43	2	0	133	1503
9:25 AM	14	4	1	0	5	2	2	0	2	25	4	0	6	29	2	0	96	1449
9:30 AM	11	5	1	0	7	6	3	0	3	34	10	0	1	20	5	0	106	1430
9:35 AM	10	5	4	0	6	3	5	0	7	28	6	0	7	40	6	0	127	1411
9:40 AM	13	2	3	0	9	2	6	0	11	43	11	0	1	34	0	0	135	1396
9:45 AM	11	12	5	0	7	7	3	0	3	37	12	0	4	35	2	0	138	1394
9:50 AM	16	7	8	0	7	9	7	0	4	42	12	0	3	25	5	0	145	1425
9:55 AM	18	3	6	0	5	3	4	0	7	39	9	0	3	46	6	0	149	1467
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	268	144	68	0	72	156	108	0	156	516	148	0	44	288	52	0	2020	
Heavy Trucks	20	4	4		4	0	36		8	64	8		8	64	0		220	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		4	0	0		0	0	0		0	0	0		4	
Scooters																		
<i>Comments:</i>																		

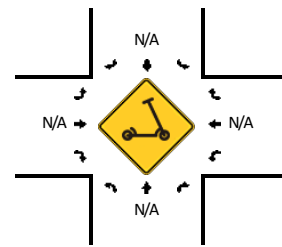
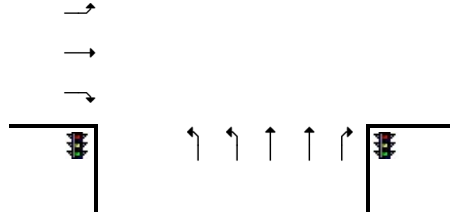
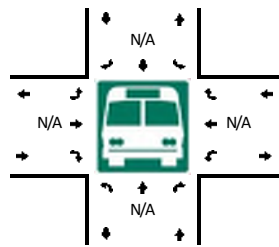
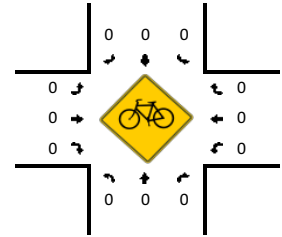
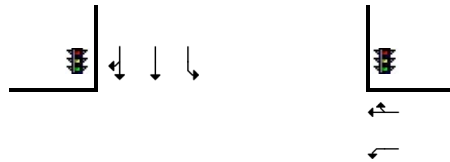
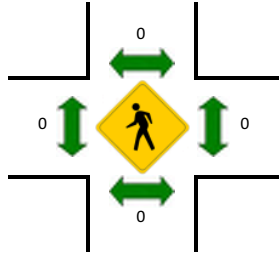
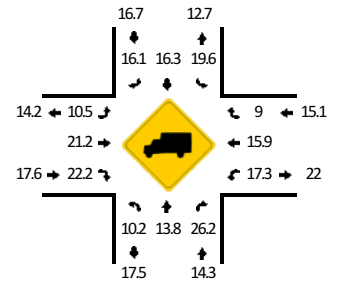
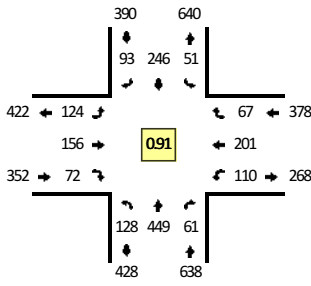
Report generated on 4/1/2022 12:17 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: OR 99E -- OR 214
CITY/STATE: Woodburn, OR

QC JOB #: 15462409
DATE: Tue, May 25 2021

Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:40 AM -- 7:55 AM



5-Min Count Period Beginning At	OR 99E (Northbound)				OR 99E (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	2	44	9	0	1	18	4	0	11	8	5	0	4	5	3	0	114	
6:05 AM	3	34	10	0	1	15	7	0	9	12	4	0	0	16	6	0	117	
6:10 AM	2	43	13	0	3	11	2	0	10	13	3	0	5	10	6	0	121	
6:15 AM	5	46	5	0	2	7	3	0	7	18	4	0	2	17	8	0	124	
6:20 AM	4	29	4	0	1	17	5	0	11	12	2	0	2	20	4	0	111	
6:25 AM	5	41	10	0	5	19	3	0	13	21	5	0	1	15	5	0	143	
6:30 AM	2	40	8	0	4	13	8	0	9	17	7	0	7	12	10	0	137	
6:35 AM	2	56	3	0	2	17	8	0	7	22	6	0	5	20	6	0	154	
6:40 AM	1	50	10	0	8	29	5	0	8	9	2	0	4	12	7	0	145	
6:45 AM	10	35	7	0	5	24	5	0	15	22	1	0	8	20	8	0	160	
6:50 AM	9	42	6	0	6	24	10	0	16	15	3	0	6	13	8	0	158	
6:55 AM	6	44	8	0	6	14	2	0	7	13	3	0	4	11	7	0	125	1609
7:00 AM	12	28	4	0	7	19	10	0	8	20	9	0	5	16	13	0	151	1646
7:05 AM	8	42	6	0	3	14	5	0	10	12	2	0	5	14	7	0	128	1657
7:10 AM	7	41	4	0	3	17	7	0	9	14	3	0	3	12	2	0	122	1658
7:15 AM	6	29	7	0	6	16	6	0	15	12	4	0	15	12	9	0	137	1671
7:20 AM	10	37	5	0	5	30	12	0	11	17	4	0	6	11	5	0	153	1713
7:25 AM	13	34	4	0	7	20	11	0	14	17	3	0	8	13	7	0	151	1721
7:30 AM	8	45	5	0	3	20	6	0	11	20	5	0	9	22	0	0	154	1738
7:35 AM	6	28	7	0	9	22	9	0	5	10	4	0	7	15	6	0	128	1712
7:40 AM	11	42	3	0	0	20	5	0	13	15	4	0	11	21	8	0	153	1720
7:45 AM	11	42	5	0	6	23	8	0	7	16	9	0	7	25	7	0	166	1726
7:50 AM	17	45	11	0	1	22	12	0	7	7	9	0	10	19	6	0	166	1734
7:55 AM	15	39	1	0	4	26	5	0	14	7	7	0	6	14	3	0	141	1750
8:00 AM	11	33	4	0	2	17	6	0	11	12	8	0	15	18	7	0	144	1743
8:05 AM	13	34	5	0	5	13	6	0	7	9	12	0	13	19	7	0	143	1758
8:10 AM	5	31	3	0	1	16	10	1	8	13	6	0	6	12	4	0	116	1752
8:15 AM	7	15	7	0	9	18	9	0	8	18	8	0	3	19	4	0	125	1740
8:20 AM	11	39	6	0	5	11	5	0	7	12	6	0	11	22	4	0	139	1726
8:25 AM	13	23	4	0	5	14	8	0	9	6	10	0	11	15	5	0	123	1698
8:30 AM	12	28	7	0	3	24	10	0	8	8	10	0	13	10	4	0	137	1681
8:35 AM	15	22	5	0	6	22	5	0	9	15	9	0	11	13	8	0	140	1693
8:40 AM	5	24	5	0	3	25	10	0	8	14	11	0	8	14	6	0	133	1673
8:45 AM	12	17	9	0	4	11	9	0	9	13	18	0	11	13	5	0	131	1638
8:50 AM	7	28	7	0	4	30	9	0	12	7	7	0	12	15	1	0	139	1611
8:55 AM	9	19	4	0	5	19	5	0	9	13	10	0	10	18	4	0	125	1595
9:00 AM	14	30	9	0	4	21	11	0	5	7	11	0	6	21	5	0	144	1595
9:05 AM	13	22	8	0	7	23	9	0	8	16	11	0	13	18	5	0	153	1605

5-Min Count Period Beginning At	OR 99E (Northbound)				OR 99E (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	17	24	2	0	4	18	10	0	12	11	12	0	9	15	2	0	136	1625
9:15 AM	12	29	8	0	3	19	14	0	6	18	12	0	6	8	6	0	141	1641
9:20 AM	17	20	5	0	6	22	9	0	7	16	16	0	1	10	1	0	130	1632
9:25 AM	12	28	2	0	6	26	13	0	5	12	16	0	15	14	5	0	154	1663
9:30 AM	13	22	4	0	4	18	8	0	11	17	7	0	9	16	4	0	133	1659
9:35 AM	15	17	4	0	5	23	17	0	6	11	13	0	7	21	5	0	144	1663
9:40 AM	19	29	6	0	5	13	10	0	5	19	22	0	5	9	5	0	147	1677
9:45 AM	10	18	3	0	8	23	12	0	14	25	15	0	9	17	5	0	159	1705
9:50 AM	17	25	4	0	2	26	15	1	6	19	16	0	9	17	9	0	166	1732
9:55 AM	9	14	2	0	5	30	12	0	13	19	12	0	11	10	4	0	141	1748
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	156	516	76	0	28	260	100	0	108	152	88	0	112	260	84	0	1940	
Heavy Trucks	4	76	28		4	72	12		8	32	20		20	36	8		320	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																	0	

Comments:

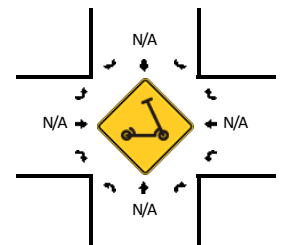
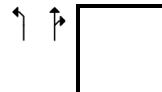
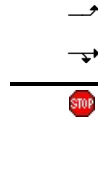
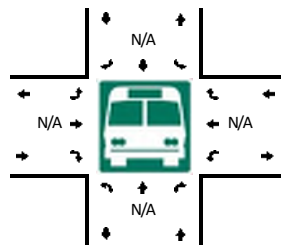
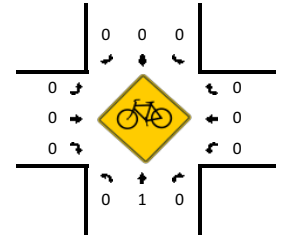
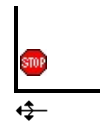
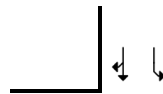
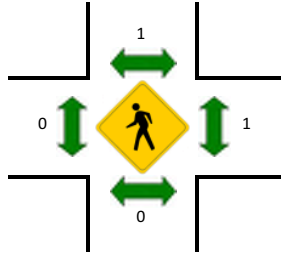
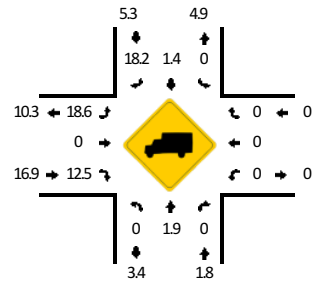
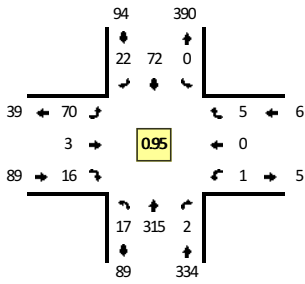
Report generated on 4/1/2022 12:17 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Evergreen Rd -- Stacy Allison Wy
CITY/STATE: Woodburn, OR

QC JOB #: 15702405
DATE: Wed, Feb 9 2022

Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:05 AM -- 7:20 AM



5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				Stacy Allison Wy (Eastbound)				Stacy Allison Wy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	1	11	0	0	1	4	2	0	2	0	0	0	0	0	0	0	21	
6:05 AM	2	13	0	0	1	3	1	0	4	0	1	0	0	0	0	0	25	
6:10 AM	1	13	0	0	0	2	0	0	2	1	0	0	0	0	0	0	19	
6:15 AM	1	24	0	0	0	2	0	0	2	0	0	0	0	0	0	0	29	
6:20 AM	0	24	0	0	0	5	2	0	4	0	0	0	1	0	1	0	37	
6:25 AM	1	22	0	0	0	1	1	0	4	0	2	0	0	0	1	0	32	
6:30 AM	1	36	0	0	0	3	3	0	3	0	0	0	1	0	0	0	47	
6:35 AM	2	29	0	0	0	5	2	0	1	0	0	0	0	0	0	0	39	
6:40 AM	1	26	0	0	0	3	1	0	9	0	2	0	0	0	0	0	42	
6:45 AM	0	31	1	0	0	7	0	0	6	0	1	0	0	0	0	0	46	
6:50 AM	0	19	0	0	0	6	4	0	5	1	0	0	0	1	0	0	36	
6:55 AM	0	21	0	0	0	11	2	0	8	0	2	0	0	0	0	0	44	417
7:00 AM	2	29	0	0	0	3	3	0	6	0	1	0	0	0	0	0	44	440
7:05 AM	4	26	0	0	0	2	1	0	9	1	1	0	0	0	1	0	45	460
7:10 AM	1	24	0	0	0	12	1	0	6	0	2	0	0	0	1	0	47	488
7:15 AM	2	24	0	0	0	11	1	0	5	0	2	0	0	0	1	0	46	505
7:20 AM	0	26	0	0	0	4	0	0	5	1	2	0	0	0	1	0	39	507
7:25 AM	1	30	0	0	0	5	0	0	6	0	0	0	0	0	0	0	42	517
7:30 AM	2	28	0	0	0	8	2	0	6	0	0	0	0	0	0	0	46	516
7:35 AM	1	36	0	0	0	3	1	0	6	0	1	0	0	0	0	0	48	525
7:40 AM	1	24	0	0	0	4	4	0	6	1	2	0	1	0	0	0	43	526
7:45 AM	1	31	0	0	0	8	1	0	3	0	2	0	0	0	1	0	47	527
7:50 AM	1	21	2	0	0	5	2	0	8	0	1	0	0	0	0	0	40	531
7:55 AM	1	16	0	0	0	7	6	0	4	0	2	0	0	0	0	0	36	523
8:00 AM	1	18	0	0	0	5	3	0	7	0	1	0	0	0	0	0	35	514
8:05 AM	3	18	0	0	0	3	4	0	4	0	0	0	0	0	0	0	32	501
8:10 AM	1	22	0	0	0	5	4	0	7	0	2	0	0	0	0	0	41	495
8:15 AM	2	12	0	0	0	1	0	0	7	0	1	0	0	0	0	0	23	472
8:20 AM	2	11	0	0	0	4	5	0	12	0	0	0	0	0	1	0	35	468
8:25 AM	1	12	0	0	0	1	4	0	5	0	1	0	0	0	0	0	24	450
8:30 AM	2	16	0	0	0	1	4	0	9	0	1	0	1	0	0	0	34	438
8:35 AM	0	17	0	0	0	4	2	0	10	0	0	0	0	0	1	0	34	424
8:40 AM	2	16	0	0	0	5	2	0	4	0	1	0	0	0	0	0	30	411
8:45 AM	1	12	0	0	1	5	5	0	2	0	2	0	1	0	0	0	29	393
8:50 AM	3	12	0	0	0	6	6	0	6	0	1	0	0	0	0	0	34	387
8:55 AM	3	18	0	0	0	9	1	0	2	0	0	0	0	0	0	0	33	384
9:00 AM	2	28	0	0	0	4	6	0	3	0	1	0	0	0	0	0	44	393
9:05 AM	2	21	0	0	0	5	9	0	5	0	1	0	1	0	0	0	44	405

5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				Stacy Allison Wy (Eastbound)				Stacy Allison Wy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	5	27	0	0	0	11	10	0	5	0	1	0	0	0	0	0	59	423
9:15 AM	0	21	0	0	0	4	6	0	10	0	3	0	0	0	0	0	44	444
9:20 AM	1	13	0	0	0	2	6	0	2	0	1	0	0	0	0	0	25	434
9:25 AM	5	24	0	0	0	5	4	0	13	0	3	0	0	0	0	0	54	464
9:30 AM	2	26	0	0	1	10	10	0	12	0	1	0	0	0	1	0	63	493
9:35 AM	2	16	0	0	1	8	12	0	12	0	1	0	0	0	0	0	52	511
9:40 AM	2	19	0	0	0	8	6	0	18	0	0	0	1	0	0	0	54	535
9:45 AM	3	17	0	0	0	9	8	0	12	1	1	0	0	0	0	0	51	557
9:50 AM	0	11	0	0	1	4	7	0	14	0	1	0	0	0	0	0	38	561
9:55 AM	0	17	0	0	0	7	8	0	9	0	5	0	0	0	0	0	46	574
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	296	0	0	0	100	12	0	80	4	20	0	0	0	12	0	552	
Heavy Trucks	0	4	0	0	0	4	0	0	8	0	0	0	0	0	0	0	16	
Buses																		
Pedestrians		0				4				0				0			4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

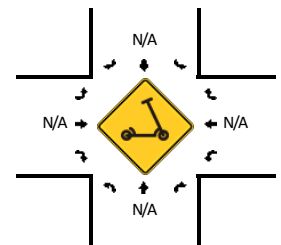
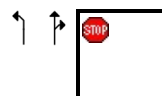
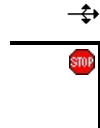
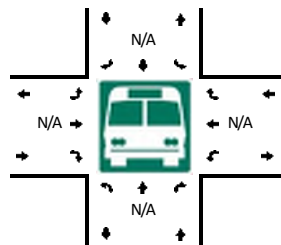
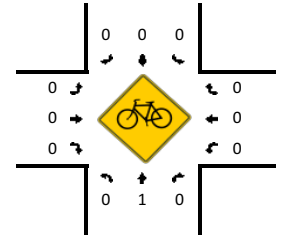
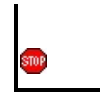
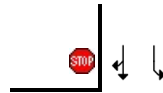
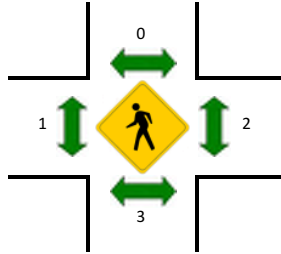
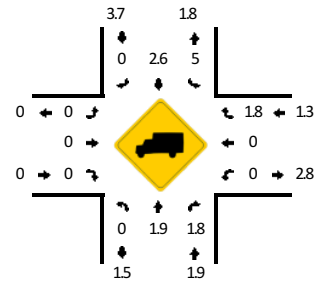
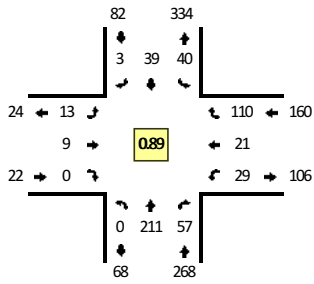
Report generated on 6/16/2022 12:28 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Evergreen Rd -- W Hayes St
CITY/STATE: Woodburn, OR

QC JOB #: 15702407
DATE: Wed, Feb 9 2022

Peak-Hour: 7:00 AM -- 8:00 AM
 Peak 15-Min: 7:35 AM -- 7:50 AM



5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				W Hayes St (Eastbound)				W Hayes St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	11	1	0	1	4	0	0	0	0	0	0	2	1	4	0	24	
6:05 AM	0	7	3	0	2	4	0	0	0	0	1	0	1	1	5	0	24	
6:10 AM	0	10	3	0	1	0	0	0	0	0	1	0	0	0	7	0	27	
6:15 AM	0	17	1	0	0	1	0	0	0	0	0	0	1	0	6	0	26	
6:20 AM	0	17	3	0	4	1	1	0	0	1	1	0	0	2	8	0	38	
6:25 AM	0	13	1	0	3	0	0	0	0	1	0	0	0	1	6	0	25	
6:30 AM	0	27	2	0	2	2	0	0	0	1	1	0	0	2	9	0	50	
6:35 AM	0	19	4	0	1	4	0	0	0	0	1	0	0	3	10	0	44	
6:40 AM	0	19	4	0	0	5	0	0	0	1	0	0	0	2	8	0	39	
6:45 AM	0	27	6	0	3	2	1	0	0	1	2	0	0	0	4	0	48	
6:50 AM	0	14	4	0	2	4	0	0	0	1	0	0	0	3	3	0	32	
6:55 AM	0	14	5	0	4	7	1	0	0	0	2	0	0	3	8	0	44	421
7:00 AM	0	22	2	0	3	4	0	0	0	0	0	0	0	4	8	0	44	441
7:05 AM	0	14	5	0	1	1	1	0	0	2	0	0	0	3	13	0	40	457
7:10 AM	0	18	6	0	6	7	0	0	0	3	0	0	0	1	3	0	46	476
7:15 AM	0	17	6	0	7	3	1	0	0	0	0	0	0	1	9	0	46	496
7:20 AM	0	15	7	0	7	2	0	0	0	1	1	0	0	0	10	0	46	504
7:25 AM	0	20	4	0	0	3	0	0	0	0	2	0	0	0	13	0	45	524
7:30 AM	0	19	6	0	0	8	0	0	0	1	0	0	0	6	11	0	51	525
7:35 AM	0	23	6	0	1	3	0	0	0	0	2	0	0	3	12	0	51	532
7:40 AM	0	17	8	0	4	0	1	0	0	2	1	0	0	4	7	0	45	538
7:45 AM	0	25	7	0	6	3	0	0	0	2	0	0	0	3	4	0	54	544
7:50 AM	0	14	0	0	2	2	0	0	0	0	0	0	0	4	12	0	37	549
7:55 AM	0	7	0	0	3	3	0	0	0	2	3	0	0	0	8	0	27	532
8:00 AM	0	8	7	0	3	2	0	0	0	0	2	0	0	5	10	0	39	527
8:05 AM	0	9	1	0	1	1	0	0	0	0	3	0	0	3	13	0	35	522
8:10 AM	0	16	6	0	3	2	0	0	0	2	0	0	0	4	5	0	40	516
8:15 AM	0	4	4	0	1	0	0	0	0	0	0	0	0	4	8	0	23	493
8:20 AM	0	8	4	0	1	2	1	0	0	0	2	0	0	1	5	0	25	472
8:25 AM	0	9	1	0	1	2	0	0	0	1	2	0	0	2	6	0	27	454
8:30 AM	0	5	1	0	1	2	0	0	0	1	0	0	0	4	8	0	23	426
8:35 AM	0	10	3	0	1	2	1	0	0	1	1	0	0	0	5	0	25	400
8:40 AM	0	8	0	0	3	2	1	0	0	0	3	0	0	4	12	0	35	390
8:45 AM	0	8	4	0	4	4	0	0	0	0	0	0	0	3	3	0	28	364
8:50 AM	0	5	11	0	2	1	2	0	0	0	2	0	0	5	11	0	41	368
8:55 AM	0	12	9	0	5	0	0	0	0	1	2	0	0	7	9	0	51	392
9:00 AM	0	14	12	0	3	3	0	0	0	0	1	0	0	10	15	0	62	415
9:05 AM	0	10	7	0	3	4	0	0	0	2	2	0	0	9	10	0	51	431

5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				W Hayes St (Eastbound)				W Hayes St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	0	17	8	0	5	4	0	0	0	0	0	0	8	3	14	0	59	450
9:15 AM	0	14	15	0	6	0	0	0	0	3	0	0	5	4	6	0	53	480
9:20 AM	0	7	4	0	2	0	0	0	1	3	1	0	10	10	6	0	44	499
9:25 AM	0	13	2	0	4	3	0	0	1	0	0	0	1	6	14	0	44	516
9:30 AM	0	17	3	0	5	6	0	0	0	2	1	0	6	4	9	0	53	546
9:35 AM	0	12	2	0	3	3	1	0	0	1	0	0	2	4	5	0	33	554
9:40 AM	0	15	5	0	4	8	0	0	1	2	0	0	3	3	6	0	47	566
9:45 AM	0	11	3	0	2	6	1	0	0	1	0	0	3	6	8	0	41	579
9:50 AM	0	7	1	0	3	2	0	0	0	2	1	0	7	3	5	0	31	569
9:55 AM	0	10	4	0	5	6	1	0	0	2	0	0	9	4	7	0	48	566
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	260	84	0	44	24	4	0	16	12	0	0	40	24	92	0	600	
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	0	4		8	
Buses																		
Pedestrians		4				0				4				0			8	
Bicycles	0	4	0		0	0	0		0	0	0		0	0	0		4	
Scooters																		

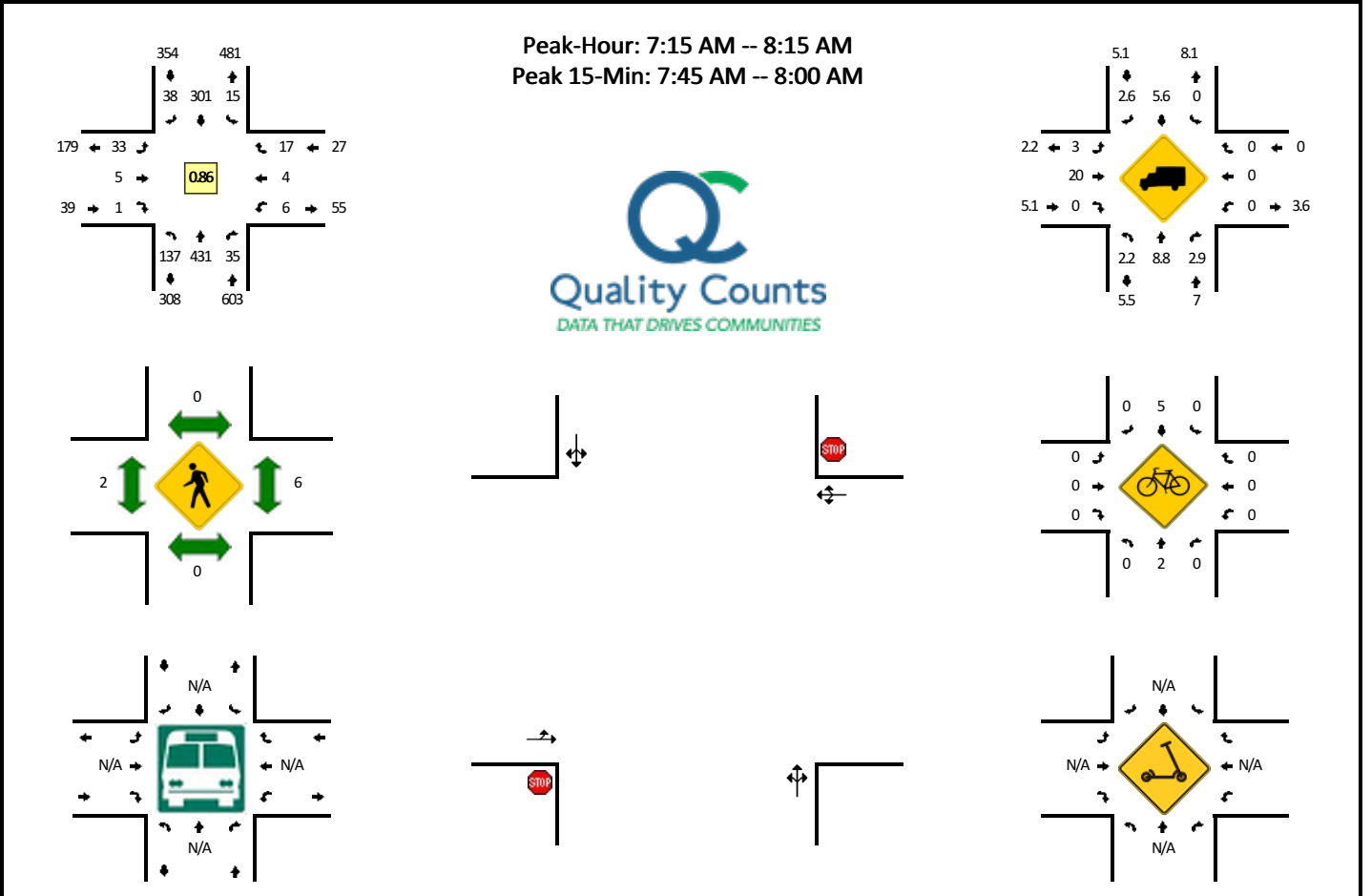
Comments:

Report generated on 6/16/2022 12:28 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: N Settlemier Ave -- W Hayes St (north)
CITY/STATE: Woodburn, OR

QC JOB #: 15767201
DATE: Thu, Mar 31 2022

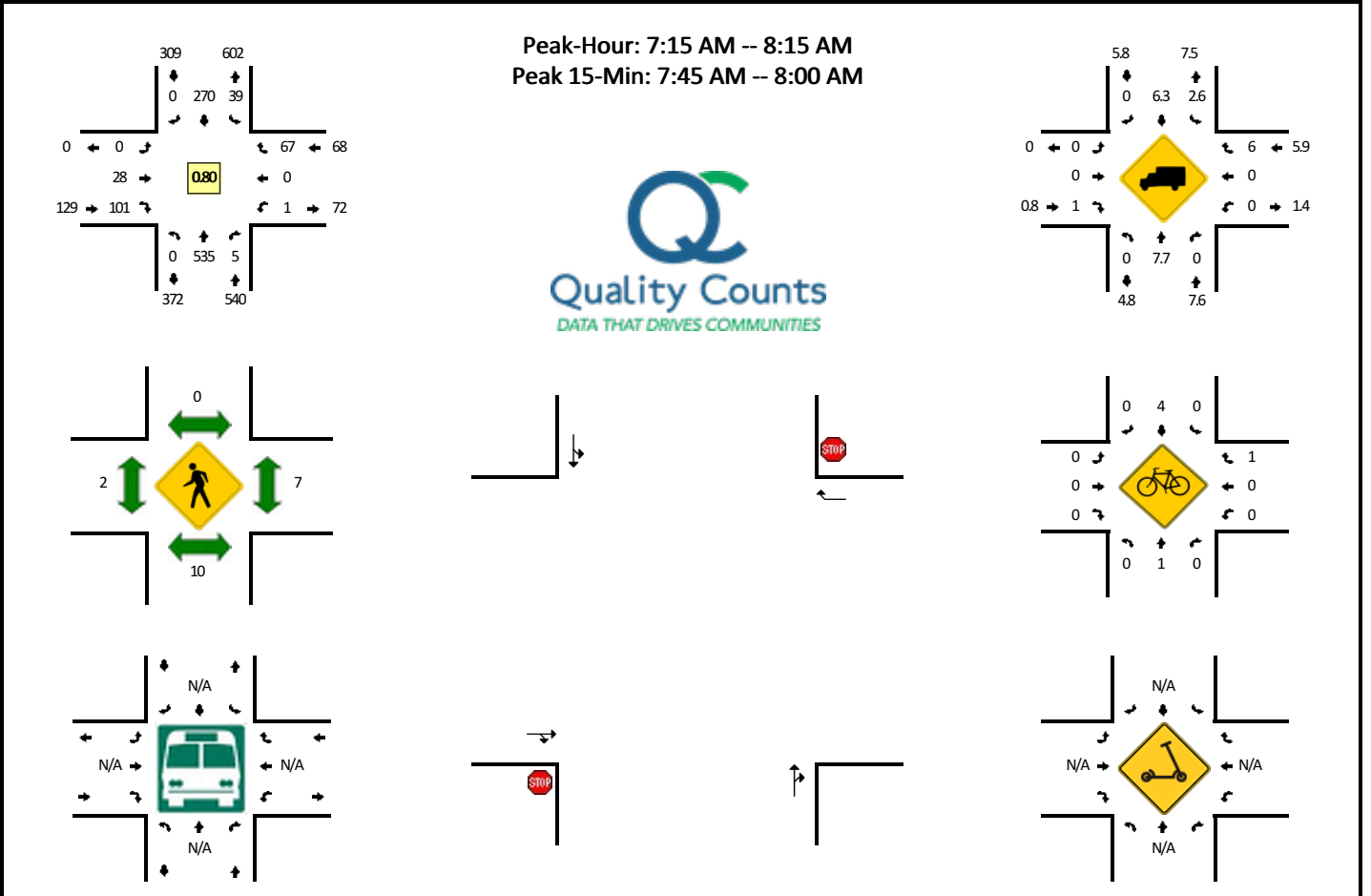


15-Min Count Period Beginning At	N Settlemier Ave (Northbound)				N Settlemier Ave (Southbound)				W Hayes St (north) (Eastbound)				W Hayes St (north) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	20	72	0	0	0	24	4	0	1	0	0	0	0	0	0	0	121	
6:15 AM	16	89	0	0	0	25	3	0	3	0	0	0	0	0	0	0	136	
6:30 AM	11	89	2	0	0	41	5	0	5	0	0	0	0	0	0	0	153	
6:45 AM	16	81	0	0	0	52	2	0	4	0	0	0	0	0	0	0	155	565
7:00 AM	29	100	3	0	0	58	6	0	4	0	0	0	0	0	0	0	200	644
7:15 AM	17	113	4	0	1	63	11	0	5	0	0	0	0	0	0	0	214	722
7:30 AM	38	103	8	0	2	64	11	0	10	0	0	0	1	0	0	0	237	806
7:45 AM	55	118	8	0	6	89	6	0	12	3	0	0	0	0	0	0	297	948
8:00 AM	27	97	15	0	6	85	10	0	6	2	1	0	5	4	17	0	275	1023
8:15 AM	16	95	4	0	3	56	7	0	9	2	0	0	2	3	7	0	204	1013
8:30 AM	17	59	1	0	2	48	13	0	5	0	0	0	0	0	1	0	146	922
8:45 AM	26	52	1	0	0	54	4	0	8	0	1	0	0	0	0	0	146	771
9:00 AM	17	53	2	0	0	37	6	0	4	1	0	0	0	0	1	0	121	617
9:15 AM	20	46	3	0	4	34	5	0	3	2	0	0	1	0	2	0	120	533
9:30 AM	17	62	6	0	5	47	7	0	4	0	0	0	4	2	8	0	162	549
9:45 AM	27	64	0	0	2	46	5	0	3	0	0	0	0	1	0	0	148	551
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	220	472	32	0	24	356	24	0	48	12	0	0	0	0	0	0	1188	
Heavy Trucks	8	24	4		0	16	0		0	4	0		0	0	0		56	
Buses																		
Pedestrians		0				0				8				8			16	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: N Settlemier Ave -- W Hayes St (south)
CITY/STATE: Woodburn, OR

QC JOB #: 15767203
DATE: Thu, Mar 31 2022



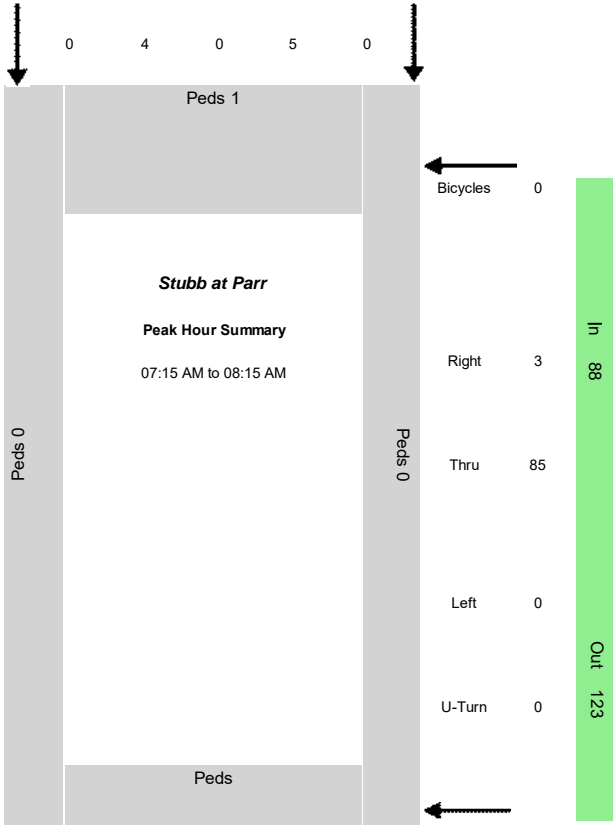
15-Min Count Period Beginning At	N Settlemier Ave (Northbound)				N Settlemier Ave (Southbound)				W Hayes St (south) (Eastbound)				W Hayes St (south) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	84	1	0	1	24	0	0	1	1	14	0	2	0	8	0	136	
6:15 AM	0	104	0	0	0	24	0	0	0	0	15	0	0	0	3	0	146	
6:30 AM	0	99	0	0	0	41	0	0	0	0	10	0	0	0	0	0	150	
6:45 AM	0	99	0	0	4	50	0	0	1	2	13	0	0	0	2	0	171	603
7:00 AM	0	125	0	0	0	56	0	0	0	2	25	0	0	0	4	0	212	679
7:15 AM	0	129	1	0	2	62	0	0	0	2	16	0	0	0	9	0	221	754
7:30 AM	0	132	1	0	9	58	0	0	0	10	24	0	0	0	19	0	253	857
7:45 AM	0	143	1	0	16	78	0	0	0	11	41	0	0	0	35	0	325	1011
8:00 AM	0	131	2	0	12	72	0	0	0	5	20	0	1	0	4	0	247	1046
8:15 AM	0	117	2	0	5	53	0	0	0	3	10	0	0	0	4	0	194	1019
8:30 AM	0	68	1	0	10	40	0	0	0	1	13	0	0	0	8	0	141	907
8:45 AM	0	70	2	0	6	47	0	0	0	1	14	0	0	0	6	0	146	728
9:00 AM	0	62	3	0	2	36	0	0	0	0	17	0	0	0	9	0	129	610
9:15 AM	0	62	0	0	7	27	0	0	0	4	8	0	0	0	7	0	115	531
9:30 AM	0	83	1	0	7	44	0	0	0	2	11	0	0	0	7	0	155	545
9:45 AM	0	84	0	0	5	41	0	0	0	2	14	0	0	0	7	0	153	552
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	572	4	0	64	312	0	0	0	44	164	0	0	0	140	0	1300	
Heavy Trucks	0	36	0		0	20	0		0	0	0		0	0	8		64	
Buses																		
Pedestrians		8				0				8				8			24	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:



**Southbound
Stubb Rd NE**
Heavy Vehicle 0.0%

In 9		Out 4		
Bicycles	Right	Thru	Left	U-Turn



Data Provided by K-D-N.com 503-594-4224

N/S street	Stubb Rd NE	
E/W street	Parr Rd	
City, State	Woodburn OR	
Site Notes		
Location	45.136454	-122.879529
Start Date	Tuesday, March 21, 2017	
Start Time	07:00:00 AM	
Weather		
Study ID #	107813	
Peak Hour Start	07:15:00 AM	
Peak 15 Min Start	07:25:00 AM	
PHF (15-Min Int)	0.71	

Eastbound
Parr Rd
Heavy Vehicle 3.4%

Westbound
Parr Rd
Heavy Vehicle 2.3%

U-Turn	Left	Thru	Right	Bicycles
0	0	0	0	0

In 0	Out 0
------	-------

Heavy Vehicle NaN

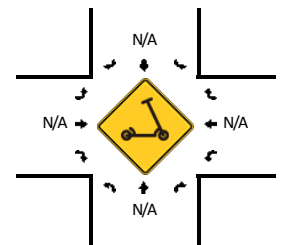
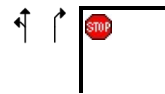
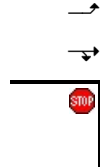
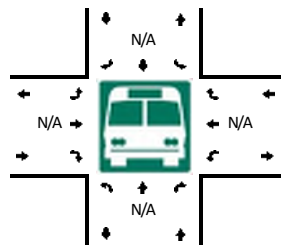
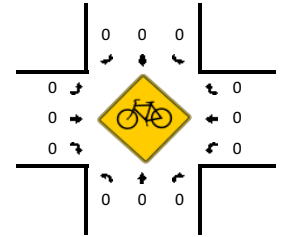
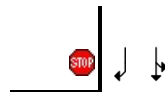
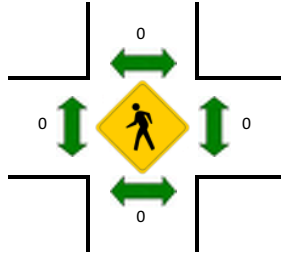
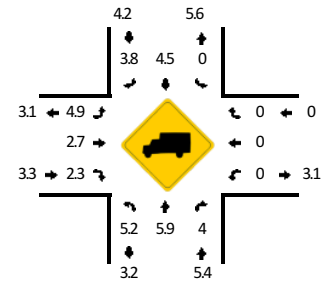
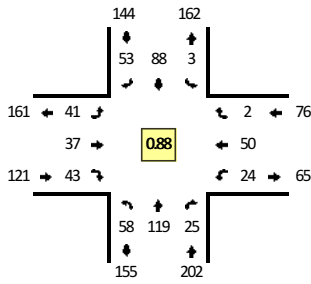
Northbound

Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	5	0	4	0	1	118	0	0	0	85	3	0	0	9	119	88	0	4	89	123
Percent Heavy Vehicles																							
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	#DIV/0!	0.0%	3.4%	2.3%	#DIV/0!	0.0%	2.2%	3.3%
PHV- Bicycles															PHV - Pedestrians								
Northbound				Southbound				Eastbound				Westbound			Sum	in Crosswalk				Sum			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right		NB	SB	EB	WB				
0				0				0				0			1	0	0	1					
All Vehicle Volumes																							
Time	Northbound				Southbound Stubb Rd NE				Eastbound Parr Rd				Westbound Parr Rd				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
07:00:00 AM					0				0	3			1	0									
07:05:00 AM					0				0	4			4	0									
07:10:00 AM					0				0	6			8	0			26						
07:15:00 AM					1				0	10			6	0			39						
07:20:00 AM					0				0	10			6	0			48						
07:25:00 AM					2				0	16			9	0			62						
07:30:00 AM					0				1	16			10	0			72						
07:35:00 AM					0				2	12			7	0			76						
07:40:00 AM					0				0	12			8	0			68						
07:45:00 AM					0				0	13			5	0			59						
07:50:00 AM					0				0	10			7	0			55						
07:55:00 AM					0				0	11			5	0			51	207					
08:00:00 AM					0				0	1			5	0			39	209					
08:05:00 AM					1				0	4			8	1			36	215					
08:10:00 AM					1				0	3			9	2			35	216					
08:15:00 AM					2				1	7			0	0			40	210					
08:20:00 AM					0				0	4			2	0			32	199					
08:25:00 AM					0				0	2			1	0			20	174					
08:30:00 AM					0				0	1			0	1			11	149					
08:35:00 AM					0				0	2			3	0			10	133					
08:40:00 AM					0				0	2			0	0			9	115					
08:45:00 AM					1				0	1			0	0			9	99					
08:50:00 AM					0				0	2			0	0			6	84					
08:55:00 AM					0				0	3			1	0			8	72					

LOCATION: S Settlemier Ave -- Parr Rd NE
CITY/STATE: Woodburn, OR

QC JOB #: 15702401
DATE: Wed, Feb 9 2022

Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:05 AM -- 7:20 AM



5-Min Count Period Beginning At	S Settlemier Ave (Northbound)				S Settlemier Ave (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	7	1	0	0	3	0	0	2	0	2	0	2	0	0	0	17	
6:05 AM	1	6	0	0	0	5	2	0	1	2	2	0	1	2	0	0	22	
6:10 AM	2	1	2	0	0	3	0	0	2	1	4	0	2	0	0	0	17	
6:15 AM	1	9	2	0	0	4	1	0	2	1	1	0	2	3	0	0	26	
6:20 AM	3	6	1	0	0	5	0	0	3	2	3	0	2	3	0	0	28	
6:25 AM	2	12	1	0	0	1	1	0	3	1	1	0	1	1	1	0	25	
6:30 AM	5	11	3	0	0	8	0	0	2	2	3	0	1	1	0	0	36	
6:35 AM	1	12	3	0	0	4	1	0	2	1	1	0	4	1	0	0	30	
6:40 AM	4	10	2	0	0	5	2	0	7	13	4	0	1	5	0	0	53	
6:45 AM	5	10	1	0	0	9	4	0	6	2	9	0	6	1	0	0	53	
6:50 AM	4	8	2	0	0	5	1	0	4	4	4	0	3	1	1	0	37	
6:55 AM	5	11	1	0	0	9	2	0	4	5	2	0	3	3	0	0	45	389
7:00 AM	11	7	2	0	0	10	0	0	1	5	2	0	2	2	0	0	42	414
7:05 AM	2	11	1	0	0	7	8	0	3	2	6	0	5	3	0	0	48	440
7:10 AM	7	10	3	0	0	8	7	0	3	2	2	0	3	9	0	0	54	477
7:15 AM	3	16	3	0	0	7	5	0	5	2	4	0	3	4	0	0	52	503
7:20 AM	5	4	2	0	0	8	8	0	2	2	1	0	1	4	0	0	37	512
7:25 AM	5	10	2	0	0	8	3	0	4	3	1	0	2	3	0	0	41	528
7:30 AM	5	12	1	0	0	9	11	0	6	3	5	0	3	2	1	0	58	550
7:35 AM	2	9	0	0	1	4	2	0	3	3	8	0	0	5	0	0	37	557
7:40 AM	5	9	1	0	0	7	2	0	3	4	2	0	1	6	1	0	41	545
7:45 AM	2	8	3	0	0	10	1	0	5	4	4	0	1	4	0	0	42	534
7:50 AM	7	6	2	0	1	6	2	0	4	5	5	0	1	5	0	0	44	541
7:55 AM	4	17	5	0	1	4	4	0	2	2	3	0	2	3	0	0	47	543
8:00 AM	0	9	0	0	0	4	2	0	1	3	4	0	3	1	0	0	27	528
8:05 AM	1	10	1	0	0	11	3	0	0	0	2	0	4	1	0	0	33	513
8:10 AM	2	4	1	0	0	3	3	0	2	2	2	0	3	0	0	0	22	481
8:15 AM	3	7	0	0	0	4	4	0	4	2	1	0	3	0	0	0	28	457
8:20 AM	4	5	1	0	0	11	3	0	3	4	3	0	1	2	0	0	37	457
8:25 AM	2	11	0	0	0	3	2	0	0	2	3	0	1	1	1	0	26	442
8:30 AM	3	7	0	0	0	5	2	0	5	3	7	0	0	1	0	0	33	417
8:35 AM	0	10	2	0	1	6	3	0	0	3	2	0	0	5	0	0	32	412
8:40 AM	6	7	1	0	0	6	2	0	3	6	2	0	2	1	0	0	36	407
8:45 AM	6	6	0	0	0	8	3	0	7	8	1	0	3	5	0	0	47	412
8:50 AM	9	9	3	0	0	7	3	0	4	6	7	0	0	1	0	0	49	417
8:55 AM	8	8	3	0	0	4	2	0	9	7	6	0	1	8	1	0	57	427
9:00 AM	6	6	1	0	1	7	7	0	5	7	5	0	0	7	1	0	53	453
9:05 AM	10	6	4	0	0	7	6	0	6	11	5	0	3	13	0	0	71	491

5-Min Count Period Beginning At	S Settlemier Ave (Northbound)				S Settlemier Ave (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	14	4	0	0	0	7	10	0	9	11	4	0	0	16	1	0	76	545
9:15 AM	13	8	3	0	0	4	8	0	14	15	5	0	0	4	0	0	74	591
9:20 AM	6	10	2	0	0	4	12	0	10	14	12	0	0	8	1	0	79	633
9:25 AM	11	4	1	0	0	10	9	0	9	12	11	0	5	9	0	0	81	688
9:30 AM	7	5	2	0	0	7	12	0	10	10	5	0	8	11	0	0	77	732
9:35 AM	13	6	3	0	1	2	4	0	19	21	8	0	0	9	0	0	86	786
9:40 AM	8	7	1	0	0	8	10	0	9	9	6	0	1	12	0	0	71	821
9:45 AM	3	7	0	0	0	6	9	0	9	13	6	0	5	8	0	0	66	840
9:50 AM	2	10	1	0	0	14	8	0	8	7	6	0	1	4	1	0	62	853
9:55 AM	7	8	2	0	0	4	2	0	8	1	0	0	6	3	0	0	41	837
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	48	148	28	0	0	88	80	0	44	24	48	0	44	64	0	0	616	
Heavy Trucks	0	8	0	0	0	8	4	0	0	0	0	0	0	0	0	0	20	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

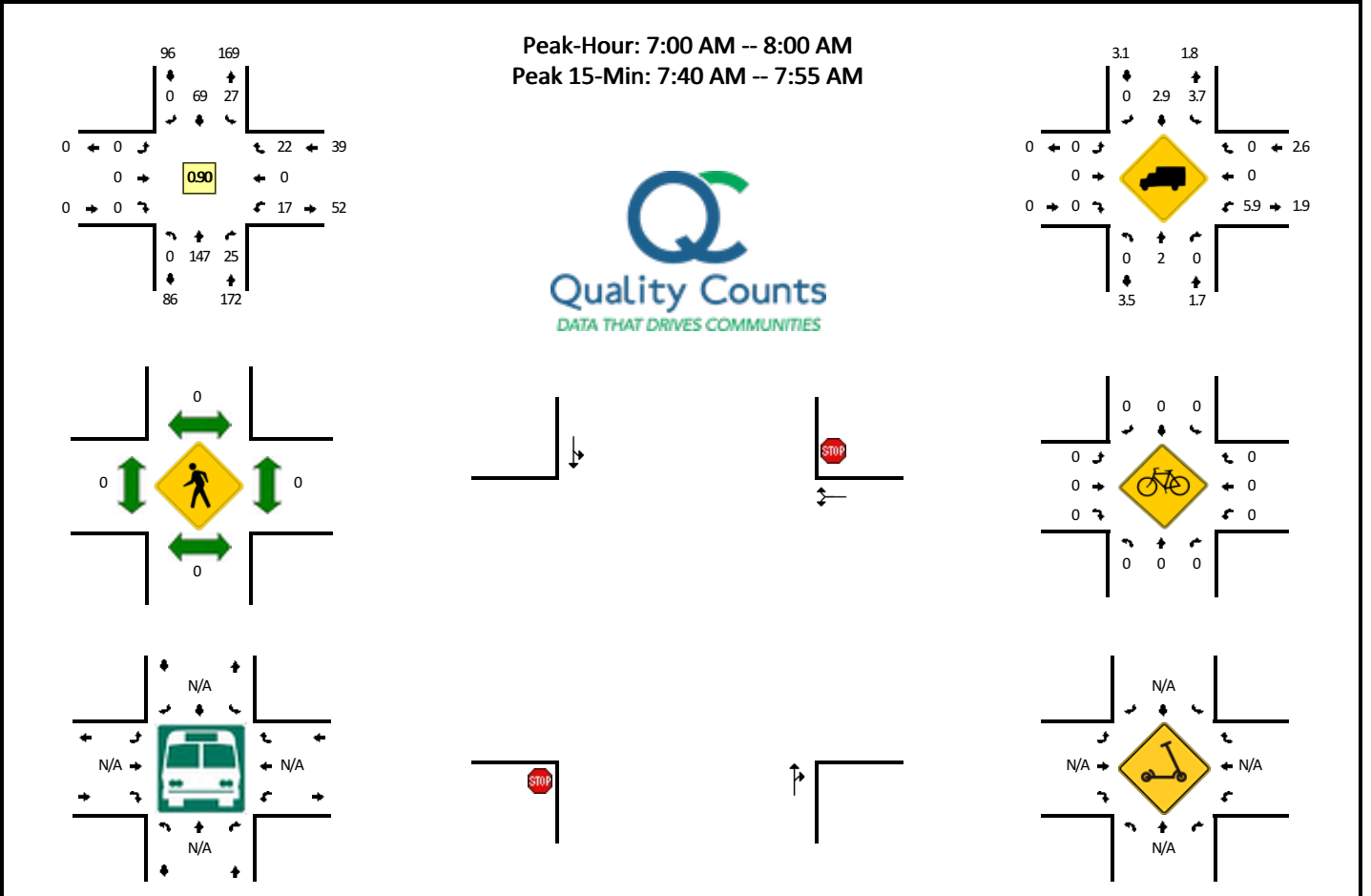
Comments:

Report generated on 6/16/2022 12:48 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Butteville Rd NE -- Parr Rd NE
CITY/STATE: Woodburn, OR

QC JOB #: 15405718
DATE: Wed, Apr 14 2021



5-Min Count Period Beginning At	Butteville Rd NE (Northbound)				Butteville Rd NE (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	9	0	0	1	0	0	0	0	0	0	0	0	0	2	0	12	
6:05 AM	0	12	1	0	2	1	0	0	0	0	0	0	1	0	1	0	18	
6:10 AM	0	12	0	0	3	0	0	0	0	0	0	0	1	0	1	0	17	
6:15 AM	0	11	0	0	0	3	0	0	0	0	0	0	3	0	4	0	21	
6:20 AM	0	14	0	0	1	5	0	0	0	0	0	0	3	0	2	0	25	
6:25 AM	0	14	0	0	1	8	0	0	0	0	0	0	0	0	3	0	26	
6:30 AM	0	16	0	0	3	4	0	0	0	0	0	0	1	0	4	0	28	
6:35 AM	0	17	1	0	3	4	0	0	0	0	0	0	2	0	4	0	31	
6:40 AM	0	16	0	0	4	4	0	0	0	0	0	0	2	0	11	0	37	
6:45 AM	0	13	0	0	3	3	0	0	0	0	0	0	0	0	2	0	21	
6:50 AM	0	14	1	0	5	5	0	0	0	0	0	0	1	0	2	0	28	
6:55 AM	0	10	1	0	6	3	0	0	0	0	0	0	1	0	3	0	24	288
7:00 AM	0	8	1	0	1	4	0	0	0	0	0	0	0	0	1	0	15	291
7:05 AM	0	18	4	0	1	4	0	0	0	0	0	0	0	0	3	0	30	303
7:10 AM	0	14	3	0	3	2	0	0	0	0	0	0	4	0	0	0	26	312
7:15 AM	0	11	3	0	5	5	0	0	0	0	0	0	1	0	1	0	26	317
7:20 AM	0	12	2	0	3	9	0	0	0	0	0	0	1	0	2	0	29	321
7:25 AM	0	14	0	0	2	7	0	0	0	0	0	0	2	0	2	0	27	322
7:30 AM	0	11	0	0	2	6	0	0	0	0	0	0	3	0	3	0	25	319
7:35 AM	0	10	2	0	4	1	0	0	0	0	0	0	1	0	0	0	18	306
7:40 AM	0	15	1	0	0	11	0	0	0	0	0	0	1	0	1	0	29	298
7:45 AM	0	15	3	0	2	8	0	0	0	0	0	0	2	0	4	0	34	311
7:50 AM	0	11	2	0	1	4	0	0	0	0	0	0	1	0	3	0	22	305
7:55 AM	0	8	4	0	3	8	0	0	0	0	0	0	1	0	2	0	26	307
8:00 AM	0	8	2	0	1	2	0	0	0	0	0	0	1	0	3	0	17	309
8:05 AM	0	8	1	0	4	5	0	0	0	0	0	0	0	0	2	0	20	299
8:10 AM	0	10	2	0	2	5	0	0	0	0	0	0	2	0	0	0	21	294
8:15 AM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	1	0	6	274
8:20 AM	0	9	3	0	3	3	0	0	0	0	0	0	0	0	1	0	19	264
8:25 AM	0	7	1	0	2	11	0	0	0	0	0	0	0	0	0	0	21	258
8:30 AM	0	8	0	0	7	8	0	0	0	0	0	0	0	0	2	0	25	258
8:35 AM	0	9	3	0	0	9	0	0	0	0	0	0	1	0	1	0	23	263
8:40 AM	0	11	1	0	1	7	0	0	0	0	0	0	1	0	7	0	28	262
8:45 AM	0	9	0	0	1	7	0	0	0	0	0	0	1	0	3	0	21	249
8:50 AM	0	11	3	0	1	4	0	0	0	0	0	0	0	0	2	0	21	248
8:55 AM	0	6	0	0	4	4	0	0	0	0	0	0	3	0	0	0	17	239
9:00 AM	0	10	1	0	3	3	0	0	0	0	0	0	1	0	2	0	20	242
9:05 AM	0	7	3	0	3	4	0	0	0	0	0	0	1	0	0	0	18	240

5-Min Count Period Beginning At	Butteville Rd NE (Northbound)				Butteville Rd NE (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:10 AM	0	6	0	0	0	1	0	0	0	0	0	0	0	0	5	0	12	231
9:15 AM	0	8	5	0	1	4	0	0	0	0	0	0	0	0	1	0	19	244
9:20 AM	0	6	0	0	2	1	0	0	0	0	0	0	3	0	1	0	13	238
9:25 AM	0	5	0	0	3	4	0	0	0	0	0	0	1	0	6	0	19	236
9:30 AM	0	7	2	0	1	3	0	0	0	0	0	0	1	0	3	0	17	228
9:35 AM	0	9	0	0	1	6	0	0	0	0	0	0	1	0	3	0	20	225
9:40 AM	0	5	2	0	1	3	0	0	0	0	0	0	2	0	2	0	15	212
9:45 AM	0	2	1	0	2	7	0	0	0	0	0	0	0	0	1	0	13	204
9:50 AM	0	12	2	0	1	2	0	0	0	0	0	0	1	0	1	0	19	202
9:55 AM	0	8	2	0	0	12	0	0	0	0	0	0	1	0	0	0	23	208
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	164	24	0	12	92	0	0	0	0	0	0	16	0	32	0	340	
Heavy Trucks	0	4	0		0	0	0		0	0	0		0	0	0		4	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

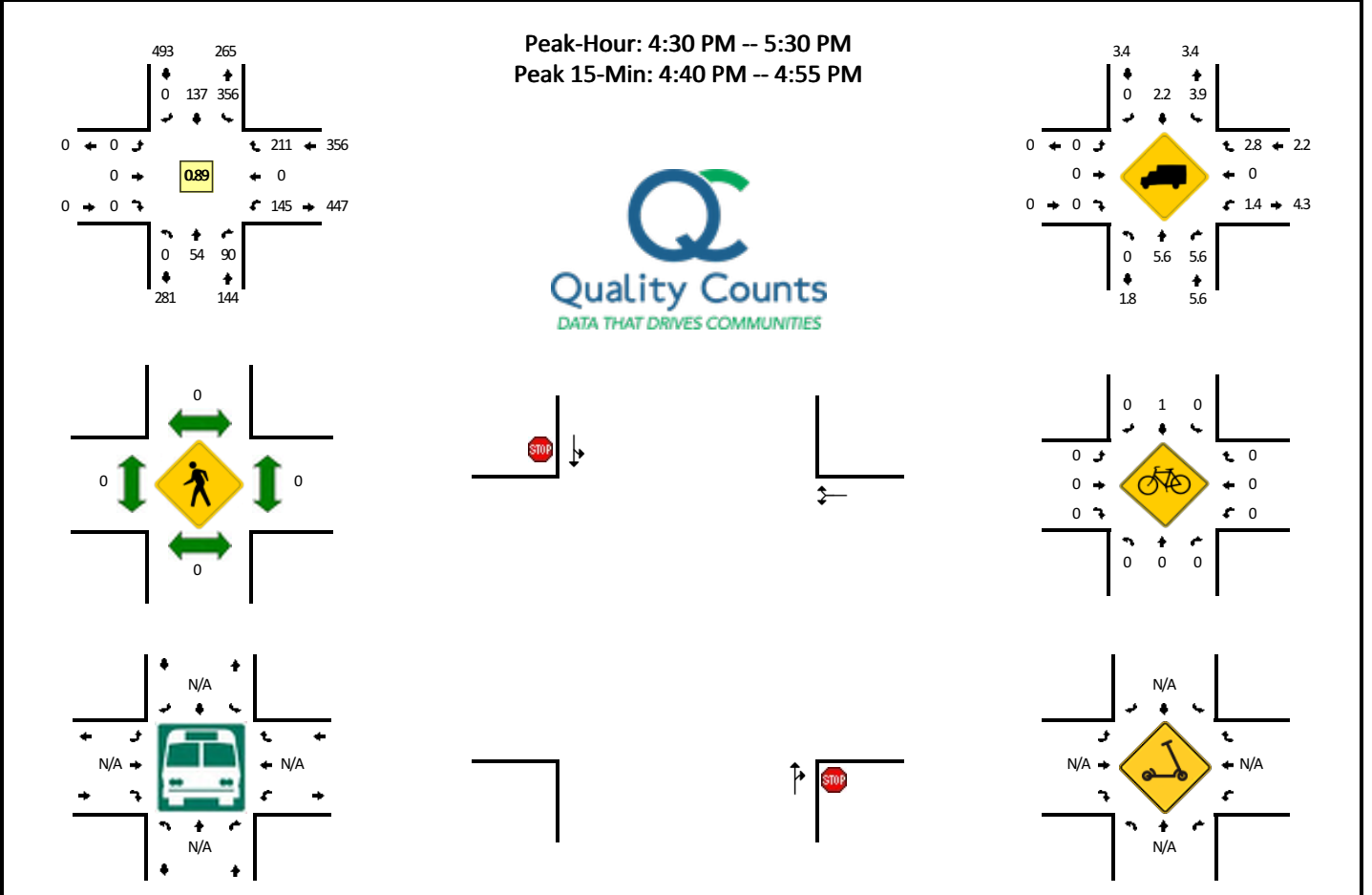
Comments:

Report generated on 6/16/2022 1:21 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Butteville Rd NE -- OR-219
CITY/STATE: Woodburn, OR

QC JOB #: 15405709
DATE: Wed, Apr 14 2021



5-Min Count Period Beginning At	Butteville Rd NE (Northbound)				Butteville Rd NE (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	0	2	0	9	3	0	0	0	0	0	0	9	0	16	0	39	
3:05 PM	0	1	12	0	15	4	0	0	0	0	0	0	8	0	19	0	59	
3:10 PM	0	5	8	0	18	4	0	0	0	0	0	0	9	0	10	0	54	
3:15 PM	0	3	5	0	20	4	0	0	0	0	0	0	17	0	21	0	70	
3:20 PM	0	6	5	0	15	5	0	0	0	0	0	0	10	0	6	0	47	
3:25 PM	0	2	10	0	13	7	0	0	0	0	0	0	20	0	21	0	73	
3:30 PM	0	4	10	0	14	3	0	0	0	0	0	0	13	0	15	0	59	
3:35 PM	0	4	8	0	23	5	0	0	0	0	0	0	11	0	14	0	65	
3:40 PM	0	1	14	0	28	6	0	0	0	0	0	0	11	0	15	0	75	
3:45 PM	0	4	11	0	19	6	0	0	0	0	0	0	12	0	18	0	70	
3:50 PM	0	1	5	0	29	6	0	0	0	0	0	0	14	0	23	0	78	
3:55 PM	0	4	9	0	22	5	0	1	0	0	0	0	13	0	6	0	60	749
4:00 PM	0	5	6	1	18	5	0	0	0	0	0	0	12	0	18	0	65	775
4:05 PM	0	7	6	0	16	5	0	0	0	0	0	0	6	0	17	0	57	773
4:10 PM	0	3	11	0	31	5	0	0	0	0	0	0	14	0	16	0	80	799
4:15 PM	0	3	8	0	21	10	0	0	0	0	0	0	11	0	16	0	69	798
4:20 PM	0	10	8	0	24	6	0	0	0	0	0	0	15	0	16	0	79	830
4:25 PM	0	4	4	0	19	7	0	0	0	0	0	0	16	0	12	0	62	819
4:30 PM	0	7	12	0	19	11	0	0	0	0	0	0	19	0	18	0	86	846
4:35 PM	0	8	4	0	41	9	0	0	0	0	0	0	7	0	11	0	80	861
4:40 PM	0	3	5	0	46	11	0	0	0	0	0	0	12	0	19	0	96	882
4:45 PM	0	3	9	0	33	12	0	0	0	0	0	0	12	0	23	0	92	904
4:50 PM	0	3	10	0	40	17	0	0	0	0	0	0	9	0	13	0	92	918
4:55 PM	0	5	8	0	20	7	0	0	0	0	0	0	12	0	17	0	69	927
5:00 PM	0	3	3	0	21	8	0	0	0	0	0	0	15	0	18	0	68	930
5:05 PM	0	8	6	0	28	11	0	0	0	0	0	0	12	0	28	0	93	966
5:10 PM	0	1	9	0	37	12	0	0	0	0	0	0	11	0	16	1	87	973
5:15 PM	0	3	7	0	23	14	0	0	0	0	0	0	8	0	16	0	71	975
5:20 PM	0	3	5	0	27	14	0	0	0	0	0	0	19	0	11	0	79	975
5:25 PM	0	7	12	0	21	11	0	0	0	0	0	0	8	0	21	0	80	993
5:30 PM	0	5	10	0	21	7	0	0	0	0	0	0	15	0	13	0	71	978
5:35 PM	0	7	8	0	25	4	0	0	0	0	0	0	15	0	13	0	72	970
5:40 PM	0	7	17	0	12	7	0	0	0	0	0	0	12	0	14	0	69	943
5:45 PM	0	1	13	0	20	7	0	0	0	0	0	0	14	0	18	0	73	924
5:50 PM	0	2	7	0	24	6	0	0	0	0	0	0	10	0	8	0	57	889
5:55 PM	0	3	4	0	14	8	0	0	0	0	0	0	17	0	7	0	53	873
6:00 PM	0	4	19	0	15	6	0	0	0	0	0	0	6	0	5	0	55	860
6:05 PM	0	1	7	0	9	3	0	0	0	0	0	0	8	0	15	0	43	810

5-Min Count Period Beginning At	Butteville Rd NE (Northbound)				Butteville Rd NE (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	0	5	7	0	13	5	0	0	0	0	0	0	14	0	13	0	57	780
6:15 PM	0	4	5	1	15	5	0	0	0	0	0	0	12	0	8	0	50	759
6:20 PM	0	2	8	0	18	3	0	0	0	0	0	0	21	0	8	0	60	740
6:25 PM	0	3	8	0	11	6	0	0	0	0	0	0	13	0	5	0	46	706
6:30 PM	0	4	10	0	19	4	0	0	0	0	0	0	9	0	11	0	57	692
6:35 PM	0	3	11	0	11	4	0	0	0	0	0	0	11	0	9	0	49	669
6:40 PM	0	3	9	0	10	5	0	0	0	0	0	0	8	0	9	0	44	644
6:45 PM	0	0	5	0	14	9	0	0	0	0	0	0	12	0	14	0	54	625
6:50 PM	0	6	4	0	10	5	0	0	0	0	0	0	11	0	8	0	44	612
6:55 PM	0	2	8	0	12	6	0	0	0	0	0	0	9	0	6	0	43	602
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	36	96	0	476	160	0	0	0	0	0	0	132	0	220	0	1120	
Heavy Trucks	0	0	4		12	4	0		0	0	0		8	0	8		36	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

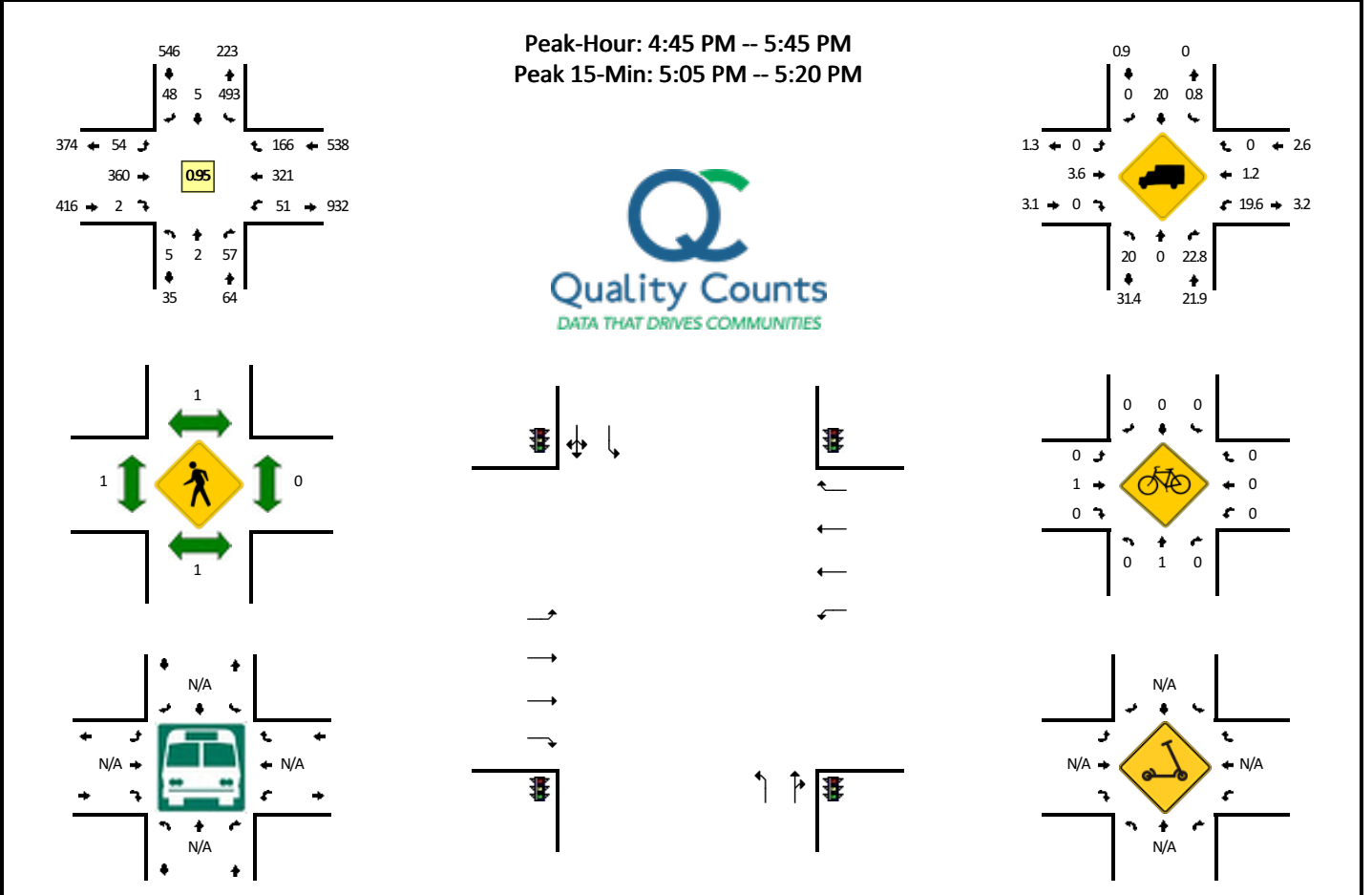
Comments:

Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: S Woodland Ave -- OR-219
CITY/STATE: Woodburn, OR

QC JOB #: 15405713
DATE: Wed, Apr 14 2021



5-Min Count Period Beginning At	S Woodland Ave (Northbound)				S Woodland Ave (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	0	6	0	46	0	3	0	1	12	0	0	1	26	9	2	106	
3:05 PM	0	0	6	0	51	0	2	1	5	17	0	0	5	27	4	2	120	
3:10 PM	0	0	2	0	46	1	3	0	4	24	0	0	3	24	6	1	114	
3:15 PM	0	1	13	0	49	0	2	0	4	18	0	0	3	31	8	2	131	
3:20 PM	0	0	7	0	47	1	2	0	4	15	0	0	1	17	10	4	108	
3:25 PM	2	1	7	0	38	0	4	0	3	18	0	0	4	37	2	1	117	
3:30 PM	0	0	3	0	53	0	4	0	3	19	0	0	0	27	10	2	121	
3:35 PM	1	0	4	0	49	0	4	0	4	27	0	0	2	25	11	1	128	
3:40 PM	0	0	4	0	39	0	1	0	6	37	1	0	2	26	5	0	121	
3:45 PM	1	0	7	0	37	0	0	0	11	29	0	0	0	27	11	2	125	
3:50 PM	2	0	2	0	42	0	4	0	3	26	0	0	3	39	10	0	131	
3:55 PM	0	0	4	0	56	0	1	0	7	19	0	0	5	18	6	2	118	1440
4:00 PM	2	0	23	0	42	0	7	0	2	20	0	0	0	25	5	6	132	1466
4:05 PM	2	0	6	0	45	0	4	0	2	23	0	0	6	21	8	5	122	1468
4:10 PM	0	0	7	0	46	0	2	0	5	32	0	0	6	33	4	4	139	1493
4:15 PM	2	0	8	0	43	0	6	0	4	26	0	0	2	29	3	5	128	1490
4:20 PM	0	2	5	0	38	0	5	0	1	34	0	0	2	24	10	2	123	1505
4:25 PM	0	0	1	0	42	0	1	0	5	14	0	0	1	28	10	7	109	1497
4:30 PM	0	0	3	0	42	0	3	0	7	25	0	0	3	36	6	0	125	1501
4:35 PM	0	1	3	0	46	0	1	0	8	37	0	0	2	21	11	2	132	1505
4:40 PM	0	0	2	0	35	0	4	1	4	39	0	0	3	27	9	3	127	1511
4:45 PM	1	0	3	0	38	1	2	0	2	44	0	0	4	30	10	5	140	1526
4:50 PM	0	0	5	0	31	1	4	0	6	39	0	0	2	19	23	4	134	1529
4:55 PM	0	0	6	0	32	1	3	0	4	25	0	0	4	31	12	0	118	1529
5:00 PM	1	0	10	0	34	0	5	0	2	23	0	0	3	25	10	2	115	1512
5:05 PM	2	2	5	0	50	0	9	0	4	24	0	0	0	29	12	1	138	1528
5:10 PM	0	0	12	0	43	1	2	0	8	41	0	0	3	29	11	1	151	1540
5:15 PM	0	0	2	0	39	1	6	0	5	28	1	0	4	24	13	1	124	1536
5:20 PM	0	0	4	0	42	0	5	0	2	26	0	0	1	25	17	0	122	1535
5:25 PM	0	0	3	0	49	0	2	0	5	26	0	0	0	27	14	3	129	1555
5:30 PM	0	0	2	0	34	0	1	0	4	39	0	0	4	33	12	3	132	1562
5:35 PM	0	0	3	0	47	0	6	0	5	23	0	0	3	23	11	1	122	1552
5:40 PM	1	0	2	0	53	0	3	1	7	22	1	0	0	26	21	2	139	1564
5:45 PM	0	0	4	0	39	0	5	0	3	26	0	0	2	26	11	2	118	1542
5:50 PM	0	0	1	0	37	0	2	0	5	22	0	0	2	16	9	4	98	1506
5:55 PM	0	0	5	0	39	0	4	0	6	18	0	0	1	18	13	2	106	1494
6:00 PM	1	0	7	0	38	0	4	0	8	26	0	0	1	15	8	0	108	1487
6:05 PM	1	0	5	0	50	0	2	0	1	15	0	0	1	20	11	2	108	1457

5-Min Count Period Beginning At	S Woodland Ave (Northbound)				S Woodland Ave (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	0	0	1	0	48	1	7	0	2	17	0	0	1	25	9	3	114	1420
6:15 PM	0	2	0	0	36	0	3	0	2	19	0	0	1	25	9	1	98	1394
6:20 PM	0	0	1	0	48	0	4	0	3	23	1	0	1	21	5	1	108	1380
6:25 PM	0	0	1	0	36	0	4	0	3	17	0	0	1	17	11	1	91	1342
6:30 PM	0	0	5	0	35	1	4	0	3	19	1	0	2	17	6	4	97	1307
6:35 PM	0	1	2	0	43	0	4	0	2	21	0	0	1	20	5	2	101	1286
6:40 PM	0	0	0	0	42	0	2	0	5	15	0	0	0	13	8	3	88	1235
6:45 PM	0	0	1	0	31	0	5	0	3	13	0	0	2	29	6	6	96	1213
6:50 PM	0	1	3	0	35	0	2	0	1	12	0	0	5	16	8	2	85	1200
6:55 PM	0	0	1	0	53	0	2	0	2	20	0	0	2	16	10	3	109	1203
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	8	76	0	528	8	68	0	68	372	4	0	28	328	144	12	1652	
Heavy Trucks	0	0	20		0	0	0		0	12	0		4	0	0		36	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																	0	

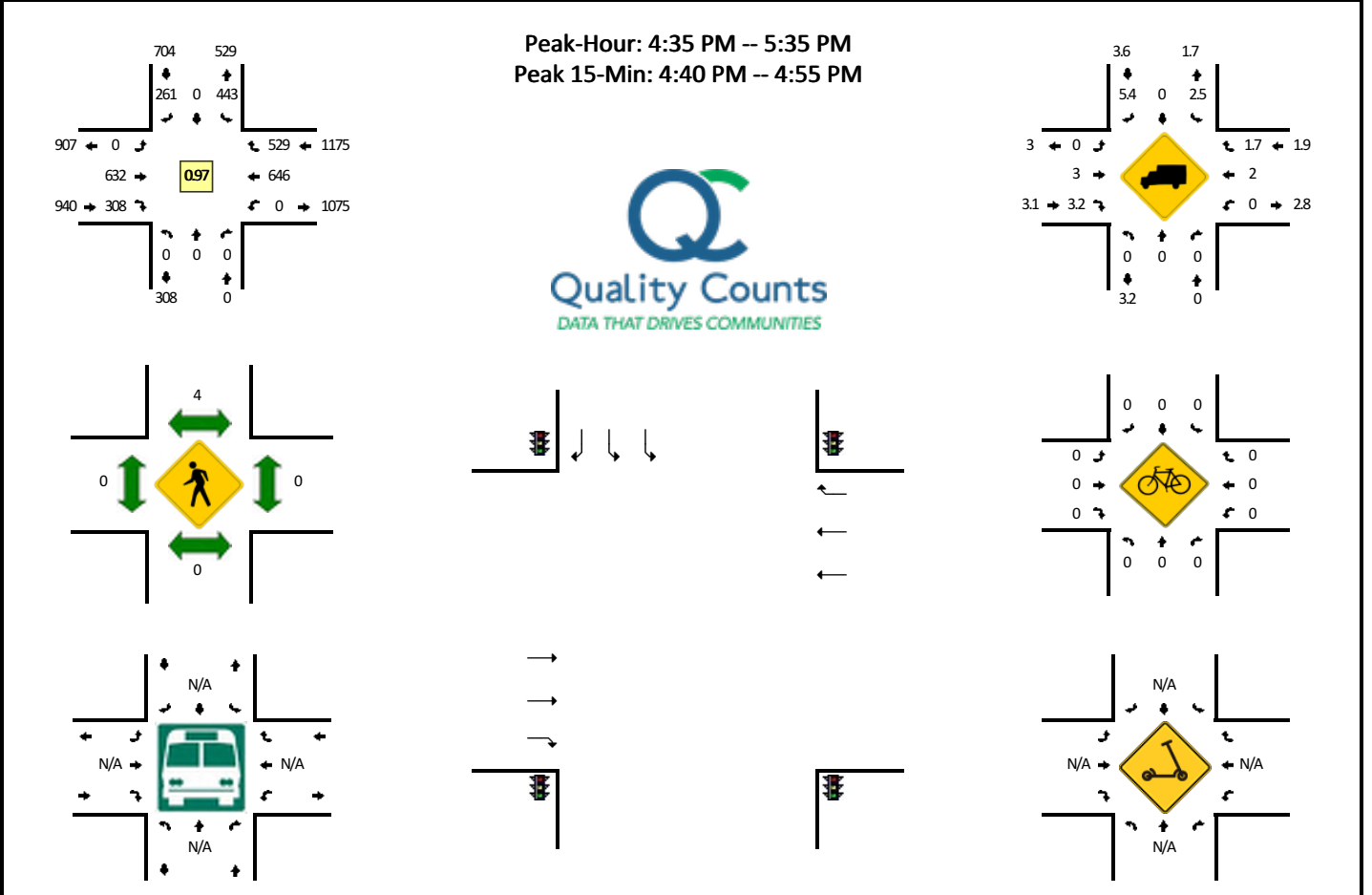
Comments:

Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: I-5 SB Ramps -- OR-219
CITY/STATE: Woodburn, OR

QC JOB #: 15405715
DATE: Wed, Apr 14 2021



5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	0	0	0	33	0	23	0	0	43	27	0	0	46	38	0	210	
3:05 PM	0	0	0	0	32	0	19	0	0	48	26	0	0	53	38	0	216	
3:10 PM	0	0	0	0	33	0	18	0	0	55	20	0	0	30	31	0	187	
3:15 PM	0	0	0	0	28	0	30	0	0	56	19	0	0	64	44	0	241	
3:20 PM	0	0	0	0	34	0	12	0	0	52	24	0	0	41	31	0	194	
3:25 PM	0	0	0	0	35	0	22	0	0	40	23	0	0	58	34	0	212	
3:30 PM	0	0	0	0	31	0	17	0	0	58	18	0	0	51	35	0	210	
3:35 PM	0	0	0	0	28	0	19	0	0	49	29	0	0	46	49	0	220	
3:40 PM	0	0	0	0	20	0	22	0	0	49	29	0	0	45	31	0	196	
3:45 PM	0	0	0	0	31	0	21	0	0	52	28	0	0	53	46	0	231	
3:50 PM	0	0	0	0	36	0	21	0	0	42	27	0	0	63	28	0	217	
3:55 PM	0	0	0	0	29	0	29	0	0	57	26	0	0	37	33	0	211	2545
4:00 PM	0	0	0	0	40	0	17	0	0	53	35	0	0	56	32	0	233	2568
4:05 PM	0	0	0	0	43	0	16	0	0	45	32	0	0	46	39	0	221	2573
4:10 PM	0	0	0	0	40	0	22	0	0	49	41	0	0	49	37	0	238	2624
4:15 PM	0	0	0	0	43	0	19	0	0	50	32	0	0	55	47	0	246	2629
4:20 PM	0	0	0	0	28	0	13	0	0	62	24	0	0	48	45	0	220	2655
4:25 PM	0	0	0	0	22	0	24	0	0	38	23	0	0	53	54	0	214	2657
4:30 PM	0	0	0	0	30	0	26	0	0	47	26	0	0	42	49	0	220	2667
4:35 PM	0	0	0	0	38	0	14	0	0	53	31	0	0	55	50	0	241	2688
4:40 PM	0	0	0	0	34	0	17	0	0	59	27	0	0	58	35	0	230	2722
4:45 PM	0	0	0	0	31	0	21	0	0	54	25	0	0	64	38	0	233	2724
4:50 PM	0	0	0	0	43	0	28	0	0	58	30	0	0	58	46	0	263	2770
4:55 PM	0	0	0	0	22	0	24	0	0	43	19	0	0	52	48	0	208	2767
5:00 PM	0	0	0	0	43	0	24	0	0	45	22	0	0	45	44	0	223	2757
5:05 PM	0	0	0	0	33	0	24	0	0	50	27	0	0	59	57	0	250	2786
5:10 PM	0	0	0	0	36	0	20	0	0	60	31	0	0	44	46	0	237	2785
5:15 PM	0	0	0	0	39	0	18	0	0	48	23	0	0	57	43	0	228	2767
5:20 PM	0	0	0	0	41	0	34	0	0	46	31	0	0	40	38	0	230	2777
5:25 PM	0	0	0	0	45	0	15	0	0	51	24	0	0	49	42	0	226	2789
5:30 PM	0	0	0	0	38	0	22	0	0	65	18	0	0	65	42	0	250	2819
5:35 PM	0	0	0	0	44	0	17	0	0	45	21	0	0	49	28	0	204	2782
5:40 PM	0	0	0	0	38	0	23	0	0	62	26	0	0	47	45	0	241	2793
5:45 PM	0	0	0	0	49	0	17	0	0	49	18	0	0	49	42	0	224	2784
5:50 PM	0	0	0	0	46	0	15	0	0	41	17	0	0	46	45	0	210	2731
5:55 PM	0	0	0	0	32	0	20	0	0	50	17	0	0	50	28	0	197	2720
6:00 PM	0	0	0	0	44	0	20	0	0	51	20	0	0	41	25	0	201	2698
6:05 PM	0	0	0	0	35	0	17	0	0	51	11	0	0	46	31	0	191	2639

5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	0	0	0	0	33	0	12	0	0	49	21	0	0	46	36	0	197	2599
6:15 PM	0	0	0	0	34	0	26	0	0	47	17	0	0	47	30	0	201	2572
6:20 PM	0	0	0	0	36	0	14	0	0	48	17	0	0	40	29	0	184	2526
6:25 PM	0	0	0	0	27	0	22	0	0	41	18	0	0	40	24	0	172	2472
6:30 PM	0	0	0	0	27	0	20	0	0	50	12	0	0	39	32	0	180	2402
6:35 PM	0	0	0	0	45	0	19	0	0	52	17	0	0	31	23	0	187	2385
6:40 PM	0	0	0	0	45	0	12	0	0	46	16	0	0	31	25	0	175	2319
6:45 PM	0	0	0	0	30	0	13	0	0	36	15	0	0	41	27	0	162	2257
6:50 PM	0	0	0	0	13	0	17	0	0	35	20	0	0	26	22	0	133	2180
6:55 PM	0	0	0	0	20	0	12	0	0	59	16	0	0	34	30	0	171	2154
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	432	0	264	0	0	684	328	0	0	720	476	0	2904	
Heavy Trucks	0	0	0	0	8	0	20	0	0	12	12	0	0	8	8	0	68	
Buses																		
Pedestrians		0				8				0				0			8	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

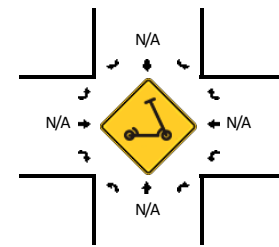
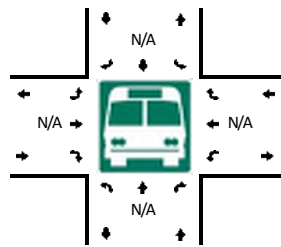
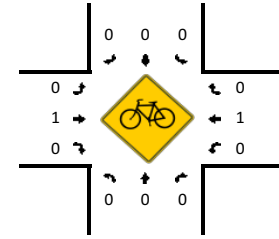
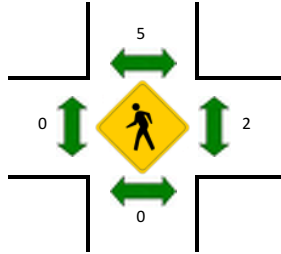
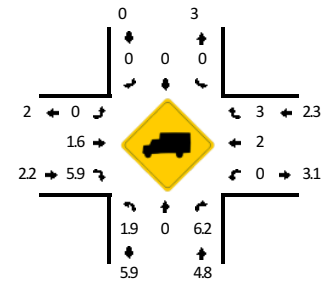
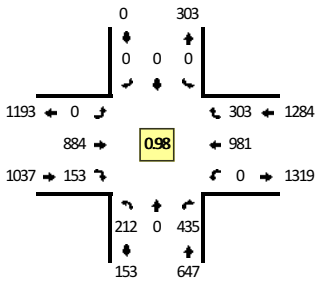
Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: I-5 NB Ramps -- OR-219
CITY/STATE: Woodburn, OR

QC JOB #: 15405717
DATE: Wed, Apr 14 2021

Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 4:40 PM -- 4:55 PM



5-Min Count Period Beginning At	I-5 NB Ramps (Northbound)				I-5 NB Ramps (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	17	0	30	0	0	0	0	0	0	54	19	0	0	63	29	0	212	
3:05 PM	16	0	21	0	0	0	0	0	0	61	13	0	0	72	30	1	214	
3:10 PM	12	0	33	0	0	0	0	0	0	73	21	0	0	43	22	0	204	
3:15 PM	20	0	39	0	0	0	0	0	0	57	18	0	0	90	18	0	242	
3:20 PM	22	0	21	0	0	0	0	0	0	71	22	0	0	55	22	0	213	
3:25 PM	18	0	38	0	0	0	0	0	0	63	12	0	0	82	39	0	252	
3:30 PM	17	0	33	0	0	0	0	0	0	59	14	0	0	63	19	0	205	
3:35 PM	12	0	31	0	0	0	0	0	0	80	17	0	0	86	29	0	255	
3:40 PM	15	0	33	0	0	0	0	0	0	46	15	0	0	57	27	0	193	
3:45 PM	18	0	27	0	0	0	0	0	0	67	19	0	0	80	32	0	243	
3:50 PM	18	0	34	0	0	0	0	0	0	68	19	0	0	81	24	0	244	
3:55 PM	12	0	46	0	0	0	0	0	0	51	22	0	0	51	18	0	200	2677
4:00 PM	19	0	43	0	0	0	0	0	0	77	20	0	0	71	24	0	254	2719
4:05 PM	11	0	34	0	0	0	0	0	0	68	12	0	0	71	34	0	230	2735
4:10 PM	22	0	38	0	0	0	0	0	0	82	19	0	0	68	31	0	260	2791
4:15 PM	21	0	42	0	0	0	0	0	0	61	18	0	0	82	17	0	241	2790
4:20 PM	12	0	42	0	0	0	0	0	0	88	24	0	0	78	27	0	271	2848
4:25 PM	27	0	41	0	0	0	0	0	0	47	12	0	0	76	23	0	226	2822
4:30 PM	10	0	32	0	0	0	0	0	0	70	8	0	0	85	17	0	222	2839
4:35 PM	13	0	40	0	0	0	0	0	0	71	14	0	0	93	32	0	263	2847
4:40 PM	23	0	40	0	0	0	0	0	0	84	5	0	0	68	27	0	247	2901
4:45 PM	20	0	40	0	0	0	0	0	0	73	8	0	0	81	20	0	242	2900
4:50 PM	23	0	35	0	0	0	0	0	0	93	9	0	0	81	26	0	267	2923
4:55 PM	17	0	38	0	0	0	0	0	0	60	11	0	0	85	17	0	228	2951
5:00 PM	11	0	28	0	0	0	0	0	0	80	14	0	0	93	25	0	251	2948
5:05 PM	17	0	39	0	0	0	0	0	0	57	17	0	0	93	22	0	245	2963
5:10 PM	20	0	26	0	0	0	0	0	0	85	18	0	0	68	37	0	254	2957
5:15 PM	19	0	34	0	0	0	0	0	0	76	13	0	0	80	30	0	252	2968
5:20 PM	12	0	44	0	0	0	0	0	0	71	9	0	0	61	27	0	224	2921
5:25 PM	19	0	39	0	0	0	0	0	0	69	17	0	0	74	21	0	239	2934
5:30 PM	12	0	22	0	0	0	0	0	0	94	19	0	0	90	16	0	253	2965
5:35 PM	13	0	41	0	0	0	0	0	0	77	12	0	0	71	19	0	233	2935
5:40 PM	22	0	28	0	0	0	0	0	0	80	15	0	0	59	13	0	217	2905
5:45 PM	17	0	29	0	0	0	0	0	0	85	10	0	0	82	24	0	247	2910
5:50 PM	14	0	35	0	0	0	0	0	0	72	12	0	0	79	20	0	232	2875
5:55 PM	13	0	34	0	0	0	0	0	0	80	10	0	0	60	16	0	213	2860
6:00 PM	15	0	23	0	0	0	0	0	0	79	16	0	0	49	19	0	201	2810
6:05 PM	11	0	28	0	0	0	0	0	0	60	15	0	0	67	14	0	195	2760

5-Min Count Period Beginning At	I-5 NB Ramps (Northbound)				I-5 NB Ramps (Southbound)				OR-219 (Eastbound)				OR-219 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	8	0	13	0	0	0	0	0	0	84	15	0	0	76	17	0	213	2719
6:15 PM	12	0	28	0	0	0	0	0	0	68	14	0	0	62	23	0	207	2674
6:20 PM	7	0	29	0	0	0	0	0	0	74	10	0	0	55	27	0	202	2652
6:25 PM	12	0	37	0	0	0	0	0	0	56	10	0	0	51	17	0	183	2596
6:30 PM	9	0	21	0	0	0	0	0	0	59	12	0	0	61	10	0	172	2515
6:35 PM	5	0	25	0	0	0	0	0	0	76	13	0	0	56	19	0	194	2476
6:40 PM	12	0	25	0	0	0	0	0	0	90	8	0	0	42	17	0	194	2453
6:45 PM	8	0	25	0	0	0	0	0	0	57	8	0	0	59	17	0	174	2380
6:50 PM	4	0	28	0	0	0	0	0	0	45	7	0	0	46	15	0	145	2293
6:55 PM	8	0	29	0	0	0	0	0	0	61	14	0	0	54	24	0	190	2270
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	264	0	460	0	0	0	0	0	0	1000	88	0	0	920	292	0	3024	
Heavy Trucks	8	0	24	0	0	0	0	0	0	12	4	0	0	8	4	0	60	
Buses																		
Pedestrians		0				8				0				8			16	
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4	
Scooters																		

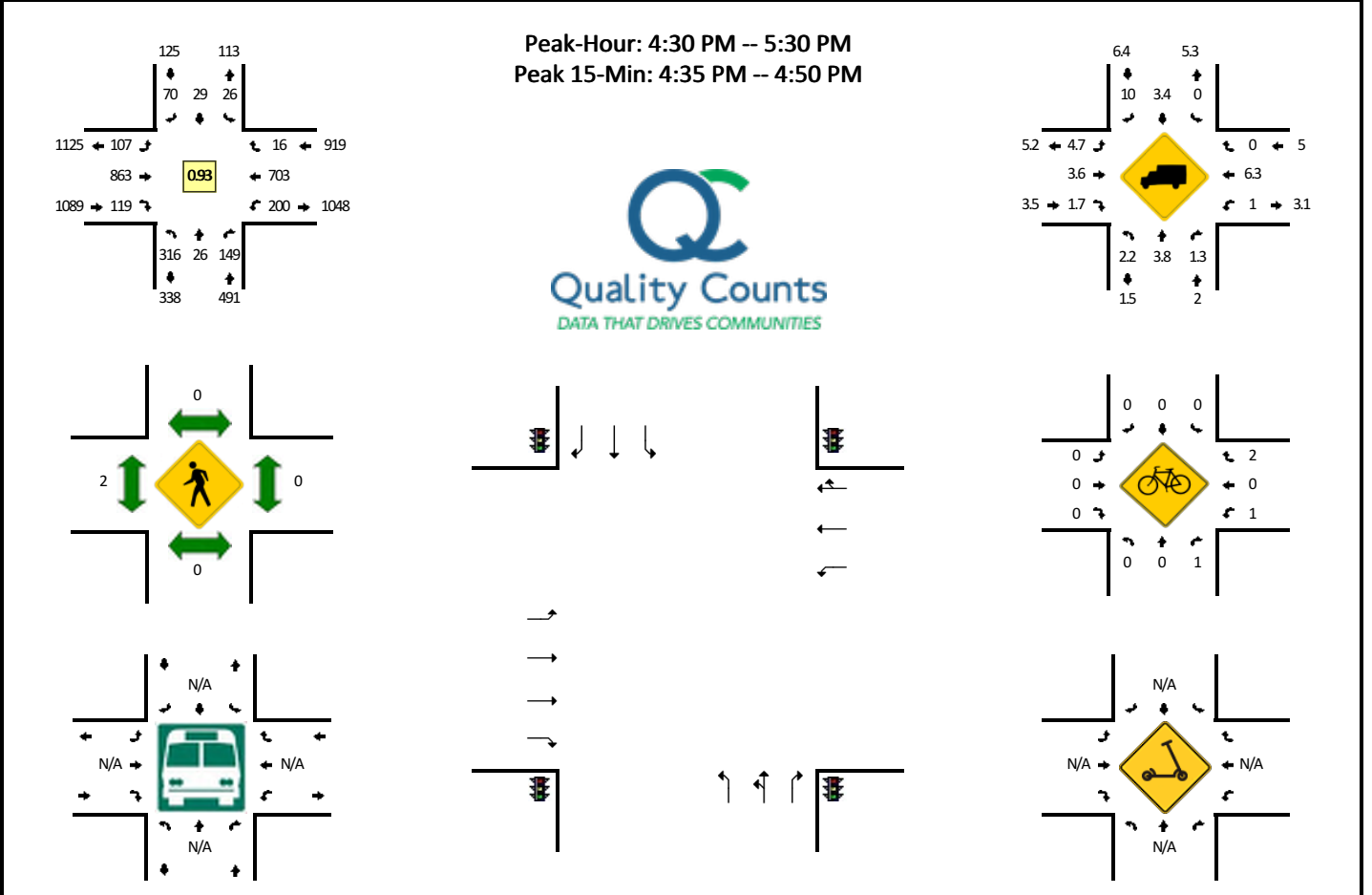
Comments:

Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Evergreen Rd -- OR 214
CITY/STATE: Woodburn, OR

QC JOB #: 15462406
DATE: Tue, May 25 2021



5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	27	3	13	0	1	2	2	0	7	49	8	5	18	60	1	3	199	
3:05 PM	26	4	12	0	4	2	11	0	5	59	7	1	12	46	0	0	189	
3:10 PM	27	3	11	0	0	3	3	0	2	54	5	2	13	65	1	0	189	
3:15 PM	16	0	16	0	3	2	12	0	6	66	8	2	9	54	1	0	195	
3:20 PM	22	3	15	0	2	3	5	0	5	77	9	4	10	46	0	1	202	
3:25 PM	30	4	16	0	1	2	8	0	9	69	9	1	8	53	1	1	212	
3:30 PM	25	3	10	0	4	1	5	0	3	81	6	3	9	52	3	0	205	
3:35 PM	32	2	9	0	8	3	4	0	3	67	11	3	15	57	0	1	215	
3:40 PM	28	2	15	0	0	3	8	0	4	74	8	6	14	60	0	2	224	
3:45 PM	18	2	16	0	2	6	4	0	10	68	8	4	15	48	2	3	206	
3:50 PM	26	2	12	0	4	1	4	0	8	75	10	4	11	70	2	1	230	
3:55 PM	32	5	16	0	4	1	3	0	10	58	15	3	9	55	2	1	214	
4:00 PM	26	3	11	0	1	3	5	0	6	73	13	1	18	53	2	1	216	
4:05 PM	33	1	11	0	4	4	9	0	10	70	9	3	9	69	2	1	235	
4:10 PM	34	2	5	0	4	2	9	0	8	76	11	2	13	61	0	0	227	
4:15 PM	22	4	10	0	0	1	4	0	3	58	11	1	7	61	1	2	185	
4:20 PM	31	3	11	0	4	3	7	0	6	69	5	6	18	53	3	1	220	
4:25 PM	17	2	10	0	1	5	7	0	5	53	6	3	18	54	4	1	186	
4:30 PM	26	2	16	0	1	5	5	0	5	64	10	5	12	49	4	0	204	
4:35 PM	34	2	15	0	6	2	4	0	5	76	10	6	13	57	2	1	233	
4:40 PM	33	2	13	0	1	3	6	0	5	74	12	1	17	73	2	1	243	
4:45 PM	29	0	17	0	4	3	7	0	6	79	8	1	19	59	1	0	233	
4:50 PM	27	4	13	0	0	1	7	0	8	71	14	2	18	51	1	2	219	
4:55 PM	18	0	5	0	1	3	3	0	6	73	12	5	18	46	1	1	192	
5:00 PM	25	2	10	0	1	1	6	0	6	68	9	0	12	52	2	0	194	
5:05 PM	18	3	10	0	2	4	12	0	5	57	7	2	14	70	0	2	206	
5:10 PM	33	2	11	0	2	2	4	0	5	71	7	2	16	74	0	0	229	
5:15 PM	18	2	11	0	3	3	8	0	9	86	9	4	21	58	1	1	234	
5:20 PM	31	3	12	0	3	0	5	0	6	70	11	1	13	50	2	1	208	
5:25 PM	24	4	16	0	2	2	3	0	5	74	10	7	17	64	0	1	229	
5:30 PM	14	1	10	0	2	0	7	0	5	69	6	6	5	40	1	1	167	
5:35 PM	25	1	17	0	3	2	5	0	7	72	8	1	11	63	1	3	219	
5:40 PM	30	1	13	0	3	2	7	0	4	59	8	1	17	50	3	2	200	
5:45 PM	20	1	16	0	0	1	5	0	5	76	13	0	11	39	0	0	187	
5:50 PM	27	1	8	0	4	0	2	0	7	64	16	4	14	44	2	0	193	
5:55 PM	30	0	12	0	5	0	8	0	3	63	14	5	9	35	1	1	186	
6:00 PM	36	1	13	0	1	0	6	0	8	59	6	5	8	39	0	0	182	
6:05 PM	16	1	8	0	2	0	5	0	5	72	6	0	12	52	3	0	182	

5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	21	1	14	0	2	2	2	0	9	57	10	1	16	47	0	3	185	2372
6:15 PM	23	0	8	0	2	3	5	0	4	69	12	4	10	40	1	0	181	2319
6:20 PM	25	1	8	0	2	7	3	0	7	65	6	3	10	39	0	1	177	2288
6:25 PM	19	1	12	0	3	2	6	0	10	51	6	3	11	45	3	0	172	2231
6:30 PM	18	3	8	0	3	0	3	0	1	58	7	2	14	50	1	0	168	2232
6:35 PM	27	1	7	0	1	3	2	0	5	58	4	2	20	38	1	2	171	2184
6:40 PM	12	5	12	0	2	1	5	0	6	51	5	1	11	39	2	0	152	2136
6:45 PM	18	2	18	0	2	0	1	0	3	40	3	4	12	32	0	1	136	2085
6:50 PM	20	1	5	0	3	2	1	0	5	42	7	0	11	25	0	0	122	2014
6:55 PM	21	0	19	0	0	2	2	0	3	41	7	0	21	32	0	4	152	1980
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	384	16	180	0	44	32	68	0	64	916	120	32	196	756	20	8	2836	
Heavy Trucks	8	0	4		0	4	8		8	36	0		4	32	0		104	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	4		4	
Scooters																		

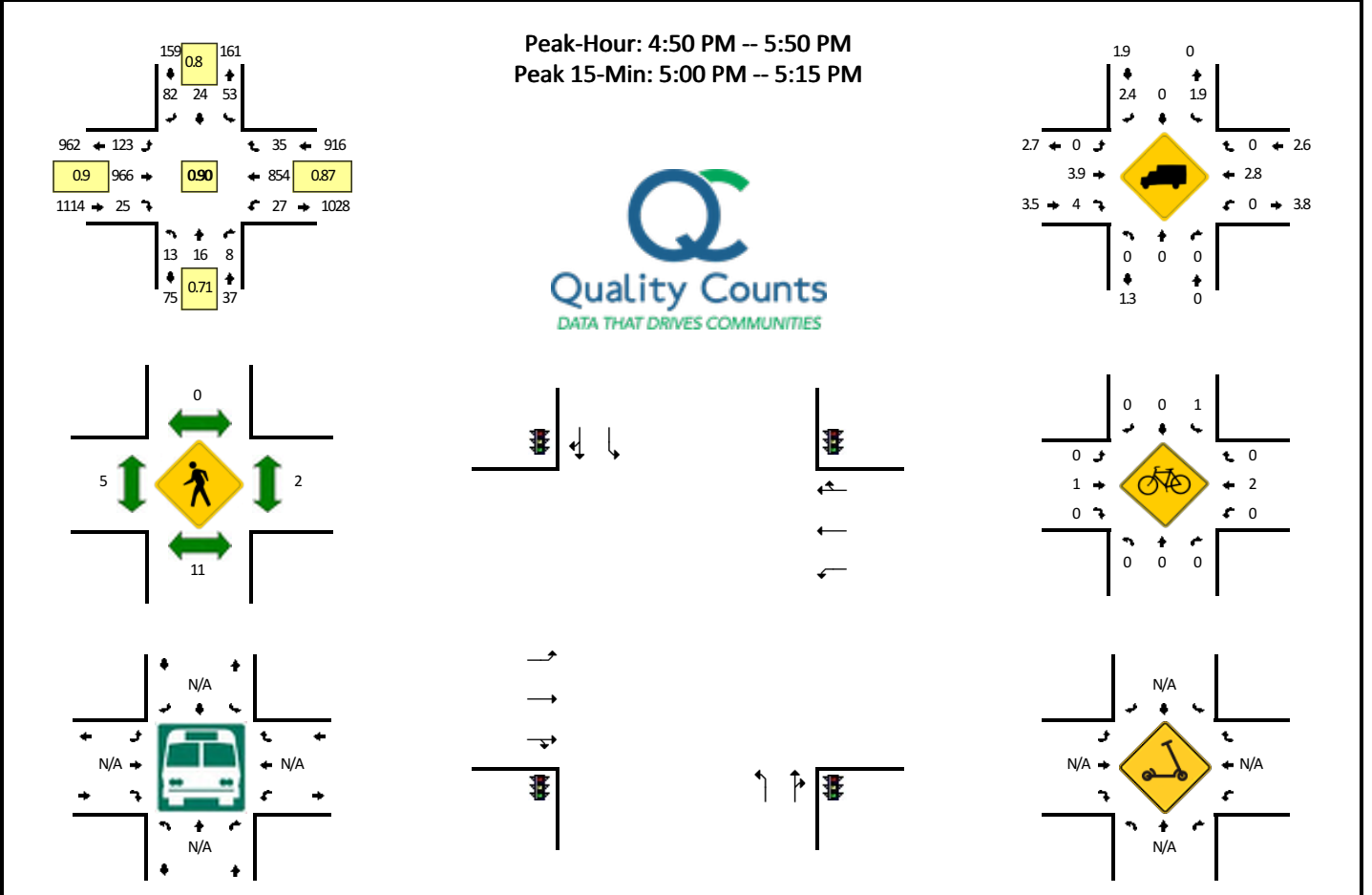
Comments:

Report generated on 6/16/2022 2:45 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Country Club Rd/Oregon Wy -- Newberg Hwy
CITY/STATE: Woodburn, OR

QC JOB #: 15702404
DATE: Wed, Feb 9 2022



5-Min Count Period Beginning At	Country Club Rd/Oregon Wy (Northbound)				Country Club Rd/Oregon Wy (Southbound)				Newberg Hwy (Eastbound)				Newberg Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	2	2	0	0	4	5	5	0	9	68	2	1	2	52	3	0	155	
3:05 PM	0	3	0	0	6	1	7	0	4	53	0	0	2	68	4	0	148	
3:10 PM	1	0	0	0	4	1	5	0	12	55	1	0	1	46	2	0	128	
3:15 PM	0	3	0	0	4	0	5	0	8	63	1	1	1	55	2	0	143	
3:20 PM	0	3	0	0	3	8	4	0	5	75	3	1	1	58	2	0	163	
3:25 PM	2	0	1	0	1	3	7	0	8	70	2	2	3	55	2	0	156	
3:30 PM	2	3	1	0	4	2	5	0	9	61	1	1	1	69	3	1	163	
3:35 PM	0	0	0	0	1	1	7	0	5	49	1	0	0	63	3	0	130	
3:40 PM	1	3	0	0	8	1	6	0	6	75	4	1	1	66	3	0	175	
3:45 PM	0	1	0	0	3	2	7	0	7	67	2	0	2	65	3	0	159	
3:50 PM	2	2	0	0	5	2	4	0	5	69	1	0	3	75	11	0	179	
3:55 PM	0	0	1	0	4	1	8	0	7	66	3	2	3	69	5	0	169	1868
4:00 PM	1	2	0	0	7	1	5	0	12	98	2	0	4	71	6	0	209	1922
4:05 PM	2	2	0	0	5	1	8	0	13	76	4	1	2	80	2	0	196	1970
4:10 PM	2	2	1	0	5	2	7	0	8	76	0	1	0	70	4	0	178	2020
4:15 PM	0	3	0	0	7	1	2	0	3	73	3	1	4	88	6	0	191	2068
4:20 PM	1	0	0	0	8	2	3	0	12	79	2	1	1	71	2	0	182	2087
4:25 PM	0	3	2	0	6	5	4	0	9	83	2	0	1	70	5	0	190	2121
4:30 PM	0	4	2	0	7	1	8	0	3	70	4	0	1	71	2	0	173	2131
4:35 PM	0	1	0	0	5	3	3	0	5	54	1	0	0	85	3	0	160	2161
4:40 PM	1	1	0	0	6	2	6	0	4	72	1	0	0	78	4	0	175	2161
4:45 PM	0	1	0	0	1	1	6	0	6	67	0	0	2	71	1	0	156	2158
4:50 PM	2	0	1	0	2	3	7	0	8	66	2	2	0	70	2	0	165	2144
4:55 PM	0	2	0	0	4	0	9	0	8	79	0	2	0	83	1	0	188	2163
5:00 PM	1	2	0	0	6	3	6	0	11	80	6	3	2	68	4	0	192	2146
5:05 PM	1	3	1	0	1	2	10	0	16	99	0	1	4	93	1	0	232	2182
5:10 PM	2	3	0	0	5	2	3	0	7	84	1	0	1	86	3	0	197	2201
5:15 PM	1	0	2	0	4	4	7	0	6	86	2	0	5	65	3	1	186	2196
5:20 PM	2	1	1	0	5	4	8	0	11	66	1	1	1	67	3	0	171	2185
5:25 PM	0	2	0	0	7	2	8	0	10	82	1	0	4	74	4	0	194	2189
5:30 PM	0	0	1	0	4	1	11	0	10	84	5	1	2	53	5	0	177	2193
5:35 PM	1	2	0	0	5	1	7	0	8	69	3	0	2	70	5	0	173	2206
5:40 PM	1	0	1	0	7	1	2	0	10	84	3	1	3	61	3	0	177	2208
5:45 PM	2	1	1	0	3	1	4	0	5	87	1	2	2	64	1	0	174	2226
5:50 PM	0	1	1	0	3	1	5	0	2	85	0	1	2	61	3	0	165	2226
5:55 PM	0	1	0	0	4	2	1	0	4	76	0	2	2	54	2	0	148	2186
6:00 PM	0	3	1	0	4	0	3	0	8	77	0	0	1	74	2	0	173	2167
6:05 PM	0	0	0	0	14	1	4	0	3	59	0	0	2	68	5	0	156	2091

5-Min Count Period Beginning At	Country Club Rd/Oregon Wy (Northbound)				Country Club Rd/Oregon Wy (Southbound)				Newberg Hwy (Eastbound)				Newberg Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	1	0	0	0	7	3	8	0	11	64	5	2	1	54	2	0	158	2052
6:15 PM	0	1	0	0	1	1	5	0	4	61	2	1	0	73	4	0	153	2019
6:20 PM	0	0	1	0	7	1	6	0	5	62	1	1	1	65	2	0	152	2000
6:25 PM	0	0	0	0	3	2	4	0	5	68	1	0	0	59	4	0	146	1952
6:30 PM	0	0	0	0	2	3	1	0	6	77	2	1	0	57	5	0	154	1929
6:35 PM	1	1	2	0	5	2	5	0	5	66	3	1	0	51	1	0	143	1899
6:40 PM	0	1	1	0	1	0	2	0	7	78	1	1	1	43	0	0	136	1858
6:45 PM	0	3	0	0	6	1	4	0	3	51	0	0	0	28	3	0	99	1783
6:50 PM	0	0	0	0	4	2	5	0	3	64	0	1	0	33	3	0	115	1733
6:55 PM	1	2	0	0	3	2	4	0	3	53	0	0	1	40	2	0	111	1696
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	32	4	0	48	28	76	0	136	1052	28	16	28	988	32	0	2484	
Heavy Trucks	0	0	0		4	0	0		0	56	0		0	24	0		84	
Buses																		
Pedestrians		4				0				20				0			24	
Bicycles	0	0	0		4	0	0		0	4	0		0	0	0		8	
Scooters																		

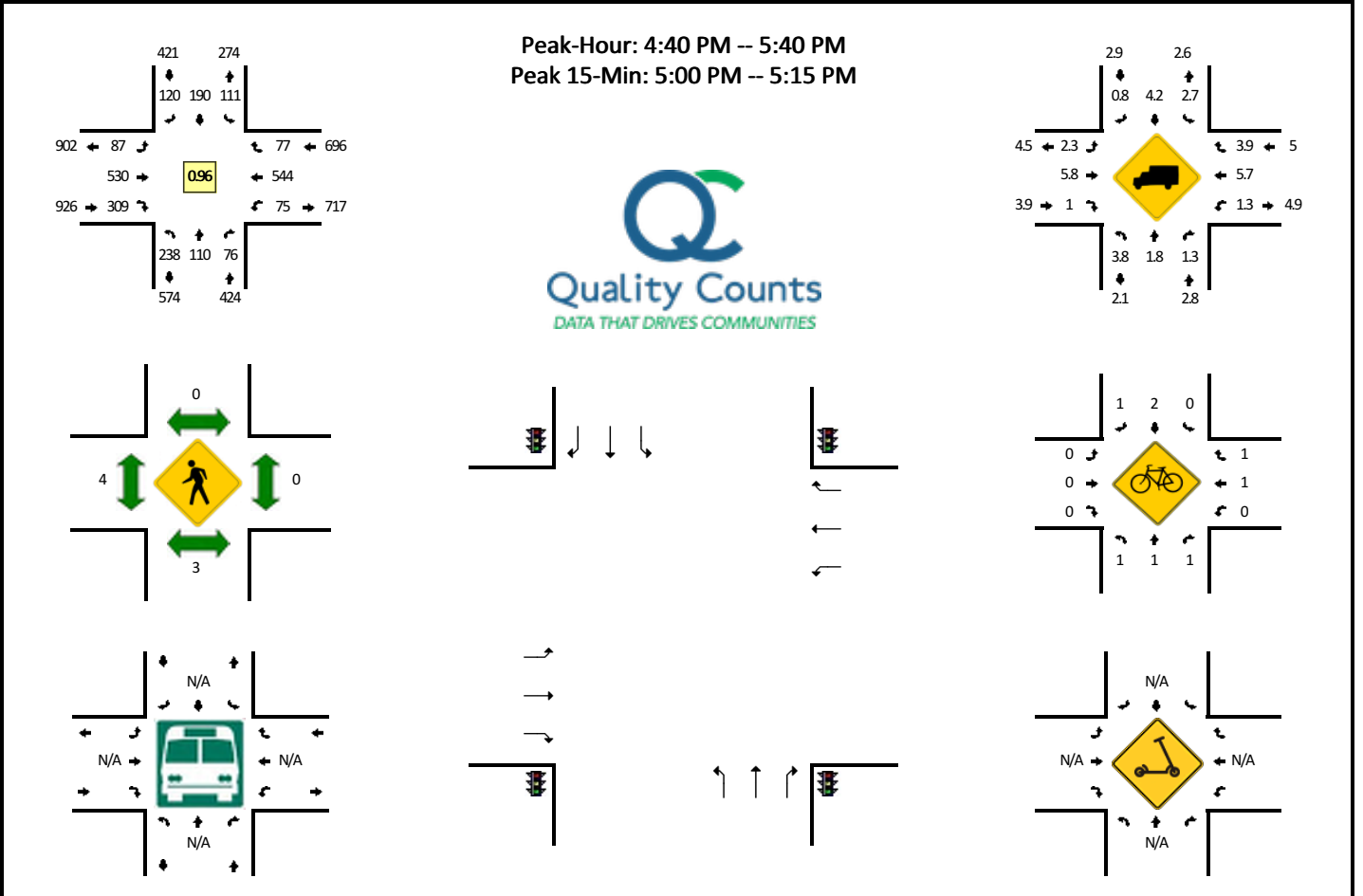
Comments:

Report generated on 2/17/2022 11:59 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: N Boones Ferry Rd/N Settlemier Ave -- OR 214
CITY/STATE: Woodburn, OR

QC JOB #: 15462408
DATE: Tue, May 25 2021



5-Min Count Period Beginning At	N Boones Ferry Rd/N Settlemier Ave (Northbound)				N Boones Ferry Rd/N Settlemier Ave (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	30	8	2	0	10	5	8	0	10	34	15	0	6	42	9	0	179	
3:05 PM	15	6	7	0	6	10	8	0	2	37	16	0	4	51	8	0	170	
3:10 PM	20	8	9	0	10	12	14	0	8	31	14	0	3	36	5	0	170	
3:15 PM	13	3	9	0	7	11	5	0	6	57	18	0	8	51	6	0	194	
3:20 PM	6	3	5	0	6	7	6	0	5	55	19	0	6	46	6	0	170	
3:25 PM	20	16	9	0	8	14	4	0	10	47	22	0	14	44	6	0	214	
3:30 PM	17	11	8	0	8	17	10	0	13	39	20	0	7	53	7	0	210	
3:35 PM	29	7	5	0	16	11	9	0	4	42	37	0	9	46	8	0	223	
3:40 PM	17	11	9	0	12	19	8	0	3	48	18	0	6	60	4	0	215	
3:45 PM	29	12	10	0	13	16	8	0	8	44	26	0	6	51	7	0	230	
3:50 PM	19	12	8	0	6	16	14	0	8	46	30	0	9	48	6	0	222	
3:55 PM	18	12	4	0	5	12	10	0	5	45	24	0	6	51	3	0	195	2392
4:00 PM	16	11	7	0	10	15	11	0	5	44	27	0	14	59	4	0	223	2436
4:05 PM	14	8	7	0	4	22	6	0	6	49	29	0	4	53	5	0	207	2473
4:10 PM	16	5	6	0	13	11	16	0	3	37	26	0	8	53	8	0	202	2505
4:15 PM	6	11	8	0	10	16	6	0	12	41	21	0	16	51	4	0	202	2513
4:20 PM	18	8	2	0	6	9	14	0	7	51	25	0	3	51	6	0	200	2543
4:25 PM	14	10	4	0	10	13	11	0	4	29	15	0	13	44	4	0	171	2500
4:30 PM	20	9	6	0	4	16	9	0	5	39	17	0	7	53	5	0	190	2480
4:35 PM	25	12	4	0	9	15	10	0	6	37	27	0	6	48	6	0	205	2462
4:40 PM	18	14	3	0	5	21	10	0	5	49	18	0	5	50	4	0	202	2449
4:45 PM	21	11	3	0	4	7	13	0	8	48	27	0	7	59	6	0	214	2433
4:50 PM	20	4	6	0	9	16	17	0	10	49	19	0	7	38	4	0	199	2410
4:55 PM	21	9	6	0	9	12	5	0	6	35	22	0	6	41	10	0	182	2397
5:00 PM	15	9	9	0	9	23	17	0	6	43	32	0	9	40	9	0	221	2395
5:05 PM	23	5	6	0	6	13	12	0	8	44	23	0	7	58	3	0	208	2396
5:10 PM	23	10	5	0	10	19	13	0	5	37	25	0	3	51	12	0	213	2407
5:15 PM	18	11	7	0	11	23	6	0	9	34	34	0	7	41	5	0	206	2411
5:20 PM	15	6	8	0	10	14	7	0	5	53	31	0	2	51	4	0	206	2417
5:25 PM	20	8	9	0	11	16	6	0	4	43	25	0	10	38	9	0	199	2445
5:30 PM	26	17	9	0	20	14	7	0	7	39	36	0	4	28	4	0	211	2466
5:35 PM	18	6	5	0	7	12	7	0	14	56	17	0	8	49	7	0	206	2467
5:40 PM	17	8	1	0	3	14	7	0	10	42	32	0	2	40	5	0	181	2446
5:45 PM	12	5	4	0	6	9	3	0	8	33	25	0	12	46	7	0	170	2402
5:50 PM	18	12	1	0	4	16	6	0	6	38	27	0	6	32	7	0	173	2376
5:55 PM	17	6	9	0	5	11	6	0	4	39	31	0	4	28	2	0	162	2356
6:00 PM	20	8	5	0	4	14	8	0	6	34	34	0	10	26	8	0	177	2312

5-Min Count Period Beginning At	N Boones Ferry Rd/N Settlemier Ave (Northbound)				N Boones Ferry Rd/N Settlemier Ave (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:05 PM	12	8	3	0	4	14	10	0	7	47	21	0	6	48	9	0	189	2293
6:10 PM	23	8	4	0	5	16	10	0	10	40	35	0	9	41	9	0	210	2290
6:15 PM	18	15	8	0	9	17	7	0	7	34	26	0	4	28	4	0	177	2261
6:20 PM	15	9	5	0	9	10	6	0	3	38	24	0	10	26	6	0	161	2216
6:25 PM	10	4	2	0	2	13	3	0	9	30	22	0	4	46	1	0	146	2163
6:30 PM	15	8	4	0	6	6	5	0	5	36	30	0	3	33	3	0	154	2106
6:35 PM	24	2	4	0	5	10	3	0	4	38	18	0	3	40	4	0	155	2055
6:40 PM	17	2	6	0	3	8	6	0	1	30	25	0	5	35	2	0	140	2014
6:45 PM	24	9	2	0	5	11	2	0	5	31	13	0	5	17	5	0	129	1973
6:50 PM	12	9	4	0	6	8	5	0	3	34	13	0	4	29	6	0	133	1933
6:55 PM	11	10	3	0	7	8	5	0	4	20	16	0	3	35	4	0	126	1897
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	244	96	80	0	100	220	168	0	76	496	320	0	76	596	96	0	2568	
Heavy Trucks	12	0	0		0	16	0		0	24	0		0	28	8		88	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	4	0		0	4	0		0	0	0		0	4	0		12	
Scooters																		
<i>Comments:</i>																		

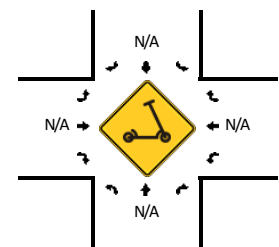
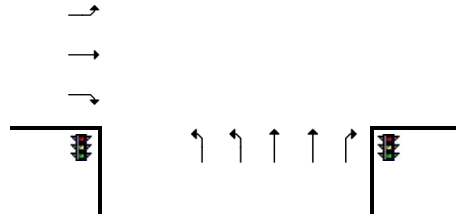
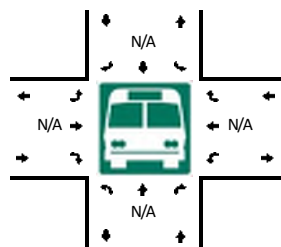
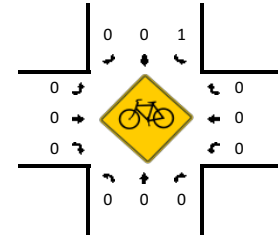
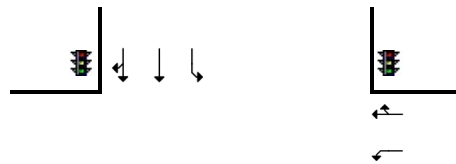
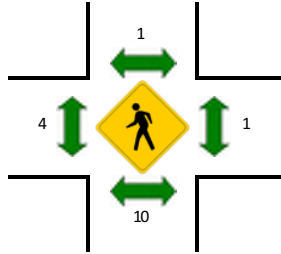
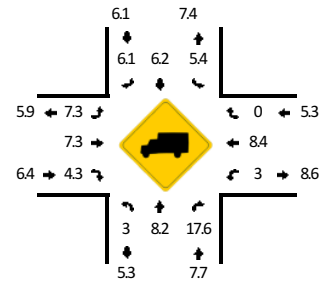
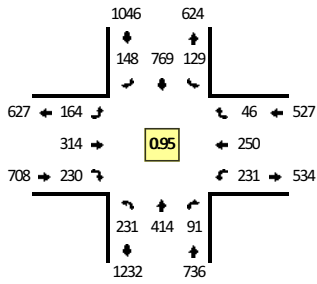
Report generated on 6/16/2022 2:47 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: OR 99E -- OR 214
CITY/STATE: Woodburn, OR

QC JOB #: 15462410
DATE: Tue, May 25 2021

Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:30 PM -- 4:45 PM



5-Min Count Period Beginning At	OR 99E (Northbound)				OR 99E (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	21	35	5	0	12	47	16	0	12	21	22	0	14	16	6	0	227	
3:05 PM	12	24	9	0	2	45	12	0	7	21	18	0	11	17	3	0	181	
3:10 PM	15	24	6	0	8	37	9	1	19	24	15	0	16	16	1	0	191	
3:15 PM	27	37	8	0	5	60	15	0	10	10	26	0	11	14	5	0	228	
3:20 PM	21	31	7	0	6	38	10	0	19	31	19	0	16	25	4	0	227	
3:25 PM	11	30	3	0	15	34	7	0	15	24	18	0	13	26	3	0	199	
3:30 PM	18	50	9	0	10	62	15	0	7	28	25	0	8	20	5	0	257	
3:35 PM	18	23	8	1	22	48	12	0	21	26	20	0	16	15	7	0	237	
3:40 PM	16	31	10	0	10	80	20	0	14	25	20	0	12	18	4	0	260	
3:45 PM	14	20	11	0	13	44	15	0	14	30	26	0	24	22	3	0	236	
3:50 PM	18	22	8	0	17	47	12	0	19	29	26	0	18	19	7	0	242	
3:55 PM	18	44	7	0	16	66	16	0	9	25	27	0	16	26	4	0	274	2759
4:00 PM	21	26	6	0	12	58	7	0	20	30	21	0	28	22	5	0	256	2788
4:05 PM	19	40	9	0	10	76	20	0	12	23	15	0	11	20	4	0	259	2866
4:10 PM	14	32	10	1	6	58	6	0	17	26	24	0	23	28	5	0	250	2925
4:15 PM	14	47	5	0	13	71	14	0	15	21	17	0	19	27	2	0	265	2962
4:20 PM	17	31	6	0	11	46	15	0	6	31	22	0	11	20	2	0	218	2953
4:25 PM	27	33	4	0	14	45	9	0	7	27	19	0	23	17	4	0	229	2983
4:30 PM	13	32	9	1	11	84	13	0	17	24	25	0	18	17	5	0	269	2995
4:35 PM	21	28	15	0	7	51	14	0	14	31	21	0	26	25	5	0	258	3016
4:40 PM	22	31	8	0	20	74	15	0	16	22	15	0	16	21	4	0	264	3020
4:45 PM	19	39	5	0	7	74	6	0	11	28	19	0	18	23	4	0	253	3037
4:50 PM	24	32	7	0	9	46	11	0	18	28	21	0	24	18	5	0	243	3038
4:55 PM	18	43	7	0	9	86	18	0	11	23	11	0	14	12	1	0	253	3017
5:00 PM	14	21	7	0	8	62	9	0	9	31	17	0	14	30	5	0	227	2988
5:05 PM	13	42	9	0	17	68	9	0	14	23	20	0	12	16	1	0	244	2973
5:10 PM	5	24	4	0	16	51	12	0	19	35	17	0	15	30	7	0	235	2958
5:15 PM	25	24	5	0	11	44	5	0	20	24	19	0	23	18	1	0	219	2912
5:20 PM	6	59	5	0	13	61	11	0	12	19	20	0	18	18	4	0	246	2940
5:25 PM	9	20	8	0	6	43	9	0	11	28	13	0	19	21	2	0	189	2900
5:30 PM	23	43	9	1	12	51	14	0	18	18	27	0	17	16	3	0	252	2883
5:35 PM	17	39	8	0	8	52	11	0	13	35	11	0	20	25	6	0	245	2870
5:40 PM	27	29	7	0	11	37	14	0	14	30	22	0	24	15	6	0	236	2842
5:45 PM	18	35	12	0	8	58	10	0	13	14	14	0	15	17	1	0	215	2804
5:50 PM	5	23	6	0	6	47	11	0	7	24	12	0	11	24	6	0	182	2743
5:55 PM	17	35	8	0	18	41	8	0	5	10	15	0	12	14	5	0	188	2678
6:00 PM	10	21	9	0	7	32	5	0	8	22	18	0	20	26	7	0	185	2636
6:05 PM	13	26	6	0	8	52	12	0	14	16	17	0	19	16	1	0	200	2592

5-Min Count Period Beginning At	OR 99E (Northbound)				OR 99E (Southbound)				OR 214 (Eastbound)				OR 214 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	11	18	8	0	5	64	7	0	11	21	16	0	16	11	4	0	192	2549
6:15 PM	11	23	9	0	7	43	12	0	16	32	11	0	14	14	4	0	196	2526
6:20 PM	16	26	4	0	8	39	13	0	7	19	14	0	13	16	3	0	178	2458
6:25 PM	7	21	1	0	4	28	8	0	11	15	14	0	17	17	3	0	146	2415
6:30 PM	9	19	11	0	11	29	12	0	10	21	16	0	15	14	2	0	169	2332
6:35 PM	14	22	6	0	8	48	15	0	7	16	16	0	16	12	3	0	183	2270
6:40 PM	17	20	2	0	9	31	7	0	9	17	15	0	18	17	2	0	164	2198
6:45 PM	14	24	2	0	3	35	6	0	4	13	9	0	15	18	6	0	149	2132
6:50 PM	3	21	0	0	6	28	9	0	7	22	12	0	8	14	3	0	133	2083
6:55 PM	13	22	6	0	8	14	5	0	14	10	11	0	17	10	5	0	135	2030
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	224	364	128	4	152	836	168	0	188	308	244	0	240	252	56	0	3164	
Heavy Trucks	4	24	32		4	36	4		8	12	0		0	24	0		148	
Buses																		
Pedestrians		12				0				0				0			12	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

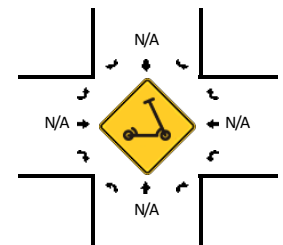
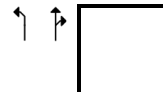
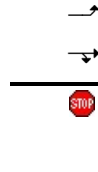
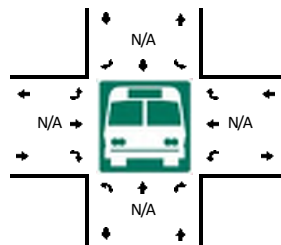
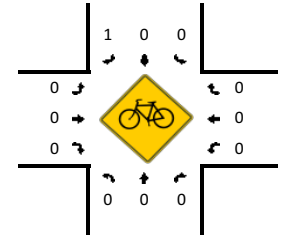
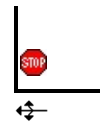
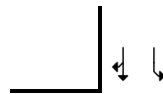
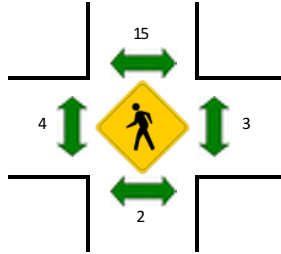
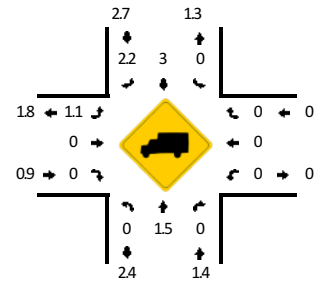
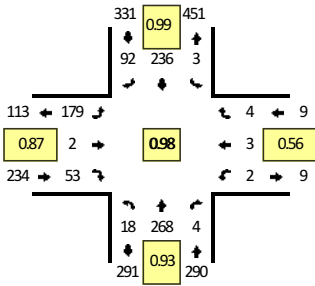
Report generated on 6/16/2022 2:48 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Evergreen Rd -- Stacy Allison Wy
CITY/STATE: Woodburn, OR

QC JOB #: 15702406
DATE: Wed, Feb 9 2022

Peak-Hour: 5:00 PM -- 6:00 PM
 Peak 15-Min: 5:10 PM -- 5:25 PM



5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				Stacy Allison Wy (Eastbound)				Stacy Allison Wy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	23	0	0	1	11	5	0	19	0	3	0	0	0	1	0	63	
3:05 PM	2	15	0	0	0	12	7	0	14	0	6	0	0	0	0	0	56	
3:10 PM	0	18	0	0	0	4	4	0	19	0	3	0	0	0	1	0	49	
3:15 PM	3	21	0	0	0	9	5	0	17	0	6	0	0	0	0	0	61	
3:20 PM	2	18	1	0	0	11	7	0	12	0	5	0	0	0	0	0	56	
3:25 PM	1	17	0	0	1	16	6	0	11	0	1	0	2	0	0	0	55	
3:30 PM	3	19	1	0	0	8	9	0	13	0	3	0	0	0	0	0	56	
3:35 PM	1	15	0	0	0	9	5	0	17	0	3	0	0	0	0	0	50	
3:40 PM	2	19	1	0	0	11	8	0	18	0	4	0	0	0	1	0	64	
3:45 PM	2	20	1	0	0	14	5	0	16	0	1	0	0	0	0	0	59	
3:50 PM	2	19	0	0	0	11	11	0	15	0	5	0	0	0	0	0	63	
3:55 PM	2	25	0	0	0	14	13	0	15	0	3	0	0	0	0	0	72	704
4:00 PM	4	27	1	0	0	14	11	0	20	0	2	0	0	0	0	0	79	720
4:05 PM	4	24	0	0	0	24	8	0	15	0	5	0	0	0	0	0	80	744
4:10 PM	2	20	0	0	0	9	8	0	17	0	3	0	1	0	0	0	60	755
4:15 PM	4	22	0	0	1	15	4	0	13	0	2	0	0	0	0	0	61	755
4:20 PM	2	26	0	0	0	16	6	0	18	0	3	0	0	1	0	0	72	771
4:25 PM	1	22	0	0	0	14	3	0	18	0	6	0	0	0	0	0	64	780
4:30 PM	5	18	0	0	0	15	4	0	14	1	2	0	0	0	1	0	60	784
4:35 PM	1	21	0	0	0	13	5	0	14	0	4	0	0	0	0	0	58	792
4:40 PM	0	15	0	0	0	13	8	0	17	0	3	0	0	0	0	0	56	784
4:45 PM	4	20	0	0	0	11	7	0	15	0	3	0	1	0	0	0	61	786
4:50 PM	2	28	0	0	1	14	3	0	10	0	5	0	0	0	0	0	63	786
4:55 PM	1	15	0	0	0	17	9	0	12	0	2	0	0	0	0	0	56	770
5:00 PM	1	31	0	0	1	22	7	0	17	1	1	0	0	0	1	0	82	773
5:05 PM	0	19	0	0	0	23	12	0	13	0	1	0	1	0	0	0	69	762
5:10 PM	2	25	0	0	0	11	8	0	17	0	3	0	0	0	1	0	67	769
5:15 PM	1	26	1	0	0	20	8	0	17	0	4	0	0	1	0	0	78	786
5:20 PM	2	20	0	0	0	20	7	0	15	0	11	0	0	1	0	0	76	790
5:25 PM	2	17	1	0	1	16	8	0	14	0	6	0	0	1	1	0	67	793
5:30 PM	2	27	0	0	0	22	5	0	16	0	4	0	0	0	1	0	77	810
5:35 PM	0	17	0	0	0	22	6	0	13	0	5	0	1	0	0	0	64	816
5:40 PM	2	18	0	0	0	19	10	0	14	0	5	0	0	0	0	0	68	828
5:45 PM	1	21	2	0	1	21	4	0	15	0	8	0	0	0	0	0	73	840
5:50 PM	3	26	0	0	0	20	9	0	14	0	2	0	0	0	0	0	74	851
5:55 PM	2	21	0	0	0	20	8	0	14	1	3	0	0	0	0	0	69	864
6:00 PM	3	23	0	0	1	11	9	0	9	0	7	0	0	0	0	0	63	845
6:05 PM	2	15	0	0	0	18	8	0	14	1	7	0	1	0	0	0	66	842

5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				Stacy Allison Wy (Eastbound)				Stacy Allison Wy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	5	23	1	0	0	11	6	0	20	0	2	0	0	0	0	0	68	843
6:15 PM	4	18	0	0	0	11	5	0	17	0	4	0	0	0	0	0	59	824
6:20 PM	1	18	0	0	0	12	11	0	11	0	4	0	0	0	1	0	58	806
6:25 PM	1	18	0	0	0	16	9	0	12	0	1	0	0	0	0	0	57	796
6:30 PM	2	20	0	0	1	15	7	0	20	0	3	0	0	0	0	0	68	787
6:35 PM	0	15	0	0	0	14	9	0	17	0	7	0	0	1	0	0	63	786
6:40 PM	0	21	0	0	0	12	9	0	22	0	3	0	0	0	0	0	67	785
6:45 PM	0	14	1	0	0	8	2	0	8	0	3	0	0	0	0	0	36	748
6:50 PM	3	10	0	0	0	11	10	0	13	0	2	0	0	0	0	0	49	723
6:55 PM	2	12	1	0	0	9	3	0	15	0	3	0	0	0	1	0	46	700
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	284	4	0	0	204	92	0	196	0	72	0	0	8	4	0	884	
Heavy Trucks	0	12	0	0	0	4	0	0	0	0	0	0	0	0	0	0	16	
Buses																		
Pedestrians		0				16				8				0			24	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

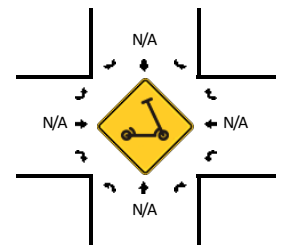
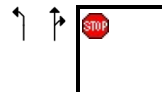
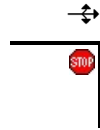
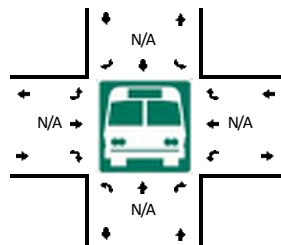
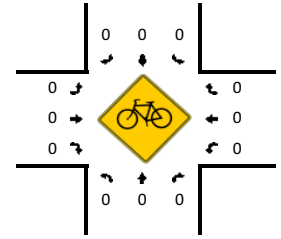
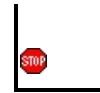
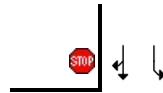
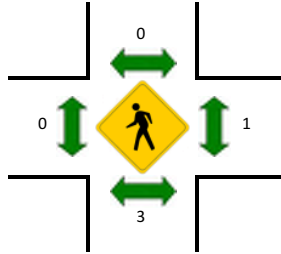
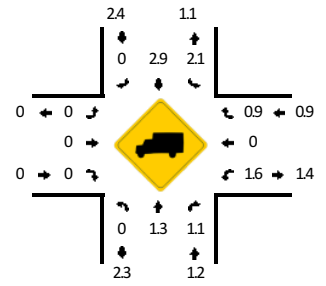
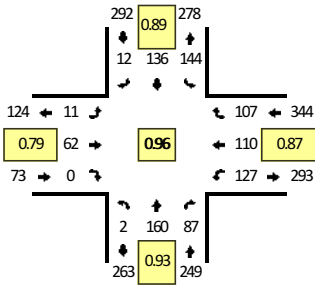
Report generated on 2/17/2022 11:59 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Evergreen Rd -- W Hayes St
CITY/STATE: Woodburn, OR

QC JOB #: 15702408
DATE: Wed, Feb 9 2022

Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:40 PM -- 5:55 PM



5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				W Hayes St (Eastbound)				W Hayes St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	15	3	0	6	7	2	0	2	2	0	0	9	3	6	0	55	
3:05 PM	0	10	3	0	8	7	1	0	2	3	0	0	4	13	6	0	57	
3:10 PM	0	14	6	0	4	6	1	0	0	2	0	0	6	2	4	0	45	
3:15 PM	0	14	9	0	6	6	0	0	1	6	0	0	8	4	6	0	60	
3:20 PM	0	10	4	0	8	6	2	0	3	3	0	0	6	13	9	0	64	
3:25 PM	0	9	5	0	9	9	1	0	1	1	0	0	5	8	8	0	56	
3:30 PM	0	13	7	0	3	7	2	0	2	2	0	0	6	8	7	0	57	
3:35 PM	0	11	6	0	5	7	1	0	1	6	0	0	8	5	5	0	55	
3:40 PM	0	12	4	0	10	5	1	0	2	5	1	0	11	4	7	0	62	
3:45 PM	1	14	6	0	4	11	0	0	1	2	0	0	12	4	8	0	63	
3:50 PM	0	5	14	0	8	5	0	0	1	4	0	0	21	8	16	0	82	
3:55 PM	1	11	7	0	7	11	1	0	1	4	0	0	12	9	14	0	78	734
4:00 PM	0	19	12	0	9	3	0	0	2	6	1	0	12	5	8	0	77	756
4:05 PM	0	16	9	0	12	19	3	0	2	2	0	0	20	5	10	0	98	797
4:10 PM	0	7	8	0	10	4	0	0	2	5	0	0	6	9	14	0	65	817
4:15 PM	0	7	11	0	6	9	0	0	3	4	1	0	6	10	14	0	71	828
4:20 PM	0	13	9	0	4	12	0	0	1	4	0	0	9	11	13	0	76	840
4:25 PM	0	14	11	0	12	9	1	0	1	2	0	0	10	8	7	0	75	859
4:30 PM	0	11	5	0	11	9	0	0	1	1	0	0	5	7	12	0	62	864
4:35 PM	0	11	6	0	12	6	1	0	0	5	0	0	11	3	6	0	61	870
4:40 PM	0	5	5	0	5	8	0	0	2	3	0	0	11	9	8	0	56	864
4:45 PM	0	17	4	0	6	9	2	0	1	10	0	0	17	4	6	0	76	877
4:50 PM	1	18	10	0	7	8	1	0	1	3	0	0	8	7	11	0	75	870
4:55 PM	0	6	11	0	9	9	0	0	2	6	0	0	5	8	6	0	62	854
5:00 PM	0	18	6	0	11	15	1	0	2	7	0	0	8	12	8	0	88	865
5:05 PM	0	13	7	0	14	6	2	0	1	6	0	0	10	10	3	0	72	839
5:10 PM	1	15	6	0	10	8	0	0	0	4	0	0	14	10	12	0	80	854
5:15 PM	0	12	11	0	7	15	0	0	1	5	0	0	9	8	13	0	81	864
5:20 PM	0	10	10	0	12	10	2	0	0	6	0	0	17	5	11	0	83	871
5:25 PM	0	14	8	0	16	8	2	0	0	2	0	0	3	11	6	0	70	866
5:30 PM	1	17	5	0	12	14	1	0	3	7	0	0	12	7	11	0	90	894
5:35 PM	0	5	3	0	13	13	1	0	1	5	0	0	9	8	7	0	65	898
5:40 PM	0	12	8	0	13	10	1	0	2	5	0	0	11	13	8	0	83	925
5:45 PM	0	10	6	0	13	17	1	0	0	4	0	0	12	7	11	0	81	930
5:50 PM	0	19	11	0	13	7	1	0	0	5	0	0	12	7	11	0	86	941
5:55 PM	0	15	6	0	10	13	0	0	1	6	0	0	10	12	6	0	79	958
6:00 PM	0	21	5	0	10	9	0	0	0	3	0	0	4	7	4	0	63	933
6:05 PM	0	15	8	0	10	14	1	0	1	4	0	0	8	6	2	0	69	930

5-Min Count Period Beginning At	Evergreen Rd (Northbound)				Evergreen Rd (Southbound)				W Hayes St (Eastbound)				W Hayes St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	1	10	7	0	8	8	0	0	2	1	0	0	10	3	16	0	66	916
6:15 PM	0	13	11	0	6	6	2	0	1	3	0	0	10	6	6	0	64	899
6:20 PM	1	12	14	0	8	8	0	0	1	7	0	0	7	2	6	0	66	882
6:25 PM	0	12	6	0	5	9	2	0	1	3	0	0	5	7	7	0	57	869
6:30 PM	0	9	5	0	9	10	1	0	0	5	0	0	3	8	12	0	62	841
6:35 PM	1	11	5	0	6	12	3	0	3	3	0	0	7	4	3	0	58	834
6:40 PM	0	15	4	0	7	5	3	0	2	5	0	0	5	7	2	0	55	806
6:45 PM	0	10	11	0	6	5	1	0	0	4	0	0	2	10	5	0	54	779
6:50 PM	0	10	8	0	4	8	0	0	2	3	0	0	9	4	3	0	51	744
6:55 PM	0	8	10	0	6	6	1	0	0	3	0	0	0	3	6	0	43	708
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	164	100	0	156	136	12	0	8	56	0	0	140	108	120	0	1000	
Heavy Trucks	0	0	0		4	12	0		0	0	0		0	0	0		16	
Buses																		
Pedestrians		4				0				0				0			4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

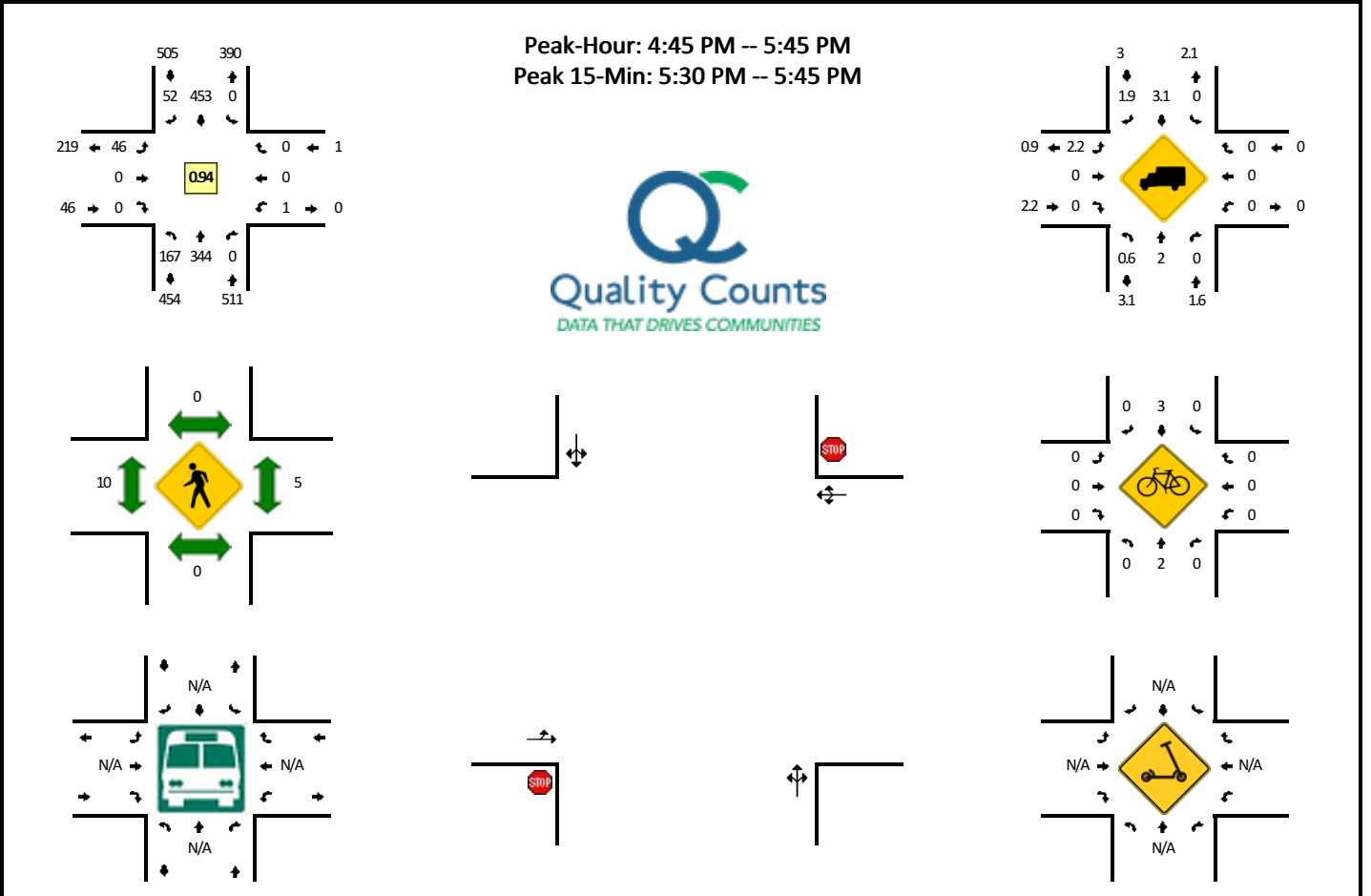
Comments:

Report generated on 2/17/2022 11:59 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: N Settlemier Ave -- W Hayes St (north)
CITY/STATE: Woodburn, OR

QC JOB #: 15767202
DATE: Wed, Mar 30 2022



5-Min Count Period Beginning At	N Settlemier Ave (Northbound)				N Settlemier Ave (Southbound)				W Hayes St (north) (Eastbound)				W Hayes St (north) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	21	25	0	0	1	26	1	0	2	0	0	0	0	0	0	0	76	
3:05 PM	9	29	0	0	1	30	2	0	0	0	0	0	0	0	1	0	72	
3:10 PM	15	25	0	0	1	25	4	0	5	0	0	0	0	0	1	0	76	
3:15 PM	10	28	1	0	1	16	3	0	4	0	0	0	0	0	0	0	63	
3:20 PM	11	40	1	0	0	22	4	0	2	0	0	0	0	0	0	0	80	
3:25 PM	7	22	2	0	0	26	5	0	4	0	1	0	0	0	1	0	68	
3:30 PM	16	26	0	0	2	24	3	0	4	0	0	0	1	0	1	0	77	
3:35 PM	16	20	0	0	1	17	6	0	3	0	0	0	0	0	3	0	66	
3:40 PM	6	15	1	0	1	40	4	0	3	0	0	0	0	0	3	0	73	
3:45 PM	11	19	0	0	0	39	9	0	3	0	0	0	1	0	1	0	83	
3:50 PM	16	37	2	0	2	35	11	0	5	0	0	0	0	0	2	0	110	
3:55 PM	9	25	0	0	0	22	9	0	6	0	0	0	0	0	2	0	73	917
4:00 PM	15	30	0	0	0	37	6	0	3	0	0	0	0	0	2	0	93	934
4:05 PM	16	26	1	0	0	40	5	0	3	0	0	0	0	0	0	0	91	953
4:10 PM	17	37	0	0	0	31	5	0	9	0	0	0	1	0	0	0	100	977
4:15 PM	8	30	0	0	0	43	6	0	7	0	0	0	0	0	1	0	95	1009
4:20 PM	10	39	0	0	0	31	3	0	5	0	0	0	0	0	0	0	88	1017
4:25 PM	15	24	0	0	1	34	3	0	6	0	0	0	0	0	1	0	84	1033
4:30 PM	12	34	0	0	0	32	7	0	5	0	0	0	0	0	0	0	90	1046
4:35 PM	11	23	0	0	0	35	9	0	1	0	0	0	0	0	0	0	79	1059
4:40 PM	14	28	0	0	0	36	3	0	3	0	0	0	0	0	1	0	85	1071
4:45 PM	15	37	0	0	0	32	6	0	8	0	0	0	0	0	0	0	98	1086
4:50 PM	11	23	0	0	0	34	6	0	2	0	0	0	0	0	0	0	76	1052
4:55 PM	14	24	0	0	0	33	6	0	7	0	0	0	1	0	0	0	85	1064
5:00 PM	14	25	0	0	0	37	4	0	4	0	0	0	0	0	0	0	84	1055
5:05 PM	16	32	0	0	0	35	2	0	8	0	0	0	0	0	0	0	93	1057
5:10 PM	15	33	0	0	0	37	3	0	3	0	0	0	0	0	0	0	91	1048
5:15 PM	14	26	0	0	0	31	5	0	2	0	0	0	0	0	0	0	78	1031
5:20 PM	15	34	0	0	0	38	0	0	5	0	0	0	0	0	0	0	92	1035
5:25 PM	4	19	0	0	0	54	3	0	2	0	0	0	0	0	0	0	82	1033
5:30 PM	18	30	0	0	0	50	8	0	0	0	0	0	0	0	0	0	106	1049
5:35 PM	16	29	0	0	0	32	3	0	1	0	0	0	0	0	0	0	81	1051
5:40 PM	15	32	0	0	0	40	6	0	4	0	0	0	0	0	0	0	97	1063
5:45 PM	13	18	0	0	0	37	4	0	4	0	0	0	0	0	0	0	76	1041
5:50 PM	8	39	0	0	0	36	2	0	3	0	0	0	0	0	0	0	88	1053
5:55 PM	9	25	0	0	0	28	1	0	3	0	0	0	0	0	0	0	66	1034
6:00 PM	10	28	1	0	0	32	2	0	4	0	0	0	0	0	0	0	77	1027
6:05 PM	12	19	1	0	0	49	4	0	0	0	0	0	0	1	0	0	86	1020

5-Min Count Period Beginning At	N Settlemier Ave (Northbound)				N Settlemier Ave (Southbound)				W Hayes St (north) (Eastbound)				W Hayes St (north) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	8	22	0	0	0	30	4	0	3	0	0	0	0	0	0	0	67	996
6:15 PM	10	15	0	0	0	27	4	0	8	0	0	0	0	0	0	0	64	982
6:20 PM	12	26	0	0	1	32	5	0	8	0	0	0	0	0	0	0	84	974
6:25 PM	13	29	0	0	0	14	3	0	4	0	0	0	0	0	0	0	63	955
6:30 PM	4	18	0	0	0	16	6	0	6	0	0	0	0	0	0	0	50	899
6:35 PM	9	20	0	0	0	30	5	0	5	0	0	0	0	0	0	0	69	887
6:40 PM	9	25	0	0	0	27	5	0	6	0	0	0	0	0	0	0	72	862
6:45 PM	9	18	0	0	0	18	4	0	4	0	0	0	0	0	0	0	53	839
6:50 PM	8	28	0	0	0	26	6	0	2	0	0	0	0	0	0	0	70	821
6:55 PM	11	28	0	0	0	17	4	0	2	0	0	0	0	0	0	0	62	817
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	196	364	0	0	0	488	68	0	20	0	0	0	0	0	0	0	1136	
Heavy Trucks	0	8	0	0	0	28	0	0	0	0	0	0	0	0	0	0	36	
Buses																		
Pedestrians		0				0				12				8			20	
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4	
Scoters																		

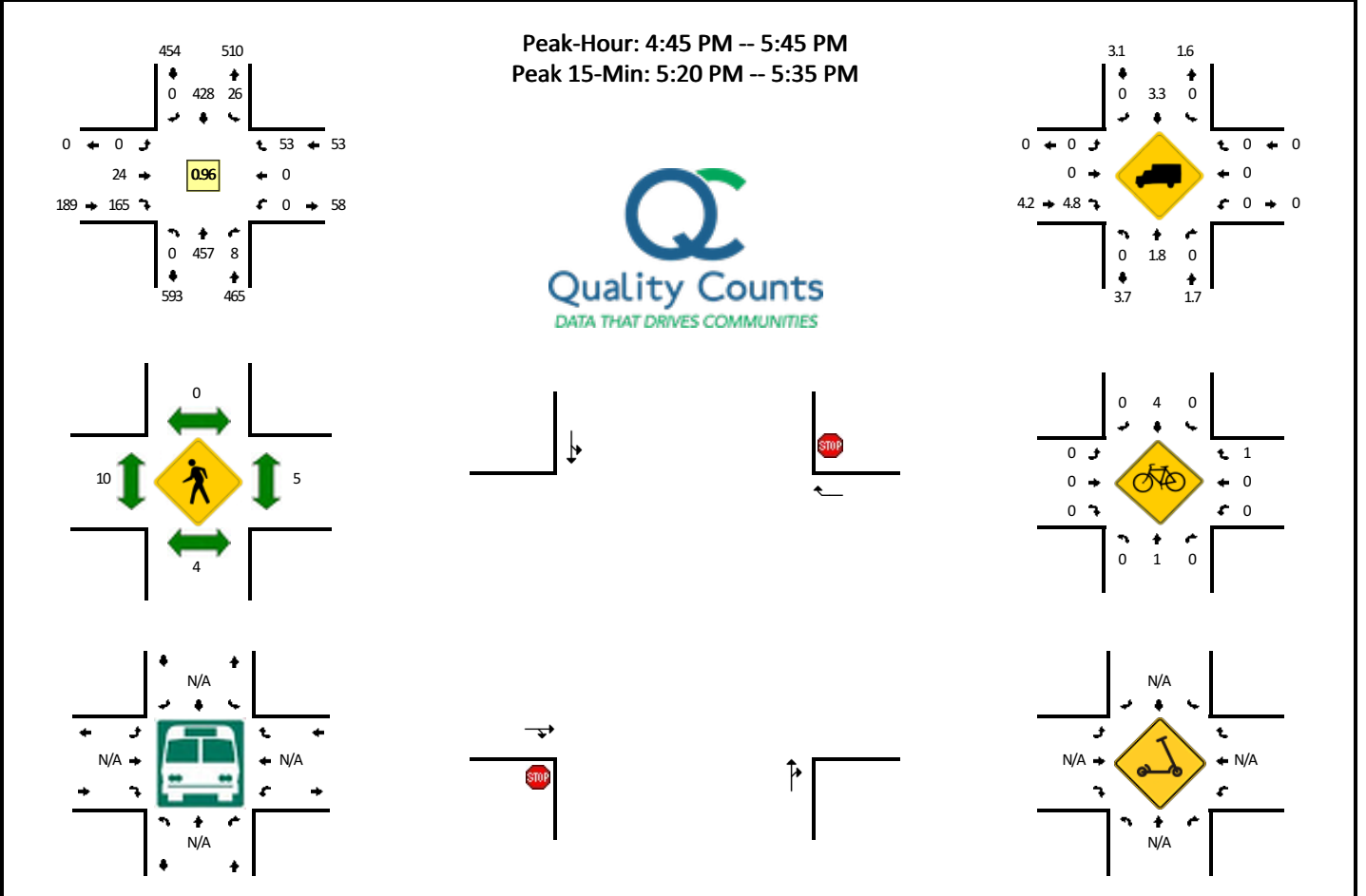
Comments:

Report generated on 6/16/2022 2:50 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: N Settlemier Ave -- W Hayes St (south)
CITY/STATE: Woodburn, OR

QC JOB #: 15767204
DATE: Wed, Mar 30 2022



5-Min Count Period Beginning At	N Settlemier Ave (Northbound)				N Settlemier Ave (Southbound)				W Hayes St (south) (Eastbound)				W Hayes St (south) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	33	0	0	5	21	0	0	0	3	4	0	0	0	11	0	77	
3:05 PM	0	35	0	0	10	24	0	0	0	2	7	0	0	0	6	0	84	
3:10 PM	0	34	1	0	3	21	0	0	0	3	9	0	0	0	4	0	75	
3:15 PM	0	40	0	0	0	13	0	0	0	1	9	0	0	0	1	0	64	
3:20 PM	0	46	1	0	2	24	0	0	0	2	10	0	0	0	7	0	92	
3:25 PM	0	26	3	0	5	17	0	0	0	3	4	0	0	0	3	0	61	
3:30 PM	0	40	0	0	1	25	0	0	0	4	5	0	0	0	3	0	78	
3:35 PM	0	29	1	0	1	17	0	0	0	4	7	0	1	0	4	0	64	
3:40 PM	0	20	0	0	1	39	0	0	0	16	3	0	1	0	0	0	80	
3:45 PM	0	34	1	0	0	41	0	0	0	2	17	0	0	0	6	0	101	
3:50 PM	0	42	2	0	1	33	0	0	0	5	16	0	0	0	5	0	104	
3:55 PM	0	35	0	0	1	22	0	0	0	1	9	0	0	0	6	0	74	954
4:00 PM	0	38	0	0	0	37	0	0	0	2	11	0	0	0	5	0	93	970
4:05 PM	0	41	0	0	0	39	0	0	0	3	14	0	0	0	2	0	99	985
4:10 PM	0	46	0	0	3	29	0	0	0	3	12	0	1	0	4	0	98	1008
4:15 PM	0	38	1	0	2	42	0	0	0	4	25	0	0	0	2	0	114	1058
4:20 PM	0	45	0	0	0	34	0	0	0	2	15	0	0	0	3	0	99	1065
4:25 PM	0	32	0	0	1	29	0	0	0	1	16	0	0	0	5	0	84	1088
4:30 PM	0	47	1	0	3	28	0	0	0	2	7	0	0	0	5	0	93	1103
4:35 PM	0	27	0	0	5	31	0	0	0	8	15	0	0	0	1	0	87	1126
4:40 PM	0	43	1	0	6	29	0	0	0	1	7	0	0	0	2	0	89	1135
4:45 PM	0	52	1	0	1	35	0	0	0	1	12	0	0	0	4	0	106	1140
4:50 PM	0	25	0	0	2	28	0	0	0	4	13	0	0	0	4	0	76	1112
4:55 PM	0	32	0	0	4	32	0	0	0	1	17	0	0	0	4	0	90	1128
5:00 PM	0	34	0	0	1	38	0	0	0	2	12	0	0	0	8	0	95	1130
5:05 PM	0	47	0	0	2	31	0	0	0	4	19	0	0	0	4	0	107	1138
5:10 PM	0	42	1	0	0	36	0	0	0	2	13	0	0	0	3	0	97	1137
5:15 PM	0	35	1	0	2	31	0	0	0	0	19	0	0	0	6	0	94	1117
5:20 PM	0	40	1	0	2	35	0	0	0	4	14	0	0	0	4	0	100	1118
5:25 PM	0	24	1	0	3	51	0	0	0	1	12	0	0	0	2	0	94	1128
5:30 PM	0	44	2	0	3	44	0	0	0	1	10	0	0	0	5	0	109	1144
5:35 PM	0	45	0	0	3	29	0	0	0	2	12	0	0	0	5	0	96	1153
5:40 PM	0	37	1	0	3	38	0	0	0	2	12	0	0	0	4	0	97	1161
5:45 PM	0	30	0	0	1	36	0	0	0	2	15	0	0	0	1	0	85	1140
5:50 PM	0	43	1	0	2	34	0	0	0	3	11	0	0	0	1	0	95	1159
5:55 PM	0	31	0	0	1	26	0	0	0	1	12	0	1	0	5	0	77	1146
6:00 PM	0	40	0	0	1	35	0	0	0	2	24	0	0	0	2	0	104	1155
6:05 PM	0	27	0	0	0	47	0	0	0	0	13	0	0	0	4	0	91	1139

5-Min Count Period Beginning At	N Settlemier Ave (Northbound)				N Settlemier Ave (Southbound)				W Hayes St (south) (Eastbound)				W Hayes St (south) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	0	28	0	0	5	26	0	0	0	2	8	0	0	0	0	0	69	1111
6:15 PM	0	24	0	0	3	24	0	0	0	1	8	0	0	0	2	0	62	1079
6:20 PM	0	34	2	0	1	29	0	0	0	5	11	0	0	0	4	0	86	1065
6:25 PM	0	37	1	0	1	14	0	0	0	5	7	0	0	0	4	0	69	1040
6:30 PM	0	17	0	0	0	14	0	0	0	2	7	0	0	0	2	0	42	973
6:35 PM	0	29	1	0	2	31	0	0	0	1	13	0	0	0	4	0	81	958
6:40 PM	0	32	0	0	3	22	0	0	0	3	5	0	1	0	1	0	67	928
6:45 PM	0	24	0	0	3	15	0	0	0	3	7	0	0	0	4	0	56	899
6:50 PM	0	32	0	0	4	23	0	0	0	0	9	0	0	0	4	0	72	876
6:55 PM	1	37	0	0	1	25	0	0	0	3	9	0	0	0	2	0	78	877
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	432	16	0	32	520	0	0	0	24	144	0	0	0	44	0	1212	
Heavy Trucks	0	8	0		0	16	0		0	0	8		0	0	0		32	
Buses																		
Pedestrians		4				0				16				0			20	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

Report generated on 6/16/2022 2:50 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212



Data Provided by K-D-N.com 503-594-4224

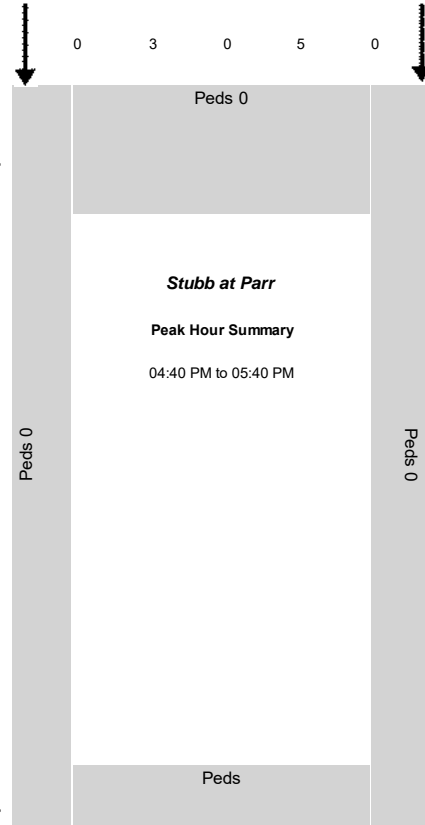
N/S street	Stubb Rd NE
E/W street	Parr Rd
City, State	Woodburn OR
Site Notes	
Location	45.136454 - -122.879529
Start Date	Tuesday, March 21, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	107814
Peak Hour Start	04:40:00 PM
Peak 15 Min Start	04:40:00 PM
PHF (15-Min Int)	0.86

Eastbound
Parr Rd
Heavy Vehicle 0.0%



Southbound
Stubb Rd NE
Heavy Vehicle 0.0%

In	8	Out	13
Bicycles		Right	
		Thru	
		Left	
		U-Turn	



Northbound

U-Turn	Left	Thru	Right	Bicycles
0	0	0	0	0

In 0 Out 0
Heavy Vehicle NaN

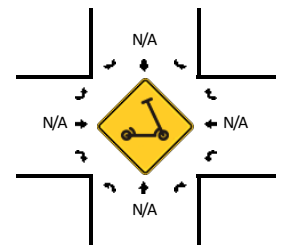
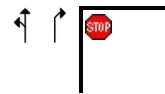
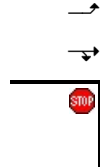
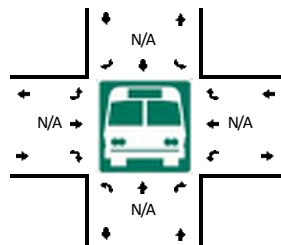
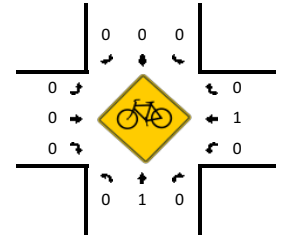
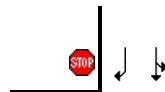
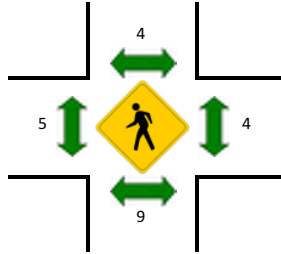
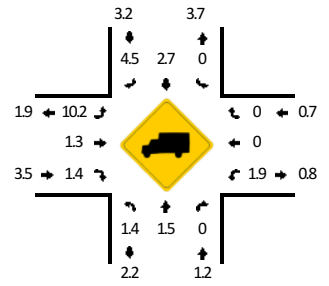
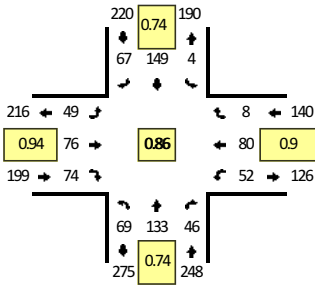
Westbound
Parr Rd
Heavy Vehicle 0.0%

Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	5	0	3	0	6	77	0	0	0	61	7	0	0	8	83	68	0	13	64	82
Percent Heavy Vehicles																							
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	#DIV/0!	0.0%	0.0%	0.0%	#DIV/0!	0.0%	0.0%	0.0%
PHV- Bicycles														PHV - Pedestrians									
Northbound				Southbound				Eastbound				Westbound				in Crosswalk							
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum		
0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0		
All Vehicle Volumes																							
Time	Northbound				Southbound				Eastbound				Westbound				15 Min	1 HR					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
04:00:00 PM					0	0	0	0	0	5	0	0	2	0	0	0							
04:05:00 PM					0	0	0	0	0	7	0	0	8	0	0	0							
04:10:00 PM					0	0	0	0	0	7	0	0	3	0	0	0	32						
04:15:00 PM					0	0	0	0	0	8	0	0	4	0	0	0	37						
04:20:00 PM					0	0	0	0	1	6	0	0	6	1	0	0	36						
04:25:00 PM					0	0	0	0	0	7	0	0	5	0	0	0	38						
04:30:00 PM					0	1	0	0	0	1	0	0	2	0	0	0	30						
04:35:00 PM					0	0	0	0	1	3	0	0	5	0	0	0	25						
04:40:00 PM					0	0	0	0	0	10	0	0	10	0	0	0	33						
04:45:00 PM					0	0	0	0	0	6	0	0	3	1	0	0	39						
04:50:00 PM					0	0	0	0	1	9	0	0	6	0	0	0	46						
04:55:00 PM					1	0	0	0	1	2	0	0	2	2	0	0	34	137					
05:00:00 PM					0	0	0	0	0	5	0	0	5	0	0	0	34	140					
05:05:00 PM					0	2	0	0	1	4	0	0	5	1	0	0	31	138					
05:10:00 PM					0	0	0	0	0	8	0	0	4	0	0	0	35	140					
05:15:00 PM					0	0	0	0	2	8	0	0	6	2	0	0	43	146					
05:20:00 PM					2	0	0	0	1	5	0	0	6	0	0	0	44	146					
05:25:00 PM					0	1	0	0	0	8	0	0	3	1	0	0	45	147					
05:30:00 PM					1	0	0	0	0	4	0	0	7	0	0	0	39	155					
05:35:00 PM					1	0	0	0	0	8	0	0	4	0	0	0	38	159					
05:40:00 PM					0	0	0	0	0	6	0	0	4	1	0	0	36	150					
05:45:00 PM					0	0	0	0	1	4	0	0	6	0	0	0	35	151					
05:50:00 PM					1	0	0	0	1	3	0	0	4	1	0	0	32	145					
05:55:00 PM					1	0	0	0	0	0	0	0	3	0	0	0	25	141					

LOCATION: S Settlemier Ave -- Parr Rd NE
CITY/STATE: Woodburn, OR

QC JOB #: 15702402
DATE: Wed, Feb 9 2022

Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:10 PM -- 5:25 PM



5-Min Count Period Beginning At	S Settlemier Ave (Northbound)				S Settlemier Ave (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	5	9	3	0	0	7	8	0	1	0	1	0	1	11	0	0	46	
3:05 PM	7	10	1	0	0	10	4	0	4	5	0	0	4	8	1	0	54	
3:10 PM	6	5	2	0	0	3	5	0	4	3	5	0	3	9	1	0	46	
3:15 PM	7	10	2	0	0	7	10	0	8	13	2	0	1	8	0	0	68	
3:20 PM	5	5	2	0	1	9	13	0	25	17	5	0	2	3	0	0	87	
3:25 PM	4	7	2	0	0	5	3	0	14	10	20	0	6	2	1	0	74	
3:30 PM	0	10	2	0	0	14	7	0	8	7	15	0	3	7	0	0	73	
3:35 PM	2	4	2	0	0	13	6	0	4	7	4	0	7	8	1	0	58	
3:40 PM	2	11	1	0	1	10	11	0	8	6	2	0	3	8	0	0	63	
3:45 PM	2	12	3	0	0	22	4	0	7	7	5	0	4	4	0	0	70	
3:50 PM	3	5	1	0	0	9	6	0	9	4	4	0	2	6	0	0	49	
3:55 PM	5	5	1	0	0	6	10	0	4	2	5	0	1	2	0	0	41	729
4:00 PM	3	10	2	0	1	7	3	0	9	6	7	0	3	7	1	0	59	742
4:05 PM	7	13	2	0	0	14	7	0	12	5	9	0	4	7	1	0	81	769
4:10 PM	3	20	0	0	0	12	9	0	4	7	2	0	4	6	2	0	69	792
4:15 PM	6	10	2	0	0	13	4	0	7	5	4	0	1	4	2	0	58	782
4:20 PM	4	7	1	0	0	17	7	0	8	5	5	0	5	5	1	0	65	760
4:25 PM	3	14	3	0	1	13	6	0	1	1	3	0	7	5	1	0	58	744
4:30 PM	4	6	3	0	0	16	4	0	4	9	4	0	2	6	1	0	59	730
4:35 PM	3	11	3	0	0	15	7	0	6	4	4	0	2	8	1	0	64	736
4:40 PM	6	12	3	0	0	17	7	0	4	7	4	0	4	6	2	0	72	745
4:45 PM	4	11	1	0	1	17	5	0	6	5	8	0	4	9	1	0	72	747
4:50 PM	7	7	5	0	0	10	7	0	5	3	5	0	3	6	0	0	58	756
4:55 PM	6	5	2	0	0	11	5	0	2	3	7	0	4	7	0	0	52	767
5:00 PM	8	10	6	0	1	9	3	0	7	4	5	0	6	6	1	0	66	774
5:05 PM	7	14	4	0	0	15	6	0	3	6	6	0	1	6	0	0	68	761
5:10 PM	10	15	1	0	0	19	5	0	5	7	6	0	4	8	1	0	81	773
5:15 PM	7	16	10	0	0	14	10	0	1	7	8	0	3	8	0	0	84	799
5:20 PM	5	6	3	0	0	12	14	0	6	6	6	0	7	5	0	0	70	804
5:25 PM	7	6	2	0	0	14	3	0	1	7	7	0	5	5	1	0	58	804
5:30 PM	0	14	1	0	0	7	3	0	4	6	10	0	7	6	1	0	59	804
5:35 PM	5	9	4	0	0	10	3	0	4	2	8	0	2	9	0	0	56	796
5:40 PM	8	14	5	0	0	12	4	0	4	9	3	0	5	6	0	0	70	794
5:45 PM	2	10	4	0	2	9	7	0	3	9	6	0	6	5	0	0	63	785
5:50 PM	4	8	5	0	1	13	2	0	6	7	5	0	5	10	2	0	68	795
5:55 PM	6	11	1	0	0	15	7	0	5	6	4	0	1	6	2	0	64	807
6:00 PM	6	9	4	0	0	8	2	0	3	5	3	0	5	6	0	0	51	792
6:05 PM	4	11	3	0	0	7	6	0	6	5	7	0	3	10	0	0	62	786

5-Min Count Period Beginning At	S Settlemier Ave (Northbound)				S Settlemier Ave (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	4	6	6	0	0	11	1	0	7	3	3	0	5	8	0	0	54	759
6:15 PM	5	13	3	0	0	8	9	0	4	5	6	0	4	5	1	0	63	738
6:20 PM	4	8	4	0	1	7	3	0	4	0	5	0	4	3	2	0	45	713
6:25 PM	2	11	1	0	1	7	2	0	4	7	2	0	6	4	0	0	47	702
6:30 PM	4	9	3	0	0	9	1	0	4	4	6	0	3	2	1	0	46	689
6:35 PM	1	7	3	0	0	17	8	0	3	7	4	0	4	4	0	0	58	691
6:40 PM	5	9	3	0	0	13	5	0	11	4	6	0	5	6	0	0	67	688
6:45 PM	6	3	5	0	1	11	4	0	16	7	3	0	3	1	1	0	61	686
6:50 PM	5	10	0	0	1	9	5	0	4	7	4	0	4	7	0	0	56	674
6:55 PM	8	3	4	0	1	10	5	0	7	4	5	0	1	13	0	0	61	671
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	88	148	56	0	0	180	116	0	48	80	80	0	56	84	4	0	940	
Heavy Trucks	0	0	0		0	0	8		12	4	0		4	0	0		28	
Buses																		
Pedestrians		12				12				8				12			44	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

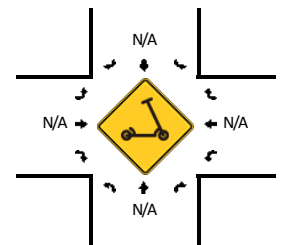
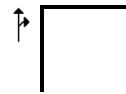
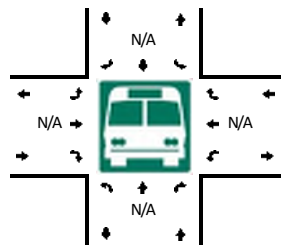
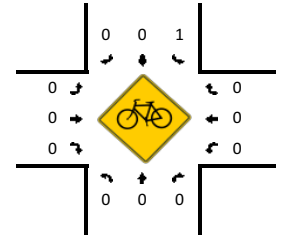
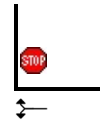
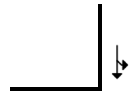
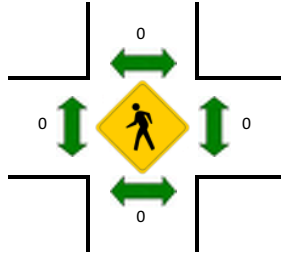
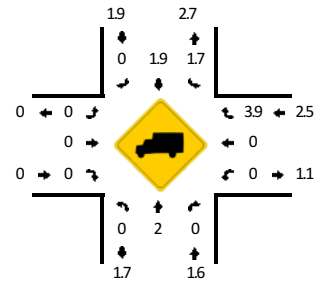
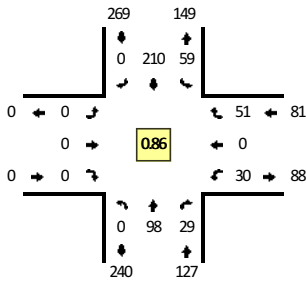
Report generated on 2/17/2022 11:59 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Butteville Rd NE -- Parr Rd NE
CITY/STATE: Woodburn, OR

QC JOB #: 15405719
DATE: Wed, Apr 14 2021

Peak-Hour: 4:45 PM -- 5:45 PM
 Peak 15-Min: 5:15 PM -- 5:30 PM



5-Min Count Period Beginning At	Butteville Rd NE (Northbound)				Butteville Rd NE (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	5	2	0	2	12	0	0	0	0	0	0	2	0	0	0	23	
3:05 PM	0	9	1	0	0	12	0	0	0	0	0	0	2	0	1	0	25	
3:10 PM	0	8	1	0	2	12	0	0	0	0	0	0	0	0	6	0	29	
3:15 PM	0	5	2	0	0	16	0	0	0	0	0	0	0	0	1	0	24	
3:20 PM	0	5	1	0	5	10	0	0	0	0	0	0	3	0	4	0	28	
3:25 PM	0	12	1	0	3	16	0	0	0	0	0	0	0	0	1	0	33	
3:30 PM	0	6	2	0	6	18	0	0	0	0	0	0	2	0	3	0	37	
3:35 PM	0	8	2	1	2	10	0	0	0	0	0	0	0	0	3	0	26	
3:40 PM	0	13	0	0	5	13	0	0	0	0	0	0	0	0	8	0	39	
3:45 PM	0	4	0	0	6	12	0	0	0	0	0	0	2	0	2	0	26	
3:50 PM	0	9	1	0	2	16	0	0	0	0	0	0	0	0	5	0	33	
3:55 PM	0	7	2	0	2	17	0	0	0	0	0	0	3	0	0	0	31	354
4:00 PM	0	10	2	0	2	14	0	0	0	0	0	0	1	0	3	0	32	363
4:05 PM	0	8	2	0	2	9	0	0	0	0	0	0	0	0	4	0	25	363
4:10 PM	0	8	5	0	3	9	0	0	0	0	0	0	3	0	2	0	30	364
4:15 PM	0	14	1	0	7	17	0	0	0	0	0	0	1	0	3	0	43	383
4:20 PM	0	7	2	0	8	15	0	0	0	0	0	0	1	0	1	0	34	389
4:25 PM	0	8	1	0	2	19	0	0	0	0	0	0	1	0	2	0	33	389
4:30 PM	0	11	2	0	4	22	0	0	0	0	0	0	1	0	8	0	48	400
4:35 PM	0	7	4	0	3	14	0	0	0	0	0	0	0	0	5	0	33	407
4:40 PM	0	8	3	0	2	16	0	0	0	0	0	0	1	0	1	0	31	399
4:45 PM	0	6	3	0	6	23	0	0	0	0	0	0	1	0	6	0	45	418
4:50 PM	0	10	3	0	7	12	0	0	0	0	0	0	1	0	4	0	37	422
4:55 PM	0	4	1	0	3	16	0	0	0	0	0	0	3	0	3	0	30	421
5:00 PM	0	10	3	0	2	20	0	0	0	0	0	0	2	0	0	0	37	426
5:05 PM	0	7	4	0	5	14	0	0	0	0	0	0	2	0	5	0	37	438
5:10 PM	0	8	0	0	5	19	0	0	0	0	0	0	3	0	3	0	38	446
5:15 PM	0	7	3	0	6	18	0	0	0	0	0	0	3	0	3	0	40	443
5:20 PM	0	5	6	0	6	20	0	0	0	0	0	0	6	0	5	0	48	457
5:25 PM	0	12	2	0	8	22	0	0	0	0	0	0	2	0	5	0	51	475
5:30 PM	0	9	2	0	5	14	0	0	0	0	0	0	0	0	6	0	36	463
5:35 PM	0	9	1	0	2	17	0	0	0	0	0	0	3	0	5	0	37	467
5:40 PM	0	11	1	0	4	15	0	0	0	0	0	0	4	0	6	0	41	477
5:45 PM	0	4	3	0	6	12	0	0	0	0	0	0	3	0	4	0	32	464
5:50 PM	0	9	3	0	5	13	0	0	0	0	0	0	3	0	2	0	35	462
5:55 PM	0	12	3	0	3	17	0	0	0	0	0	0	2	0	2	0	39	471
6:00 PM	0	8	1	0	5	14	0	0	0	0	0	0	0	0	4	0	32	466
6:05 PM	0	4	2	0	4	8	0	0	0	0	0	0	3	0	5	0	26	455

5-Min Count Period Beginning At	Butteville Rd NE (Northbound)				Butteville Rd NE (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:10 PM	0	10	2	0	4	11	0	0	0	0	0	0	4	0	4	0	35	452
6:15 PM	0	5	2	0	4	17	0	0	0	0	0	0	1	0	1	0	30	442
6:20 PM	0	10	1	0	6	12	0	0	0	0	0	0	0	0	6	0	35	429
6:25 PM	0	6	2	0	6	16	0	0	0	0	0	0	2	0	3	0	35	413
6:30 PM	0	10	3	0	5	9	0	0	0	0	0	0	3	0	3	0	33	410
6:35 PM	0	10	6	0	3	10	0	0	0	0	0	0	0	0	7	0	36	409
6:40 PM	0	7	4	0	4	12	0	0	0	0	0	0	2	0	3	0	32	400
6:45 PM	0	2	3	0	6	14	0	0	0	0	0	0	1	0	2	0	28	396
6:50 PM	0	13	2	0	8	8	0	0	0	0	0	0	1	0	2	0	34	395
6:55 PM	0	5	9	0	8	7	0	0	0	0	0	0	4	0	1	0	34	390
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	96	44	0	80	240	0	0	0	0	0	0	44	0	52	0	556	
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	0	0		4	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

Report generated on 4/1/2022 12:20 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

APPENDIX E
CRASH DATA

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON
 D
 R
 S
 U
 P G S W

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Woodland Ave
 January 1, 2015 through December 31, 2019

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	P E	LICNS	PED	ACTN	EVENT	CAUSE						
INVEST	E L M H R	DAY/TIME	CITY	CMPT/MLG	MILEPNT	FIRST STREET	RD CHAR	TRLR QTY	OWNER	G E	RES	LOC	ERROR									
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	LR		INTERSECTION SEQ#	LOCTN	V#	VEH TYPE	TO	P#	TYPE	SVRVTY	E X	RES	LOC	ERROR	ACTN	EVENT	CAUSE		
01789	N N N N N	05/13/2019	MARION	1	14		INTER	01 NONE	0	TURN-R										02		
CITY	N	Mon	4P	WOODBURN	MN	0	HILLSBORO-SILV HY	W		TRF SIGNAL	N DRY	TURN								00		
				WOODBURN UA	36.52	WOODLAND AVE	05	0		N DAY	INJ	PSNGR CAR		01	DRVR	NONE	42	M	OR-Y	027	000	02
No	45	9	3.71	-122 53 10.86	014000100S00		1															
										STRGHT	01	BIKE	INJC	22	M		01	000		000	00	
										S N												
04656	N N N	10/22/2016	MARION	1	14		INTER	01 NONE	0	STRGHT										07,29		
NONE	N	Sat	10P	WOODBURN	MN	0	HILLSBORO-SILV HY	W		TRF SIGNAL	N DRY	REAR								000	00	
				WOODBURN UA	36.52	WOODLAND AVE	06	0		N DLIT	INJ	PSNGR CAR		01	DRVR	NONE	38	M	OR-Y	043,026	000	07,29
No	45	9	3.71	-122 53 10.85	014000100S00		1															
										02 NONE	0	STOP								011	00	
										PRVTE	W E											
										PSNGR CAR				01	DRVR	INJC	47	M	OR-Y	000	000	00
														02	PSNG	INJC	42	F		000	000	00
04502	N N N N N	11/11/2019	MARION	1	14		INTER	01 NONE	9	TURN-L										27,08		
CITY	N	Mon	2P	WOODBURN	MN	0	HILLSBORO-SILV HY	CN		TRF SIGNAL	N DRY	TURN								000	00	
				WOODBURN UA	36.52	WOODLAND AVE	01	0		N DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	U	UNK	000	000	00
No	45	9	3.73	-122 53 10.87	014000100S00		1															
										02 NONE	9	TURN-L								000	00	
										N/A	UN UN											
										SEMI TOW				01	DRVR	NONE	00	U	UNK	000	000	00
05439	Y N N	12/09/2016	MARION	1	14		INTER	01 NONE	9	STRGHT										04,01		
CITY	N	Fri	9A	WOODBURN	MN	0	HILLSBORO-SILV HY	CN		TRF SIGNAL	N WET	ANGL								000	00	
				WOODBURN UA	36.52	WOODLAND AVE	02	0		N DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	U	UNK	000	000	00
No	45	9	3.71	-122 53 10.85	014000100S00		1															
										02 NONE	9	STRGHT								000	00	
										N/A	S N											
										SEMI TOW				01	DRVR	NONE	00	U	UNK	000	000	00
04332	N N N N N	11/01/2019	MARION	1	14		INTER	01 NONE	0	TURN-L										02		
CITY	N	Fri	7P	WOODBURN	MN	0	HILLSBORO-SILV HY	CN		TRF SIGNAL	N DRY	TURN								000	00	
				WOODBURN UA	36.52	WOODLAND AVE	02	0		N DLIT	INJ	PSNGR CAR		01	DRVR	INJC	42	F	NONE	028,004	000	02
No	45	9	3.74	-122 53 10.84	014000100S00		1															
														02	PSNG	INJC	09	M		000	000	00

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON
D
R
S
U
P
G
S
W
SER# E A / C O DATE COUNTY
INVEST E L M H R DAY/TIME CITY
UNLOC? D C J L K LAT/LONG URBAN AREA

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Woodland Ave
January 1, 2015 through December 31, 2019

Table with columns: RD#, FC, CONN #, INT-TYP, SPCL USE, TRLR QTY, MOVE, PRTC INJ, A S, LICNS, PED, ACTN EVENT, CAUSE. Includes data for 02296 and 04266 incidents.

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Interstate 5, Pacific Hwy (#001), SB Ramps
 January 1, 2015 through December 31, 2019

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	PED	CAUSE			
INVEST	E L M H R	DAY/TIME	CITY	CMPT/MLG	FIRST STREET	RD CHAR	(MEDIAN)	TRLR QTY	OWNER	G E	LICNS	LOC			
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	MILEPNT	SECOND STREET	DIRECT	LEGS	VEH TYPE	FROM	X RES	ERROR	ACTN			
				LRS	INTERSECTION SEQ#	LOCTN	(#LANES)	V#	TO	P#	TYPE	SVRTRY			
00780	N N N	03/01/2019	MARION	1	11		INTER	01 NONE	9 TURN-L			04			
CITY	N	Fri 8P	WOODBURN	MN	0	HILLSBORO-SILV HY	CN	N/A	N E			00			
No	45	9 3.95 -122	52 55.43	36.73	1	SB EX HILLS-SILV C2	01	0	PSNGR CAR	01	DRVR NONE	00 U UNK	000	000	00
				014000100S00								UNK			
								02 NONE	9 STRGHT						
								N/A	E W			000	000	00	00
								PSNGR CAR		01	DRVR NONE	00 U UNK	000	000	00
												UNK			
02901	N N N	Y 08/01/2015	MARION	1	11		INTER	01 NONE	0 STRGHT			05			
CITY	N	Sat 11P	WOODBURN	MN	0	HILLSBORO-SILV HY	CN	PRVTE	W E			00			
No	45	9 3.96 -122	52 55.34	36.73	1	SB EX HILLS-SILV C2	02	0	PSNGR CAR	01	DRVR NONE	26 M NONE	080	000	05
				014000100S00								OR<25			
										02	PSNG INJC	57 M	000	000	00
								02 NONE	0 STRGHT						
								PRVTE	E W			000	000	00	00
								PSNGR CAR		01	DRVR INJB	19 F OR-Y	000	000	00
												OR<25			
										02	PSNG INJB	23 M	000	000	00
01960	N N N	05/19/2017	MARION	1	14		INTER	01 NONE	0 STRGHT			29			
NONE	N	Fri 5P	WOODBURN	MN	0	HILLSBORO-SILV HY	CN	PRVTE	E W			00			
No	45	9 3.96 -122	52 55.44	36.73	1	SB EX HILLS-SILV C2	02	2	PSNGR CAR	01	DRVR NONE	69 M OR-Y	042	000	29
				014000100S00								OR<25			
								02 NONE	0 STRGHT						
								PRVTE	E W			000	000	00	00
								PSNGR CAR		01	DRVR INJC	37 M OR-Y	000	000	00
												OR<25			

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Interstate 5, Pacific Hwy (#001), NB Ramps
 January 1, 2015 through December 31, 2019

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	PED	ACTN	EVENT	CAUSE								
INVEST	E L M H R	DAY/TIME	CITY	CMPT/MLG	FIRST	STREET	RD CHAR	TRLR QTY	OWNER	FROM	PRTC	INJ	G E	LICNS	ERROR							
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	MILEPNT	SECOND	STREET	DIRECT	VEH TYPE	TO	P#	TYPE	SVRTY	E X	RES	LOC							
				LRS	INTERSECTION	SEQ#	LOCTN	(#LANES)														
								02 NONE	0 STOP													
								PRVTE	W E						012	00						
								PSNGR CAR		01	DRVR	NONE	20 F	OR-Y	000	000	00					
														OR>25								
03869	N N N	10/08/2015	MARION	1	14		INTER	CROSS	N	N CLR	S-1STOP	01	NONE	0	STRGHT			07				
CITY	N	Thu 7P	WOODBURN	MN	0	HILLSBORO-SILV HY	W		TRF SIGNAL	N DRY	REAR		PRVTE	W E			000	00				
			WOODBURN UA	36.86	NB EX	HILLS-SILV C1	06	1		N DLIT	INJ		PSNGR CAR		01	DRVR	INJC	65 M	OR-Y	026	000	007
No	45 9	3.79 -122 52 45.31		014000100S00			1												OR<25			
								02 NONE	0 STOP													
								PRVTE	W E									011	00			
								PSNGR CAR		01	DRVR	INJC	75 M	OR-Y	000	000	000	00				
														OR<25								
01389	N N N	04/24/2018	MARION	1	11		INTER	3-LEG	N	N UNK	ANGL-OTH	01	NONE	0	TURN-L				04			
NO RPT	N	Tue 4P	WOODBURN	MN	0	HILLSBORO-SILV HY	CN		TRF SIGNAL	N UNK	TURN		PRVTE	S W			000	00				
			WOODBURN UA	36.86	NB EX	HILLS-SILV C1	00	1		N DAY	INJ		PSNGR CAR		01	DRVR	INJC	23 F	OR-Y	097	000	00
No	45 9	3.80 -122 52 45.75		014000100S00			1												OR<25			
								02 NONE	0 STRGHT													
								PRVTE	UN UN									000	00			
								PSNGR CAR		01	DRVR	NONE	00 U	UNK	097	000	000	00				
														UNK								
03623	N N N N N	09/03/2017	MARION	1	11		INTER	3-LEG	N	N CLR	S-OTHER	01	NONE	9	TURN-L				08			
CITY	N	Sun 9A	WOODBURN	MN	0	HILLSBORO-SILV HY	CN		L-GRN-SIG	N DRY	TURN		N/A	S W			000	00				
			WOODBURN UA	36.86	NB EX	HILLS-SILV C1	01	0		N DAY	PDO		SEMI TOW		01	DRVR	NONE	00 U	UNK	000	000	00
No	45 9	3.79 -122 52 45.74		014000100S00			1												UNK			
								02 NONE	9 TURN-L													
								N/A	S W									000	00			
								PSNGR CAR		01	DRVR	NONE	00 U	UNK	000	000	000	00				
														UNK								
00202	N N N	01/19/2015	MARION	1	14		INTER	CROSS	N	N CLR	O-1 L-TURN	01	NONE	0	TURN-L				02			
NO RPT	N	Mon 4P	WOODBURN	MN	0	HILLSBORO-SILV HY	CN		TRF SIGNAL	N DRY	TURN		PRVTE	W N			000	00				
			WOODBURN UA	36.86	NB EF	HILLS-SILV C2	02	1		N DAY	PDO		PSNGR CAR		01	DRVR	NONE	25 F	OR-Y	028,004	000	002
No	45 9	3.79 -122 52 45.31		014000100S00			1												OR<25			
								02 NONE	0 STRGHT													
								PRVTE	E W									000	00			
								PSNGR CAR		01	DRVR	NONE	24 F	OR-Y	000	000	000	00				
														OR<25								

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Interstate 5, Pacific Hwy (#001), NB Ramps
January 1, 2015 through December 31, 2019

Table with columns: SER#, INVEST, UNLOC?, E A / C O DATE, COUNTY, RD#, FC, CONN #, INT-TYP, RD CHAR, INT-REL, OFFRD WTHR, CRASH TYP, SPCLE USE, MOVE, A S, LICNS, PED, ACTN EVENT, CAUSE. Rows include crash details for dates 12/18/2017, 12/20/2017, 05/30/2018, and 03/27/2019.

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Interstate 5, Pacific Hwy (#001), NB Ramps
January 1, 2015 through December 31, 2019

Table with columns: SER#, INVEST, UNLOC?, E, A, C, O, DATE, COUNTY, RD#, FC, CONN #, CMPT/MLG, FIRST STREET, RD CHAR, INT-TYP, INT-REL, OFFRD, WTHR, CRASH TYP, SPCL USE, MOVE, PRTC, INJ, A, S, G, E, LICNS, PED, ACTN, EVENT, CAUSE. Includes rows for various crash incidents with detailed location and time information.

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Evergreen Rd
 January 1, 2015 through December 31, 2019

SER#	E A	/	C O	DATE	FC	CITY STREET FIRST STREET	RD CHAR DIRECT	INT-TYP (MEDIAN)	INT-REL	OFF-RD RNDBT	WTHR SURF	CRASH TYP COLL TYP	SPCL		MOVE	A S			PED		ACTN	EVENT	CAUSE							
													USE	TRLR QTY		G	E	LICNS	LOC	ERROR										
UNLOC?	D	C	J	L	K	LAT/LONG	DISTNC	INTERSECTION SEQ #	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	OWNER	TO	P#	TYPE	SVRTRY	E	X	RES	LOC	ERROR	ACTN	EVENT	CAUSE		
01901	N	N	N	N	N	05/18/2019	17	EVERGREEN RD	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE	0	STRGHT										07		
CITY				N		Sat 1P	0	HILLSBORO-SILV HY	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW NE										000	00		
No	45	9	3.54	-122	52	32.55	1		09	3		N	DAY	INJ	PSNGR	CAR		01	DRVR	NONE	26	F	OR-Y		043,026	000	07			
																													OR<25	
															02	NONE	0	STOP										011	00	
																PRVTE	SW NE										000	000	00	OR<25
																PSNGR	CAR		01	DRVR	INJC	60	M	OR-Y		000	000	00	OR<25	
																			02	PSNG	INJC	47	F			000	000	00		
																			03	PSNG	INJC	15	F			000	000	00		

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Evergreen Rd
January 1, 2015 through December 31, 2019

Table with columns: SER#, INVEST, UNLOC?, E, L, M, D, C, J, H, R, O, DATE, COUNTY, CITY, URBAN AREA, RD#, FC, CONN #, INT-TYP, RD CHAR, INT-REL, OFFRD, WTHR, CRASH TYP, SPC, L, QTY, MOVE, A, S, G, E, LICNS, PED, LOC, ERROR, ACTN, EVENT, CAUSE. Rows contain crash data for various incidents including 00907, 01701, 01890, and 03374.

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Evergreen Rd
January 1, 2015 through December 31, 2019

Table with columns: SER#, INVEST, UNLOC?, E, L, D, C, J, K, A, M, H, R, O, DATE, COUNTY, CITY, URBAN AREA, RD#, FC, CONN #, MILEPNT, LRS, FIRST STREET, SECOND STREET, INTERSECTION SEQ#, RD CHAR, DIRECT, INT-TYP, (MEDIAN), LEGS, INT-REL, TRAF-CNTL, OFFRD, RNDDBT, WTHR, SURF, LIGHT, CRASH TYP, COLL TYP, SVRTY, V#, SPCL USE, TRLR QTY, VEH TYPE, MOVE, FROM, TO, PRTC, INJ, SVRTY, A, S, G, E, LICNS, PED, E, X, RES, LOC, ERROR, ACTN, EVENT, CAUSE

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Evergreen Rd
January 1, 2015 through December 31, 2019

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	RD CHAR	INT-REL	OFFRD	WTHR	CRASH TYP	SPCL USE		MOVE	A S	LICNS	PED	ACTN	EVENT	CAUSE		
													TRLR QTY	OWNER								PRTC	INJ
INVEST	E L M H R	DAY/TIME	CITY	MILEPNT	FIRST STREET	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL TYP	V#	VEH TYPE	FROM	P#	TYPE	SVRITY	E X				
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	LRS	INTERSECTION	SEQ#	LOCTN	(#LANES)	CNTL	DRVWY	LIGHT	SVRTY			TO								
04720	N N N N N	10/26/2016	MARION	1	14		INTER	CROSS	N		N RAIN	ANGL-OTH	01	NONE	9	STRGHT						04	
CITY	N	Wed 7P	WOODBURN	MN	0	EVERGREEN RD	CN		TRF SIGNAL	N WET	ANGL		N/A		E W						000	00	
			WOODBURN UA	37.02		HILLSBORO-SILV HY	02	0		N DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK	000	00	
No	45 9	3.52 -122	52 32.54	014000100S00			1															00	
													02	NONE	9	STRGHT						000	00
													N/A		S N							000	00
													PSNGR CAR		01	DRVR	NONE	00	U	UNK	000	000	00
																						000	00
																						000	00
00034	N N N N N	01/03/2017	MARION	1	14		INTER	CROSS	N		N CLR	O-1 L-TURN	01	NONE	0	STRGHT						02	
CITY	N	Tue 10P	WOODBURN	MN	0	EVERGREEN RD	CN		TRF SIGNAL	N DRY	TURN		PRVTE		E W						000	00	
			WOODBURN UA	37.02		HILLSBORO-SILV HY	02	3		N DLIT	INJ		PSNGR CAR		01	DRVR	INJC	43	M	OR-Y	000	000	00
No	45 9	3.52 -122	52 32.54	014000100S00			1															OR<25	00
													02	NONE	0	TURN-L						000	00
													PRVTE		W N							000	00
													PSNGR CAR		01	DRVR	INJC	36	F	OR-Y	028,004	000	02
																						OR<25	00
01895	N N N N N	05/15/2017	MARION	1	14		INTER	CROSS	N		N CLD	O-1 L-TURN	01	NONE	9	U-TURN						02	
CITY	N	Mon 10A	WOODBURN	MN	0	EVERGREEN RD	CN		TRF SIGNAL	N DRY	TURN		N/A		W W						000	00	
			WOODBURN UA	37.02		HILLSBORO-SILV HY	02	3		N DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK	000	000	00
No	45 9	3.52 -122	52 32.54	014000100S00			1															UNK	00
													02	NONE	9	STRGHT						000	00
													N/A		E W							000	00
													PSNGR CAR		01	DRVR	NONE	00	U	UNK	000	000	00
																						UNK	00
03737	N N N N N	09/10/2017	MARION	1	14		INTER	CROSS	N		N CLR	O-1 L-TURN	01	NONE	9	STRGHT						02	
CITY	N	Sun 7P	WOODBURN	MN	0	EVERGREEN RD	CN		FLASHBCN-A	N DRY	TURN		N/A		E W						000	00	
			WOODBURN UA	37.02		HILLSBORO-SILV HY	02	3		N DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK	000	000	00
No	45 9	3.52 -122	52 32.54	014000100S00			1															UNK	00
													02	NONE	9	TURN-L						000	00
													N/A		W N							000	00
													PSNGR CAR		01	DRVR	NONE	00	U	UNK	000	000	00
																						UNK	00
00833	N N N N N	03/11/2018	MARION	1	14		INTER	CROSS	N		N CLR	O-1 L-TURN	01	NONE	0	U-TURN						02	
CITY	N	Sun 1P	WOODBURN	MN	0	EVERGREEN RD	CN		FLASHBCN-A	N DRY	TURN		PRVTE		W W						000	00	
			WOODBURN UA	37.02		HILLSBORO-SILV HY	02	3		N DAY	INJ		PSNGR CAR		01	DRVR	NONE	69	M	OTH-Y	028	000	02
No	45 9	3.52 -122	52 32.54	014000100S00			1															N-RES	00

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Evergreen Rd
 January 1, 2015 through December 31, 2019

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	PED	ACTN	EVENT	CAUSE
INVEST	E L M H R	DAY/TIME	CITY	CMPT/MLG	FIRST STREET	RD CHAR	(MEDIAN)	TRLR QTY	OWNER	FROM	LICNS	ERROR		
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	MILEPNT	SECOND STREET	DIRECT	LEGS	VEH TYPE	VEH TYPE	TO	RES			
				LRS	INTERSECTION SEQ#	LOCTN	(#LANES)	#						
											04	000	000	00
											05	000	000	00
								02	NONE	0				
									PRVTE	E S			000	00
									PSNGR	CAR	01		000	00
											02	028	000	02
04378	N N N	11/07/2015	MARION	1	14									
CITY	N	Sat 6P	WOODBURN	MN	0	EVERGREEN RD	CN						000	00
			WOODBURN UA	37.02		HILLSBORO-SILV HY	03	0					000	00
No	45 9	3.52 -122 52 32.54		014000100S00			1						000	00
											01		000	00
											02		000	00
											03		000	00
								02	NONE	0				
									PRVTE	E S			000	00
									PSNGR	CAR	01	028,004	000	02
											02		000	00
04387	N N N	11/07/2015	MARION	1	14									
CITY	N	Sat 3P	WOODBURN	MN	0	EVERGREEN RD	CN						000	00
			WOODBURN UA	37.02		HILLSBORO-SILV HY	03	0					000	00
No	45 9	3.52 -122 52 32.54		014000100S00			1						000	00
											01		000	00
											02		000	00
								02	NONE	0				
									PRVTE	E S			000	00
									PSNGR	CAR	01	028,004	000	02
04534	N N N	11/17/2015	MARION	1	14									
CITY	N	Tue 11A	WOODBURN	MN	0	EVERGREEN RD	CN						000	00
			WOODBURN UA	37.02		HILLSBORO-SILV HY	03	0					000	00
No	45 9	3.52 -122 52 32.54		014000100S00			1						000	00
											01		000	00
											02		000	00
								02	NONE	0				
									PRVTE	E S			000	00
									PSNGR	CAR	01	004,028	000	02
05001	N N N	12/13/2015	MARION	1	14									
CITY	N	Sun 4P	WOODBURN	MN	0	EVERGREEN RD	CN						000	00
			WOODBURN UA	37.02		HILLSBORO-SILV HY	03	0					000	00
No	45 9	3.52 -122 52 32.54		014000100S00			1						000	00
											01		000	02

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silvertown Hwy (#140) & Evergreen Rd
January 1, 2015 through December 31, 2019

Table with columns: SER#, INVEST, UNLOC?, E, A, C, O, D, A, T, E, COUNTY, CITY, URBAN AREA, RD#, FC, CONN #, CMPT/MLG, MILEPNT, LRS, FIRST STREET, SECOND STREET, INTERSECTION SEQ#, RD CHAR, DIRECT, LOCTN, INT-TYP, (MEDIAN), INT-REL, LEGS, TRAF-CNTL, OFFRD, WTHR, RDNBT, SURF, COLL TYP, CRASH TYP, SVRITY, SPCL USE, TRLR QTY, OWNER, V# VEH TYPE, MOVE, FROM, TO, PRTC, INJ, SVRITY, G, E, LICNS, PED, LOC, ERROR, ACTN, EVENT, CAUSE.

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Evergreen Rd
 January 1, 2015 through December 31, 2019

SER#	E A / C O DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	ACTN	EVENT	CAUSE							
INVEST	E L M H R DAY/TIME	CITY	CMPT/MLG	FIRST STREET	RD CHAR	(MEDIAN)	TRLR QTY	OWNER	G E										
UNLOC?	D C J L K LAT/LONG	URBAN AREA	MILEPNT	SECOND STREET	DIRECT	LEGS TRAF-	OWNR	FROM	LICNS	PED									
			LRS	INTERSECTION SEQ#	LOCTN	(#LANES)	V#	VEH TYPE	RES	LOC	ERROR								
							02	NONE	0	STRGHT									
							PRVTE	W E			000	00							
							PSNGR	CAR	01	DRVR	INJC	51 M OR-Y OR<25	097	000	00				
03425	N N N 08/22/2017	MARION	1	14		INTER	CROSS	N	N CLR	O-1 L-TURN	01	NONE	0	STRGHT					
CITY	N Tue 6A	WOODBURN	MN	0	EVERGREEN RD	CN		TRF SIGNAL	N DRY	TURN		PRVTE	W E		000	00			
		WOODBURN UA	37.02	HILLSBORO-SILV HY	03	3		N DAWN	INJ		PSNGR	CAR	01	DRVR	INJC	53 M OR-Y OR<25	000	000	00
No	45 9 3.52 -122 52 32.54		014000100S00		1														
							02	NONE	0	TURN-L					000	00			
							PRVTE	E S							000	00			
							PSNGR	CAR	01	DRVR	NONE	46 M OR-Y OR<25	028,004	000	00	02			
03973	N N N 09/23/2017	MARION	1	14		INTER	CROSS	N	N CLR	O-1 L-TURN	01	NONE	0	TURN-L					
CITY	N Sat 1P	WOODBURN	MN	0	EVERGREEN RD	CN		TRF SIGNAL	N DRY	TURN		PRVTE	E S		000	00			
		WOODBURN UA	37.02	HILLSBORO-SILV HY	03	3		N DAY	INJ		PSNGR	CAR	01	DRVR	NONE	27 F OR-Y OR<25	028,004	000	00
No	45 9 3.52 -122 52 32.54		014000100S00		1														
							02	PSNG	NO<5	01	F				000	000	00		
							03	PSNG	NO<5	03	F				000	000	00		
							02	NONE	0	STRGHT					000	00			
							PRVTE	W E							000	00			
							PSNGR	CAR	01	DRVR	NONE	52 F OTH-Y N-RES	000	000	00	00			
									02	PSNG	INJB	12 F		000	000	00			
05357	N N N N N 12/10/2017	MARION	1	14		INTER	CROSS	N	N CLR	O-1 L-TURN	01	NONE	0	TURN-L					
CITY	N Sun 6A	WOODBURN	MN	0	EVERGREEN RD	CN		TRF SIGNAL	N DRY	TURN		PRVTE	E S		000	00			
		WOODBURN UA	37.02	HILLSBORO-SILV HY	03	3		N DAWN	INJ		PSNGR	CAR	01	DRVR	NONE	37 F OR-Y OR<25	020	000	00
No	45 9 3.52 -122 52 32.54		014000100S00		1														
							02	NONE	0	STRGHT					000	00			
							PRVTE	W E							000	00			
							PSNGR	CAR	01	DRVR	INJC	17 F OR-Y OR<25	000	000	00	00			
05408	N N N N N 12/13/2017	MARION	1	14		INTER	CROSS	N	N CLR	O-1 L-TURN	01	NONE	9	TURN-L					
CITY	N Wed 12P	WOODBURN	MN	0	EVERGREEN RD	CN		FLASHBCN-A	N DRY	TURN		N/A	E S		000	087			
		WOODBURN UA	37.02	HILLSBORO-SILV HY	03	3		N DAY	PDO		PSNGR	CAR	01	DRVR	NONE	00 U UNK UNK	000	000	00
No	45 9 3.52 -122 52 32.54		014000100S00		1														
							02	NONE	9	STRGHT					000	00			
							N/A	W E							000	00			
							PSNGR	CAR	01	DRVR	NONE	00 U UNK UNK	000	000	000	00			

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Evergreen Rd
January 1, 2015 through December 31, 2019

Table with columns: SER#, INVEST, UNLOC?, E A / C O DATE, COUNTY, RD#, FC, CONN #, INT-TYP, RD CHAR, INT-REL, OFFRD, WTHR, CRASH TYP, SPC L USE, MOVE, PRTC, INJ, A S, G E, LICNS, PED, LOC, ERROR, ACTN, EVENT, CAUSE. Contains multiple rows of crash data for various locations like WOODBURN and MARION.

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 CONTINUOUS SYSTEM CRASH LISTING

140 HILLSBORO-SILVERTON

Intersectional Crashes at OR-219, Hillsboro-Silverton Hwy (#140) & Evergreen Rd
 January 1, 2015 through December 31, 2019

SER#	E A / C O DATE	COUNTY	RD# FC CONN #	INT-TYP	SPCL USE	MOVE	A S	ACTN EVENT	CAUSE
INVEST	E L M H R DAY/TIME	CITY	RD CHAR (MEDIAN)	INT-REL	TRLR QTY	FROM	G E LICNS PED		
UNLOC?	D C J L K LAT/LONG	URBAN AREA	MILEPNT SECOND STREET	LEGS TRAF-	OWNER	TO	LOC ERROR		
			LRS INTERSECTION SEQ#	RNDT SURF COLL TYP	V# VEH TYPE	P# TYPE SVRTY			
03230	N N N N N 08/24/2019	MARION	1 14	INTER	01 NONE	0 STRGHT			02
CITY	N Sat 6A	WOODBURN	MN 0 EVERGREEN RD	CN	PRVTE	W E		000	00
		WOODBURN UA	37.02 HILLSBORO-SILV HY	03	PSNGR CAR	01 DRVR INJB	44 M OTH-Y	000	000
No	45 9 3.55 -122 52 32.56		014000100S00	1			OR<25		00
						02 PSNG INJB	56 M	000	000
						03 PSNG INJB	08 M	000	000
					02 NONE	0 TURN-L			00
					PRVTE	E S			00
					PSNGR CAR	01 DRVR INJB	61 M OR-Y	028,004	000
							OR<25		02
03455	N N N N N 09/09/2019	MARION	1 14	INTER	01 NONE	0 TURN-L			02
CITY	N Mon 7A	WOODBURN	MN 0 EVERGREEN RD	CN	PRVTE	E S		000	00
		WOODBURN UA	37.02 HILLSBORO-SILV HY	03	PSNGR CAR	01 DRVR NONE	19 M OR-Y	028,004	000
No	45 9 3.53 -122 52 32.54		014000100S00	1			OR<25		02
					02 NONE	0 STRGHT			00
					PRVTE	W E			00
					PSNGR CAR	01 DRVR INJC	53 M OR-Y	000	000
							OR>25		00

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

OREGON WAY at HILLSBORO-SILV HY, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

21 - 22 of 22 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A	S	G	E	LICNS	PED	ACT	EVENT	CAUSE				
INVEST	E	A	U	I	C	O	DIST	FIRST STREET	DIRECT	(MEDIAN)	TRAF-	RNDBT	SURF	COLL	TRLR QTY	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ACT	EVENT	CAUSE			
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
UNLOC?	D	C	S	V	L	K	LONG	LRS																					
															02	NONE	9	TURN-L											
															N/A		E	-S								000		00	
															PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK		000		00	
05074	N	N	N	N	N	12/18/2019	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	CLD	S-1TURN	01	NONE	9	TURN-R							115		27,08		
CITY						WE		OREGON WAY	CN		TRF SIGNAL	N	WET	TURN	N/A		W	-S							000		00		
N						4P			03	0		N	DUSK	PDO	PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000		000	00	
N						45 9 3.38	-122 52 23.92	014000100S00																					
															02	NONE	9	STRGHT											
															N/A		W	-E								000		00	
															PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK		000		000	00

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

SETTLEMIER AVE at HILLSBORO-SILV HY, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

5 - 5 of 5 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	TRLR QTY	MOVE	A	S	G	E	LICNS	PED	ACT	EVENT	CAUSE						
INVEST	E	A	U	I	C	O	DIST	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	LOC	ERROR								
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
UNLOC?	D	C	S	V	L	K	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE
												02	NONE	9	TURN-L													
													N/A		E -S											000		00
													PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK			000		000	00

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

PACIFIC HY 99E at HILLSBORO-SILV HY, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

1 - 4 of 22 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	A	S																	
INVEST	E	A	U	I	C	O	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE												
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED							
UNLOC?	D	C	S	V	L	K	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
02858	N	N	N			07/24/2015	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	0	STRGHT											
NONE						FR		PACIFIC HY 99E	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00	
N						UNK			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	51	F	OR-Y		026	000		29	
N						45 9 4.66	-122 49	008100100S00																					
						52.38																							
															02	NONE	0	STOP											
																PRVTE	NE-SW									011		00	
																PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		000	000		00	
03475	N	Y	N	N	N	09/11/2015	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	0	STRGHT										013	07
CITY						FR		PACIFIC HY 99E	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00	
N						8P			06	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	67	M	OR-Y		043,026	000		07	
N						45 9 4.66	-122 49	008100100S00																					
						52.38																							
															02	NONE	0	STOP											
																PRVTE	NE-SW										011	013	00
																PSNGR CAR		01	DRVR	NONE	27	F	OR-Y		000	022		00	
															02	NONE	0	STOP									011	013	00
																PRVTE	NE-SW									000	000		00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000		00	
															03	UNKN	0	STOP									011		00
																UNKN	NE-SW									000	000		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	
04475	N	N	N	N	N	10/12/2016	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	0	STRGHT											
CITY						WE		PACIFIC HY 99E	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00	
N						10A			06	0		N	DAY	INJ		TRUCK		01	DRVR	NONE	57	M	OR-Y		026	000		29	
N						45 9 4.66	-122 49	008100100S00																					
						52.38																							
															02	NONE	0	STOP											
																PRVTE	NE-SW										011		00
																PSNGR CAR		01	DRVR	INJC	40	M	OR-Y		000	000		00	
00417	N	N	N	N	N	01/29/2016	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE	9	STRGHT											
CITY						FR		PACIFIC HY 99E	NE		TRF SIGNAL	N	WET	REAR		N/A	NE-SW									000		00	
N						5P			06	0		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	
N						45 9 4.66	-122 49	008100100S00																					
						52.38																							
															02	NONE	9	STOP											
																N/A	NE-SW										011		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

PACIFIC HY 99E at HILLSBORO-SILV HY, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

9 - 13 of 22 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY	STREET	RD	CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	TRLR	QTY	MOVE	AS								
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST	RD	CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE	AS									
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND	STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM											
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO											
05183	N	N	N	N	N	N	12/23/2015	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	RAIN	O-1STOP	01	NONE	0	BACK										
CITY				WE					PACIFIC HY 99E	W			TRF SIGNAL	N	WET	BACK		PRVTE	E	-	W								
N			1P							06	1		N	DAY	INJ		PSNGR	CAR			01	DRVR	NONE	58	M	OR-Y	011	000	10
N			45 9 4.66	-122 49	014000100S00	52.38																							

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

STACY ALLISON WAY at EVERGREEN RD, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

5 - 8 of 8 Crash records shown.

SER#	INVEST	RD DPT	UNLOC?	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	TRLR QTY	MOVE	A S	G E	LICNS	PED	ERROR	ACT	EVENT	CAUSE
RD	DPT	E L G N H R TIME	FROM	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G E	LICNS	PED	ERROR	ACT	EVENT	CAUSE	
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE		
00547	N N N	N N	02/07/2016	17	EVERGREEN RD	INTER	3-LEG	N	N	N	CLR	ANGL-OTH	01 NONE	9	TURN-L							02	
	CITY	SU	0		STACY ALLISON WAY	CN		STOP SIGN	N	DRY	TURN	N/A		W -N							000	00	
N	N	5P		03	0				N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00	
N		45 8 56.05	-122 52 32.61										02 NONE	9	STRGHT								
												N/A		N -S							000	00	
												PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00	
01192	N N N		04/08/2018	17	EVERGREEN RD	INTER	3-LEG	N	N	N	CLR	ANGL-OTH	01 NONE	9	STRGHT							04	
	NONE	SU	0		STACY ALLISON WAY	CN		TRF SIGNAL	N	DRY	TURN	N/A		N -S								000	00
N	N	2P		03	0				N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00	
N		45 8 56.05	-122 52 32.61										02 NONE	9	STRGHT								
												N/A		W -N							000	00	
												PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00	
01829	N N N		05/15/2019	17	EVERGREEN RD	INTER	3-LEG	N	N	N	CLR	ANGL-OTH	01 UNKN	0	TURN-L							02	
	NONE	WE	0		STACY ALLISON WAY	CN		STOP SIGN	N	UNK	TURN	UNKN		W -N								000	00
N	N	9P		04	0				N	DLIT	INJ	UNKNOWN		01 DRVR	NONE	00	M	UNK		028	000	02	
N		45 8 56.06	-122 52 32.61										02 NONE	0	STRGHT								
												PRVTE		S -N							000	00	
												PSNGR CAR		01 DRVR	INJC	40	F	OR-Y		000	000	00	
																						OR<25	
02380	N N N		06/24/2019	17	EVERGREEN RD	INTER	3-LEG	N	N	N	CLR	ANGL-OTH	01 NONE	0	TURN-L							02	
	CITY	MO	0		STACY ALLISON WAY	CN		STOP SIGN	N	DRY	TURN	PRVTE		W -N								000	00
N	N	4P		03	0				N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	40	M	SUSP		028	000	02	
N		45 8 56.07	-122 52 32.62										02 NONE	0	STRGHT								
												PRVTE		N -S							000	00	
												PSNGR CAR		01 DRVR	INJB	50	M	OR-Y		000	000	00	
																						OR<25	

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HAYES ST at EVERGREEN RD, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

1 - 2 of 2 Crash records shown.

SER#	S	D	M	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE																		
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE														
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED								
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
04862	N	N	N				12/18/2018	19	EVERGREEN RD	INTER	CROSS	N	Y	RAIN	FIX OBJ	01	NONE	9	TURN-R									059	08		
CITY							TU	0	HAYES ST	W		STOP SIGN	N	WET	FIX	N/A	N	-W									000	00			
N							9P			05	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00			
N							45 8 50.61	-122 52 32.71																							
03372	N	N	N	N	N	N	08/19/2017	17	EVERGREEN RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	0	STRGHT								083	03			
CITY							SA	0	HAYES ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE		W	-E						000	00				
N							8P			04	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y		000	000	00			
N							45 8 50.61	-122 52 32.71																							
																	01	NONE	0	STRGHT											
																	PRVTE		W	-E						000	000	00			
																	PSNGR CAR		02	PSNG	INJC	41	F			000	000	00			
																	02	NONE	1	STRGHT											
																	PRVTE		S	-N						000	000	00			
																	SEMI TOW		01	DRVR	NONE	32	M	OTH-Y		021	000	083	03		

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

SETTLEMIER AVE and PARR ST, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

1 - 3 of 4 Crash records shown.

SER#	S D M			DATE	CLASS	CITY STREET		INT-TYPE			SPCL USE			A S																												
	P	R	J			FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE																											
INVEST	E	A	U	I	C	O	DAY	DIST																																		
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM																									
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO			P#	TYPE	SVRTY																			
01296	N	N	N	N	N	N	04/10/2015	16	PARR ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	0	TURN-R																		093	27,02				
CITY						FR		0	SETTLEMIER AVE	CN			STOP SIGN	N	DRY	TURN	PRVTE	W	-SW																	000	00					
N						7A				03	0			N	DAY	INJ	PSNGR	CAR			01	DRVR	NONE	21	F	OR-Y		016,028		038	093							27,02				
N						45 8 9.25	-122 51	54.35																																		
																01	NONE	0	TURN-R																							
																	PRVTE	W	-SW																			000	00			
																02	PSNG	NO<5	01	M							000											000	00			
																02	NONE	0	STRGHT																				000	00		
																	PRVTE	NE	-SW																				000	00		
																01	DRVR	NONE	32	M	OR-Y					000													000	00		
																02	NONE	0	STRGHT																					000	00	
																	PRVTE	NE	-SW																					000	00	
																02	PSNG	INJC	32	F						000													000	00		
01042	N	N	N	N	N	N	03/12/2016	16	PARR ST	INTER	CROSS	N	N	RAIN	S-OTHER	01	NONE	9	TURN-R																				08			
CITY						SA		0	SETTLEMIER AVE	CN			TRF SIGNAL	N	WET	TURN	N/A		SW-E																				000	00		
N						9A				04	0			N	DAY	PDO	PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000												000	00		
N						45 8 9.25	-122 51	54.35																																		
																	02	NONE	9	TURN-R																						
																	N/A		SW-E																					000	00	
																	PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000													000	00	
01281	Y	N	N				04/15/2018	16	PARR ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE	0	STRGHT																						03,01	
NO RPT						SU		0	SETTLEMIER AVE	CN			STOP SIGN	N	WET	TURN	PRVTE		SW-NE																					000	00	
N						11A				02	0			N	DAY	INJ	PSNGR	CAR			01	DRVR	NONE	17	M	OR-Y		047,021													03,01	
N						45 8 9.25	-122 51	54.35																																		
																	02	NONE	0	TURN-L																					000	00
																	PRVTE	E	-SW																					000	00	
																	01	DRVR	INJC	64	M	OR-Y				000															000	00
																	02	NONE	0	TURN-L																					000	00
																	PRVTE	E	-SW																						000	00
																	02	PSNG	INJC	56	F					000															000	00
																	02	NONE	0	TURN-L																					000	00
																	PRVTE	E	-SW																						000	00
																	03	PSNG	INJC	14	M					000														000	00	
																	02	NONE	0	TURN-L																					000	00
																	PRVTE	E	-SW																						000	00
																	04	PSNG	INJC	17	M					000															000	00

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CITY OF WOODBURN, MARION COUNTY

PARR ST at BOONES FERRY RD, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

1 - 2 of 2 Crash records shown.

SER#	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE																		
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE												
RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM												
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V# TYPE	TO												
03684	N Y N 09/30/2018	16	S BOONES FERRY RD	INTER	CROSS	N	N	CLR	ANGL-STP	01 NONE 9	TURN-R												
CITY	SU	0	PARR ST	S		L-GRN-SIG	N	DRY	TURN	N/A	W -S										000	00	
N	4P			06	0		N	DAY	PDO	PSNGR CAR			01 DRVR	NONE	00	Unk UNK					000	000	00
N	45 8 9.26	-122 51														UNK							
		54.35																					
										02 NONE 9	STRGHT												
										N/A	S -N											012	00
										PSNGR CAR			01 DRVR	NONE	00	Unk UNK					000	000	00
																UNK							
01409	N N N 04/15/2019	16	S BOONES FERRY RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01 UNKN 0	STRGHT												02
NONE	MO	0	PARR ST	CN		FLASHBCN-R	N	DRY	ANGL	UNKN	W -E											000	00
N	7A			03	0		N	DAY	INJ	UNKNOWN			01 DRVR	NONE	00	Unk UNK					000	000	00
N	45 8 9.27	-122 51														UNK							
		54.35																					
										02 NONE 0	STRGHT												
										PRVTE	N -S											000	00
										PSNGR CAR			01 DRVR	INJC	27	F OR-Y					000	000	00
																OR<25							

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

PARR ST at FRONT ST, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

1 - 1 of 1 Crash records shown.

SER#	S	D	M	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE																					
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	A	S															
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED											
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE					
05309	Y	N	N				10/09/2015	16	FRONT ST	INTER	2-LEG	N	Y	CLR	FIX OBJ	01	NONE	0	STRGHT														040,121	01
NO RPT							FR	0	PARR ST	W		UNKNOWN	N	DRY	FIX		PRVTE	SW-NE														000	040,121	00
N							6P			05	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y		047,039,081	000						01	
N							45 8 9.89	-122 51																										
								51.79																										

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING
STUBB RD and PARR ST, City of Woodburn, Marion County, 01/01/2015 to 12/31/2019

1 - 1 of 1 Crash records shown.

SER#	S D M		DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A S	PRTC	INJ	G E	LICNS	PED	ERROR	ACT	EVENT	CAUSE	
	P	R J S																					
INVEST	E A U I C O DAY			DIST	FIRST STREET		(MEDIAN)	INT-REL			TRLR QTY												
RD DPT	E L G N H R TIME			FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM										
UNLOC?	D C S V L K LAT			LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E X	RES	LOC			
02722	Y Y N	N N	07/20/2019	19	NE STUBB RD	STRGHT		N	Y	CLR	FIX OBJ	01	NONE	0							053,121	01	
COUNTY					NE PARR ST	N	(NONE)	UNKNOWN	N	DRY	FIX NO		PRVTE	UN-UN							000	053,121	00
Y			9P			08			N	DARK	INJ		PSNGR CAR		01	DRVR	INJC	24	M	OR-Y	047,081	000	01
N			45 8 16.07	-122 52 45.28			(02)																

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Crash Rates 2015 - 2019

Intersection	Number of Crashes	Volume		Crash Rate
		PM Peak Hour	ADT	
OR 219/Butteville Rd	7	993	10,100	0.38
OR 219/Woodland Ave	7	1,564	16,000	0.24
OR 219/I-5 Southbound	33	2,819	28,800	0.63
OR 214/I-5 Northbound	35	2,968	30,300	0.63
OR 214/Evergreen Rd (User Defined)	64	2,624	26,800	1.31
OR 214/Oregon Way	29	2,226	22,700	0.70
OR 214/Settlemier Ave (User Defined)	9	2,467	25,200	0.20
OR 214/99 E (User Defined)	22	3,017	30,800	0.39
Evergreen Rd/Stacy Allison Way	8	864	8,800	0.50
Evergreen Rd/Hayes St	2	958	9,800	0.11
Settlemier Ave/Hayes St	2	1,125	11,500	0.10
Evergreen Rd/Hooper St (Based on Settlemier/Hayes Volumes)	0	53	500	0.00
Settlemier Avenue/Boones Ferry Road/Parr Road	7	807	8,200	0.47
Parr Rd/Stubb Rd	0	159	1,600	0.00
Butteville Rd/Parr Rd	8	477	4,900	0.89
Count Location			k-factor	
Evergreen Rd - South of OR 214			0.098	

ADT was calculated using the 0.098 K-factor and the turning movement counts provided in appendix D.



2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
001 Pacific															
I-5	1	233.91	234.07	0.16	53,000	18	0	1	2	15	Albany	Linn		95	62.92
I-5	1	234.91	235.05	0.14	67,700	11	0	1	1	9		Linn		85	47.37
I-5	1	238.91	239.08	0.17	65,600	18	0	0	5	13		Linn		85	47.36
I-5	1	242.97	243.08	0.11	65,900	12	1	0	2	9		Marion		90	49.63
009 Oregon Coast															
US-101	1	6.47	6.59	0.12	14,000	15	0	1	3	11	Warrenton	Clatsop		90	57.20
US-101	1	6.54	6.65	0.11	14,000	12	0	1	2	9	Warrenton	Clatsop		90	54.73
US-101	1	6.82	6.91	0.09	14,000	14	0	0	3	11	Warrenton	Clatsop	NEPTUNE AVE.	85	44.63
US-101	1	6.98	7.16	0.18	14,400	14	0	1	3	10	Warrenton	Clatsop	LEG (TO HAYES OYSTER DR.)	90	57.15
US-101	1	19.55	19.64	0.09	19,600	3	1	1	1	0	Seaside	Clatsop		85	43.48
US-101	1	19.59	19.71	0.12	19,033	6	1	1	1	3	Seaside	Clatsop	LEWIS AND CLARK RD.	90	52.82
US-101	1	21.02	21.20	0.18	16,000	14	1	1	2	10	Seaside	Clatsop	BROADWAY	95	69.05
US-101	1	63.94	64.08	0.14	14,100	8	0	1	2	5		Tillamook	LATIMER RD.	85	44.56
US-101	1	64.50	64.65	0.15	17,400	8	1	0	4	3	Tillamook	Tillamook	WILSON RIVER LOOP RD.	85	44.10
US-101	1	65.70	65.88	0.18	7,988	11	0	2	3	6	Tillamook	Tillamook	FOURTH ST.	90	59.99
US-101	1	103.86	104.03	0.17	4,100	6	0	1	1	4		Lincoln	N THREE ROCKS RD.	85	45.49
US-101	1	112.27	112.44	0.17	15,933	6	0	2	1	3	Lincoln City	Lincoln	DEVILS LAKE GOLF CLUB RD.	90	53.30
US-101	1	113.55	113.64	0.09	20,000	8	1	0	1	6	Lincoln City	Lincoln	NW 26TH ST.	85	43.02
US-101	1	113.58	113.66	0.08	20,000	8	1	0	1	6	Lincoln City	Lincoln	NW 26TH ST.	85	43.02
US-101	1	113.71	113.89	0.18	20,300	10	0	2	2	6	Lincoln City	Lincoln	NW 22ND ST.	90	60.58
US-101	1	121.54	121.72	0.18	10,400	8	0	2	2	4		Lincoln	GLENEDEN BEACH LP.	90	60.68
US-101	1	139.45	139.56	0.11	25,700	16	0	0	7	9	Newport	Lincoln	NW 16TH ST.	85	46.20
US-101	1	139.70	139.83	0.13	25,700	12	0	1	4	7	Newport	Lincoln	NW 12TH ST.	90	52.05

**Crash data shown in the SPIS group report results from the summation of crash data between the begin and end mile points of the Group.
 **ADT, SPIS Score, and Percent data shown in the SPIS group report are the highest values from all sites within the Group.



2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-101	1	139.77	139.86	0.09	25,700	9	0	1	4	4	Newport	Lincoln	NE 11TH ST.	85	44.81
US-101	1	141.11	141.24	0.13	17,111	8	0	1	1	6	Newport	Lincoln	SW BAYLEY ST.	85	43.58
US-101	1	190.68	190.79	0.11	9,900	3	1	1	0	1	Florence	Lane	2ND ST.	85	44.85

015 McKenzie

OR-126B	2	2.44	2.53	0.09	10,288	13	0	0	3	10	Springfield	Lane	14TH ST.	85	44.04
OR-126B	2	2.46	2.55	0.09	10,133	13	0	0	4	9	Springfield	Lane	14TH ST.	85	44.14
OR-126B	1	3.34	3.55	0.21	19,200	18	0	2	7	9	Springfield	Lane	LEG (TO S 28TH ST.)	95	70.98
OR-126B	1	3.54	3.63	0.09	19,000	14	0	0	3	11	Springfield	Lane		85	43.01
OR-126B	1	3.65	3.82	0.17	21,000	10	1	1	1	7	Springfield	Lane	S 32ND ST.	90	60.80
OR-126B	1	4.53	4.70	0.17	22,800	28	0	0	7	21	Springfield	Lane	42ND ST.	90	60.08
OR-126B	1	5.94	6.12	0.18	16,700	12	1	0	3	8	Springfield	Lane	N 54TH ST.	90	51.38
OR-126	1	6.34	6.50	0.16	25,900	20	0	1	8	11	Springfield	Lane	S 58TH ST.	90	61.16
OR-126	1	11.22	11.41	0.19	10,066	11	1	0	5	5		Lane	LEG (TO DEERHORN RD.)	90	54.20

016 Santiam

US-20	1	0.09	0.24	0.15	17,100	17	0	0	2	15	Albany	Linn	BURKHART ST. SE	85	46.21
US-20	1	0.19	0.40	0.21	20,100	41	0	0	11	30	Albany	Linn	COLUMBUS ST. SE	95	77.93
US-20	1	0.40	0.57	0.17	20,100	16	0	1	1	14	Albany	Linn	FULTON ST. SE	90	60.18
US-20	1	0.51	0.70	0.19	19,500	18	0	1	3	14	Albany	Linn	ROAD	95	62.51
US-20	1	3.38	3.48	0.10	9,100	3	0	2	0	1		Linn	EICHER RD.	85	45.07
US-20	1	6.47	6.57	0.10	9,655	7	0	1	4	2		Linn	LEG (TO KNOX BUTTE RD.)	85	43.14
US-20	1	6.51	6.63	0.12	8,388	7	0	1	3	3		Linn	LEG (TO HWY. 211)	85	44.73
US-20	1	13.70	13.84	0.14	16,600	10	0	1	0	9	Lebanon	Linn	MILTON ST.	85	46.31
US-20	1	14.75	14.87	0.12	21,266	15	0	0	4	11	Lebanon	Linn	MARKET ST.	85	44.80
US-20	1	24.99	25.09	0.10	11,400	3	0	2	1	0		Linn		85	44.49

**Crash data shown in the SPIS group report results from the summation of crash data between the begin and end mile points of the Group.
 **ADT, SPIS Score, and Percent data shown in the SPIS group report are the highest values from all sites within the Group.



2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-20	1	34.53	34.70	0.17	1,600	3	2	0	0	1		Linn		90	53.90
US-20	1	74.80	74.99	0.19	5,100	3	1	1	0	1		Linn	ROAD (SANTIAM AIRSTRIP)	90	51.07
US-20	1	75.46	75.59	0.13	5,100	3	1	1	0	1		Linn		85	47.08
US-20	1	79.91	80.08	0.17	5,100	11	0	2	2	7		Linn	BIG LAKE RD.	95	73.80

018 Willamette

OR-58	1	0.24	0.35	0.11	15,100	3	0	2	0	1		Lane	001KY CONN. M.P. IC188.30	85	43.91
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030 Willamina-Salem

OR-22	1	0.00	0.09	0.09	8,600	7	0	2	3	2		Polk		90	58.71
OR-22	1	8.50	8.61	0.11	9,900	3	0	2	1	0		Polk	STARR RD.	85	44.85
OR-22	1	11.70	11.88	0.18	10,600	13	0	2	4	7		Polk	LEG (TO PERRYDALE RD.)	95	71.80
OR-22	1	12.63	12.81	0.18	10,600	19	0	4	8	7		Polk	LEG (FROM 030AB FRONTAGE RD.)	95	77.18
OR-22	1	20.29	20.47	0.18	36,500	9	1	3	4	1		Polk		95	64.58
OR-22	1	24.02	24.14	0.12	34,244	10	0	1	3	6	Salem	Polk	ROSEWOOD DR. NW	85	46.48
OR-22	1	24.93	25.04	0.11	47,300	9	1	1	3	4	Salem	Polk		90	56.00
OR-22	1	25.02	25.10	0.08	47,300	4	1	1	2	0	Salem	Polk		85	45.58
OR-22	1	26.01	26.13	0.12	47,500	43	0	1	8	34	Salem	Marion		95	74.32
OR-22	2	26.09	26.18	0.09	47,300	24	0	0	3	21	Salem	Marion		90	60.61

031 Albany-Corvallis

US-20	1	2.14	2.30	0.16	10,066	7	1	0	1	5		Benton	NE CIRCLE BLVD.	85	44.35
US-20	1	2.83	3.02	0.19	13,300	12	1	2	2	7		Benton	NE CONIFER BLVD.	95	68.47
US-20	1	5.54	5.72	0.18	15,400	22	0	2	13	7		Benton	NE GRANGER AVE.	95	76.57
US-20	2	10.52	10.63	0.11	14,966	17	0	0	2	15	Albany	Linn	1ST AVE.	90	49.45

032 Three Rivers

OR-22	1	11.42	11.59	0.17	1,700	3	0	2	1	0		Yamhill		90	53.45
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2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-22	1	23.72	23.89	0.17	2,100	4	0	2	2	0		Yamhill		90	56.80

033 Corvallis-Newport

US-20	1	50.97	51.10	0.13	17,700	8	0	1	1	6	Philomath	Benton	N 18TH ST.	85	44.23
US-20	1	54.60	54.69	0.09	17,233	14	0	0	1	13	Corvallis	Benton	SW 35TH ST.	85	43.50

037 Wilson River

OR-6	1	25.06	25.22	0.16	4,700	2	1	1	0	0		Tillamook	TRAIL	85	42.76
OR-6	1	33.86	33.98	0.12	4,700	3	0	2	1	0		Washington		85	47.43
OR-6	1	37.38	37.55	0.17	5,500	5	1	1	1	2		Washington		90	50.81

039 Salmon River

OR-18	1	1.60	1.73	0.13	9,733	3	1	1	0	1		Lincoln	ROAD	85	44.92
OR-18	1	31.57	31.76	0.19	7,800	4	1	1	2	0		Yamhill	RED PRAIRIE RD.	90	49.30
OR-18	1	46.60	46.76	0.16	21,188	11	0	1	2	8	McMinnville	Yamhill		90	51.10
OR-18	1	48.50	48.68	0.18	20,700	20	0	4	8	8	McMinnville	Yamhill	LOOP RD.	95	73.72
OR-18	1	49.84	50.00	0.16	16,011	17	0	2	5	10		Yamhill	BEAR CREEK RD.	95	71.95

047 Sunset

US-26	1	28.55	28.74	0.19	6,800	8	0	3	1	4		Clatsop	LEG (FROM 047AB CONN.)	95	66.80
US-26	1	46.26	46.36	0.10	12,200	3	0	2	1	0		Washington		85	44.35

058 Albany-Junction City

OR-99E	1	0.35	0.52	0.17	23,700	17	0	0	4	13	Albany	Linn	LEG (TO ALBANY AVE. SE)	85	44.62
OR-99E	1	0.56	0.72	0.16	23,700	10	0	1	2	7	Albany	Linn	SE KILLDEER AVE	85	47.53
OR-99E	1	1.33	1.52	0.19	18,800	22	0	0	3	19	Albany	Linn	CHICAGO ST.	90	61.03
OR-99E	2	1.41	1.54	0.13	11,800	13	0	0	5	8	Albany	Linn	HWY. 016 M.P. -0.03	85	43.19
US-20	1	1.65	1.80	0.15	18,900	24	0	0	3	21	Albany	Linn	OAK ST. SE	90	58.83
US-20	1	1.73	1.83	0.10	18,744	15	0	0	0	15	Albany	Linn	SHERMAN ST. SE	85	45.41

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2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-20	1	1.77	1.95	0.18	18,433	19	0	1	7	11	Albany	Linn	MAIN ST.	95	62.80
US-20	2	1.82	1.96	0.14	18,233	17	0	0	4	13	Albany	Linn	MAIN ST. SE	85	47.96
OR-99E	1	3.01	3.09	0.08	19,800	14	0	0	2	12	Albany	Linn	W QUEEN AVE.	85	42.82
OR-99E	1	3.93	4.11	0.18	18,933	10	0	1	2	7	Albany	Linn	LINGO LN.	85	48.59
OR-99E	1	21.30	21.48	0.18	3,900	8	0	2	2	4		Linn	LAKE CREEK DR.	95	67.61

062 Florence-Eugene

OR-126	1	25.91	26.07	0.16	4,200	2	1	1	0	0		Lane		85	43.15
OR-126	1	47.75	47.89	0.14	11,077	7	0	2	5	0	Veneta	Lane	HUSTON RD.	90	57.84

069 Beltline

OR-126	1	1.19	1.37	0.18	17,800	19	0	1	9	9		Lane	LEG (FROM GREENHILL RD.)	95	68.08
OR-126	1	2.75	2.92	0.17	20,300	16	1	1	4	10	Eugene	Lane	S DANEBO AVE.	95	70.02
OR-126	1	3.04	3.22	0.18	19,366	19	0	1	5	13	Eugene	Lane	W 11TH AVE.	95	65.37
OR-569	1	4.16	4.33	0.17	27,600	17	0	0	7	10	Eugene	Lane	ROOSEVELT BLVD.	90	49.42
OR-569	1	7.02	7.18	0.16	57,433	22	0	0	6	16		Lane		90	55.93
OR-569	1	8.34	8.44	0.10	58,900	18	0	0	2	16	Eugene	Lane		85	47.63
OR-569	1	8.41	8.53	0.12	79,511	11	0	1	2	8	Eugene	Lane		85	45.02
OR-569	1	9.43	9.60	0.17	85,400	13	0	2	5	6	Eugene	Lane		95	64.72
OR-569	1	9.83	9.92	0.09	85,400	10	0	1	2	7	Eugene	Lane		85	44.84
OR-569	1	9.87	9.96	0.09	85,400	12	0	1	1	10	Eugene	Lane		90	49.23
OR-569	1	9.92	10.03	0.11	85,400	16	0	1	6	9	Eugene	Lane		90	53.51
OR-569	1	11.60	11.69	0.09	56,822	9	0	1	1	7	Eugene	Lane		85	43.10
OR-569	1	12.55	12.73	0.18	54,100	14	0	2	5	7	Eugene	Lane		95	65.82
OR-569	1	12.91	13.00	0.09	34,900	25	0	1	4	20	Springfield	Lane	LEG (TO GATEWAY ST.)	95	72.28

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2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
072 Salem															
OR-99EB	1	1.45	1.64	0.19	28,100	27	0	1	4	22	Salem	Marion	LEG (TO VERDA LN. NE)	95	72.73
OR-99EB	1	2.54	2.64	0.10	29,977	11	1	0	1	9	Salem	Marion	LEG (TO CHERRY AVE. NE)	90	49.28
OR-99EB	1	3.07	3.25	0.18	23,588	19	0	1	7	11	Salem	Marion	LEG (TO BRDWDY ST. NE)	95	64.09
OR-99EB	1	4.21	4.31	0.10	17,000	9	0	1	2	6	Salem	Marion	HOOD ST. NE	85	46.21
OR-99EB	1	4.78	4.86	0.08	19,855	14	0	0	4	10	Salem	Marion	LEG (FROM HWY. 072 DECREASING RDWY)	85	42.80
OR-22	2	5.33	5.48	0.15	22,100	20	0	1	7	12	Salem	Marion	LEG (TO HWY 072 INCREASING RDWY)	95	66.45
OR-22	1	5.42	5.60	0.18	11,600	28	0	0	5	23	Salem	Marion	COMMERCIAL ST.	95	70.98
OR-22	1	6.68	6.87	0.19	37,200	27	0	0	6	21	Salem	Marion	17TH ST. SE	95	63.79
OR-22	1	6.89	7.05	0.16	35,600	10	1	1	0	8	Salem	Marion	HINES ST. SE	90	58.97
OR-22	1	7.08	7.16	0.08	35,488	16	0	0	5	11	Salem	Marion	21ST ST. SE	85	44.93
OR-22	1	7.11	7.29	0.18	35,322	17	1	1	3	12	Salem	Marion	22ND ST. SE	90	57.76
OR-22	1	7.44	7.62	0.18	48,200	26	0	2	4	20	Salem	Marion	25TH ST. SE	95	71.06
OR-22	1	7.83	8.02	0.19	48,600	30	0	0	5	25	Salem	Marion	LEG (FROM AIRPORT RD.)	90	56.48
OR-22	1	8.17	8.35	0.18	52,000	40	0	2	4	34	Salem	Marion	HAWTHORNE AVE.	95	72.91
OR-22	1	8.28	8.37	0.09	52,000	17	0	0	1	16	Salem	Marion		85	45.88
081 Pacific Highway East															
OR-99E	1	28.94	29.05	0.11	16,400	10	0	1	2	7	Hubbard	Marion	PARKWAY BLVD.	85	48.94
OR-99E	1	29.18	29.29	0.11	16,400	9	0	1	2	6	Hubbard	Marion	D ST.	85	46.40
OR-99E	1	31.78	31.89	0.11	19,600	3	1	1	1	0	Woodburn	Marion	MT. JEFFERSON AVE.	85	43.48
OR-99E	1	32.76	32.97	0.21	19,700	34	0	2	10	22	Woodburn	Marion	TOMLIN AVE.	95	73.58
OR-99E	1	32.90	33.06	0.16	14,700	19	0	1	6	12	Woodburn	Marion	SILVERTON AVE.	95	66.40
OR-99E	1	42.73	42.87	0.14	10,900	5	0	2	1	2		Marion	NE PERKINS ST.	90	51.47
OR-99E	1	45.16	45.34	0.18	16,800	18	0	3	8	7	Salem	Marion	NE LANCASTER DR.	95	74.80

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2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-99E	1	45.81	45.89	0.08	18,400	8	0	1	0	7	Salem	Marion	ASTORIA ST.	85	43.30
OR-99E	1	45.84	45.92	0.08	21,700	8	0	1	0	7	Salem	Marion	ASTORIA ST.	85	42.77
OR-99E	1	45.87	45.98	0.11	28,300	8	1	1	0	6	Salem	Marion	ASTORIA ST.	90	57.36
	1	46.37	46.49	0.12	28,300	36	0	3	11	22	Salem	Marion	HYACINTH ST.	95	77.26

091 Pacific Highway West

OR-99W	1	25.64	25.77	0.13	28,600	15	0	0	0	15	Dundee	Yamhill	SE 3RD ST.	85	43.52
OR-99W	1	25.83	25.94	0.11	25,300	11	0	1	2	8	Dundee	Yamhill	SW 5TH ST.	90	49.73
OR-99W	1	26.97	27.09	0.12	23,800	8	0	2	1	5		Yamhill		90	57.50
OR-99W	1	31.37	31.48	0.11	9,800	3	1	1	0	1		Yamhill	LOCKS LOOP RD.	85	44.88
OR-99W	1	33.99	34.09	0.10	17,488	5	2	0	1	2		Yamhill	ST. JOSEPH RD.	90	50.08
OR-99W	1	36.33	36.44	0.11	22,000	14	0	1	1	12	McMinnville	Yamhill	NE MCDONALD LN.	90	57.33
OR-99W	1	36.61	36.82	0.21	22,500	26	0	1	5	20	McMinnville	Yamhill	LEG (TO BAKER CREEK RD.)	95	74.34
OR-99W	2	37.66	37.84	0.18	13,144	23	0	0	5	18	McMinnville	Yamhill	THIRD ST.	90	59.19
OR-99W	1	38.90	39.04	0.14	20,000	14	0	0	5	9	McMinnville	Yamhill	039AK CONN. (2ND RT.) M.P. 1C44.48	85	42.77
OR-99W	1	39.90	40.03	0.13	11,300	8	1	0	0	7		Yamhill	DURHAM LN.	85	45.28
OR-99W	1	49.63	49.81	0.18	4,800	11	0	2	4	5		Polk	BETHEL RD.	95	74.29
OR-99W	1	59.94	60.12	0.18	14,400	17	1	0	9	7		Polk	CLOW CORNER RD.	95	66.53
OR-99W	1	62.29	62.40	0.11	12,922	14	0	0	4	10		Polk	HOFFMAN RD.	85	45.30
OR-99W	1	79.69	79.85	0.16	14,522	8	0	1	2	5		Benton	NE ELLIOTT CIR.	85	44.50
OR-99W	1	81.12	81.22	0.10	14,766	8	0	1	0	7	Corvallis	Benton	NE CONIFER BLVD.	85	44.12
OR-99W	1	81.67	81.85	0.18	20,800	13	0	1	4	8	Corvallis	Benton	CIRCLE BLVD. (CIRCLE AVE.)	90	56.11
OR-99W	2	83.26	83.44	0.18	14,488	22	0	1	7	14	Corvallis	Benton	NW TYLER AVE.	95	73.55
OR-99W	1	83.34	83.43	0.09	12,200	8	0	1	1	6	Corvallis	Benton		85	45.01

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-20	1	83.70	83.79	0.09	13,900	8	0	1	3	4	Corvallis	Benton	SW JEFFERSON AVE.	85	44.39
US-20	1	83.76	83.85	0.09	13,900	8	0	1	2	5	Corvallis	Benton	SW ADAMS AVE.	85	44.36
US-20	2	83.84	84.02	0.18	13,699	11	0	2	3	6	Corvallis	Benton	SW WASHINGTON AVE.	95	62.62
OR-99W	1	89.59	89.75	0.16	5,400	9	0	2	6	1		Benton	LEG (TO LLEWELLYN RD.)	95	64.57
OR-99W	1	96.03	96.16	0.13	5,400	3	2	1	0	0		Benton		90	61.84
OR-99W	1	105.92	106.10	0.18	5,100	8	1	1	3	3		Lane	JAGER LN.	90	61.79
OR-99W	1	106.40	106.58	0.18	5,100	11	0	4	2	5		Lane	LINGO LN.	95	75.47
OR-99	1	109.14	109.31	0.17	16,700	13	0	1	5	7	Junction City	Lane	W 11TH AVE.	90	53.85
OR-99	1	109.38	109.50	0.12	17,400	9	0	1	1	7	Junction City	Lane	W 7TH AVE.	85	46.12
OR-99	1	109.44	109.56	0.12	17,400	9	0	1	2	6	Junction City	Lane	W 6TH AVE.	85	46.12
OR-99	1	117.79	118.00	0.21	22,900	10	1	0	2	7		Lane	LEG (TO CLEAR LAKE RD.)	85	47.72
OR-99	1	118.14	118.32	0.18	22,900	23	0	2	10	11		Lane	LEG (TO THEONA DR.)	95	73.19
OR-99	1	118.27	118.43	0.16	22,900	11	0	3	5	3		Lane		95	66.76
OR-99	1	118.40	118.56	0.16	13,877	9	1	1	0	7		Lane	069AA CONN. M.P. 1C6.56	95	63.04

092 Lower Columbia River

US-30	1	19.69	19.86	0.17	24,800	11	0	1	3	7	Scappoose	Columbia	HAVLIK DR.	90	49.80
US-30	1	20.60	20.73	0.13	31,400	11	0	1	0	10	Scappoose	Columbia	SE SANTOSH ST.	85	49.05
US-30	1	27.60	27.70	0.10	23,633	15	0	0	1	14	St. Helens	Columbia	GABLE RD.	85	44.34
US-30	1	28.47	28.59	0.12	21,300	13	0	1	7	5	St. Helens	Columbia	COLUMBIA BLVD.	90	52.78
US-30	1	28.55	28.65	0.10	21,300	10	0	1	5	4	St. Helens	Columbia	COLUMBIA BLVD.	85	47.91
US-30	1	40.71	40.90	0.19	8,900	3	0	2	1	0		Columbia	NEER CITY RD.	85	45.26
US-30	1	48.29	48.47	0.18	17,400	17	0	0	9	8	Rainier	Columbia	ROCKCREST ST.	90	52.20
US-30	1	95.45	95.56	0.11	11,600	5	1	1	0	3	Astoria	Clatsop	53RD ST.	90	51.26

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US-30	1	96.97	97.07	0.10	12,800	8	0	1	3	4	Astoria	Clatsop	33RD ST.	85	44.71
US-30	2	98.36	98.45	0.09	11,477	8	0	1	3	4	Astoria	Clatsop	8TH ST.	85	45.21

102 Nehalem

OR-202	1	14.78	14.96	0.18	410	4	0	2	1	1		Clatsop		95	69.69
OR-202	1	41.28	41.44	0.16	520	2	1	1	0	0		Columbia		90	56.92
OR-47	1	71.40	71.57	0.17	3,200	9	0	1	3	5		Washington	NW PEBBLE CREEK RD.	90	54.06
OR-47	1	71.81	71.95	0.14	3,200	6	0	1	2	3		Washington	NW HOFFMAN RD.	85	46.69
OR-47	1	85.28	85.44	0.16	7,100	4	0	2	1	1		Washington	NW REILING RD.	90	49.68

130 Little Nestucca

OR-130	1	5.91	6.08	0.17	720	4	0	1	1	2		Tillamook		90	51.38
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140 Hillsboro-Silverton

OR-219	1	17.83	18.00	0.17	3,600	8	0	1	4	3		Yamhill	NE NORTH VALLEY RD.	90	53.93
OR-219	1	20.02	20.13	0.11	6,266	12	0	0	3	9	Newberg	Yamhill	E SHERMAN ST.	85	44.99
OR-219	1	20.71	20.89	0.18	12,700	13	0	1	3	9	Newberg	Yamhill	EVEREST RD.	90	52.91
OR-219	1	21.11	21.29	0.18	12,588	19	0	0	3	16	Newberg	Yamhill	2ND ST.	90	57.23
OR-219	1	36.65	36.82	0.17	19,800	13	0	1	2	10	Woodburn	Marion	140AC CONN. M.P. 1C36.72	85	49.05
OR-219	1	36.77	36.90	0.13	22,100	17	0	0	2	15	Woodburn	Marion	001PZ CONN. M.P. 1C271.90	85	49.13
OR-214	1	36.95	37.12	0.17	22,100	26	0	1	8	17	Woodburn	Marion	LAWSON AVE.	95	76.03
OR-214	1	37.04	37.23	0.19	19,400	19	0	0	8	11	Woodburn	Marion	OREGON WY.	90	49.80
OR-214	1	38.08	38.22	0.14	15,200	11	0	2	1	8	Woodburn	Marion	N MERIDIAN DR.	90	61.67
OR-214	1	38.73	38.85	0.12	13,900	10	0	1	0	9	Woodburn	Marion	ROAD (WOODBURN POLICE STATION)	90	49.69
OR-214	1	38.97	39.16	0.19	13,900	13	0	1	7	5	Woodburn	Marion		90	54.77
OR-214	1	39.09	39.28	0.19	13,900	30	0	3	6	21	Woodburn	Marion	LEG (TO HWY. 081(1E))	95	77.42
OR-214	1	41.44	41.61	0.17	6,166	11	0	1	3	7		Marion	NE ELLIOTT PRAIRIE RD.	90	54.86

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2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
150 Salem-Dayton															
OR-221	1	11.44	11.59	0.15	3,200	5	1	1	3	0		Polk		90	57.92
OR-221	1	12.63	12.75	0.12	6,600	3	0	2	1	0		Polk		85	46.08
OR-221	1	12.68	12.80	0.12	6,600	3	0	2	1	0		Polk		85	46.08
OR-221	1	20.13	20.26	0.13	30,900	18	0	0	2	16	Salem	Polk	TAYBIN RD. NW	90	49.80
OR-221	1	20.26	20.35	0.09	30,900	18	0	0	5	13	Salem	Polk		90	49.80
OR-221	1	20.28	20.47	0.19	41,300	29	0	1	6	22	Salem	Polk	GLEN CREEK RD.	95	72.48
OR-221	1	20.50	20.66	0.16	41,311	24	0	0	4	20	Salem	Polk	MOYER LN. NW	90	59.12
151 Yamhill-Newberg															
OR-240	1	4.01	4.12	0.11	1,800	4	0	1	2	1		Yamhill		85	43.01
OR-240	1	9.01	9.12	0.11	7,700	8	1	0	4	3		Yamhill	RED HILLS RD.	85	47.30
155 Amity-Dayton															
OR-233	1	5.02	5.14	0.12	2,000	9	0	0	5	4		Yamhill	STARR QUARRY RD.	85	46.08
157 Willamina-Sheridan															
OR-18B	1	2.71	2.80	0.09	4,700	3	0	2	1	0	Willamina	Yamhill		85	47.43
160 Cascade Hwy South															
OR-213	1	22.54	22.71	0.17	5,100	3	2	0	0	1		Clackamas		85	47.08
OR-213	1	24.68	24.88	0.20	4,900	10	0	1	2	7		Marion	MT. ANGEL-SCOTTS MILL RD. NE	90	54.04
161 Woodburn-Estacada															
OR-211	1	7.50	7.68	0.18	5,900	8	1	1	2	4		Clackamas	LEG (TO S KROPF RD.)	95	63.97
OR-211	1	10.54	10.70	0.16	6,200	4	3	0	1	0		Clackamas	BEAR MEADOW CT.	95	63.59
162 North Santiam															
OR-22	1	1.18	1.27	0.09	52,000	10	1	0	2	7	Salem	Marion	001PE CONN. M.P. 3C254.56	85	45.56
OR-22	1	1.20	1.37	0.17	52,000	18	1	1	4	12	Salem	Marion	001PD CONN. M.P. 2C254.57	95	66.14

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2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-22	1	1.45	1.65	0.20	44,900	25	0	3	5	17	Salem	Marion		95	70.82
OR-22	1	69.91	70.09	0.18	4,000	5	0	3	0	2		Linn	TWIN MEADOWS RD.	95	68.09

163 Silver Creek Falls

OR-214	1	15.50	15.69	0.19	1,200	8	0	1	2	5		Marion	LEG (TO CASCADE HWY. SE)	95	63.73
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164 Jefferson

OR-164	1	8.04	8.21	0.17	7,200	5	0	3	0	2		Linn	MASON RD.	95	65.11
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210 Corvallis-Lebanon

US-20	1	-0.01	0.12	0.13	10,488	15	0	0	1	14	Corvallis	Benton	HWY. 210 M.P. 0.00	85	44.01
OR-34	1	0.27	0.44	0.17	34,000	14	0	1	0	13		Linn	PEDESTRIAN WALKWAY & BIKE TRAIL	90	52.36
OR-34	1	1.09	1.27	0.18	34,000	38	0	0	2	36		Linn	PEORIA RD.	95	75.17
OR-34	1	9.77	9.92	0.15	18,800	16	0	1	4	11		Linn	OLSON RD.	90	58.06
OR-34	1	9.85	9.95	0.10	18,800	14	0	0	3	11		Linn		85	43.06
OR-34	1	10.68	10.86	0.18	18,300	14	1	0	7	6		Linn	SEVEN MILE LN.	90	58.45
OR-34	1	12.68	12.86	0.18	18,300	6	1	2	1	2		Linn	GOLTRA RD.	95	62.84
OR-34	1	15.59	15.76	0.17	17,377	12	0	2	3	7		Linn	DENNY SCHOOL RD.	95	72.54

211 Albany-Lyons

OR-226	1	11.91	12.09	0.18	1,600	5	0	2	3	0		Linn	RICHARDSONS GAP RD.	95	63.48
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226 Goshen-Divide

OR-99	1	7.93	8.07	0.14	2,922	5	0	1	3	1		Lane	HOWE LN.	85	44.16
OR-99	1	15.79	15.95	0.16	3,899	3	1	1	0	1	Cottage Grove	Lane	S RIVER RD.	85	49.02

227 Eugene-Springfield

I-105	1	0.00	0.12	0.12	57,700	18	0	0	4	14	Eugene	Lane	HWY. 227 M.P. 0.00	85	45.60
I-105	1	0.12	0.31	0.19	57,700	24	0	1	5	18	Eugene	Lane		95	64.76
I-105	1	2.91	3.09	0.18	65,100	23	0	2	7	14	Eugene	Lane		95	66.48

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2018 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-126	1	8.95	9.13	0.18	33,200	24	0	0	7	17	Springfield	Lane	52ND ST.	95	62.89

228 Springfield

OR-528	1	0.56	0.74	0.18	18,800	15	0	1	6	8	Springfield	Lane	LEG (TO CENTENNIAL BLVD.)	90	61.11
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229 Mapleton-Junction City

OR-36	1	37.95	38.11	0.16	1,200	4	0	1	3	0		Lane	ROAD (ALDERWOOD WAYSIDE STATE PARK)	85	46.48
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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
001 Pacific															
I-5	1	211.98	212.10	0.12	42,600	6	0	2	0	4		Linn		90	51.16
I-5	1	233.91	234.07	0.16	55,100	18	0	0	4	14	Albany	Linn		90	47.81
I-5	1	234.04	234.20	0.16	55,100	11	0	1	4	6	Albany	Linn		85	45.46
I-5	1	234.91	235.05	0.14	70,600	11	0	1	0	10		Linn		90	47.31
I-5	1	236.91	237.08	0.17	69,000	17	0	0	2	15		Linn		85	45.18
I-5	1	238.91	239.08	0.17	68,400	18	0	0	6	12		Linn		90	47.26
I-5	1	242.97	243.08	0.11	68,600	11	1	0	2	8		Marion		90	47.35
I-5	1	243.92	244.07	0.15	68,200	11	0	1	2	8		Marion		85	42.85
I-5	1	255.83	255.93	0.10	102,100	4	1	1	1	1	Salem	Marion		85	45.11
I-5	1	255.88	255.98	0.10	102,100	3	1	1	0	1	Salem	Marion		85	42.23
I-5	1	256.57	256.69	0.12	101,100	5	0	2	1	2	Salem	Marion		90	47.79
I-5	1	256.66	256.75	0.09	101,100	6	0	2	2	2	Salem	Marion		90	50.33
I-5	1	268.75	268.85	0.10	94,100	3	0	2	0	1		Marion		85	42.25
I-5	1	271.60	271.69	0.09	94,100	3	1	1	0	1	Woodburn	Marion		85	42.25
I-5	1	280.63	280.75	0.12	99,700	8	0	1	2	5		Marion		85	40.13
I-5	1	281.56	281.67	0.11	99,700	8	1	0	1	6		Clackamas		85	40.13
009 Oregon Coast															
US-101	1	6.54	6.63	0.09	14,600	9	0	1	2	6	Warrenton	Clatsop		90	46.84
US-101	1	6.98	7.16	0.18	15,300	12	0	1	3	8	Warrenton	Clatsop		90	49.39
US-101	1	7.96	8.14	0.18	14,300	10	0	2	3	5	Warrenton	Clatsop	SE ENSIGN LN.	95	64.56
US-101	1	13.35	13.54	0.19	16,200	9	0	2	2	5		Clatsop	LEG (TO SUNSET BEACH LN.)	95	58.76
US-101	1	13.88	14.06	0.18	16,200	3	1	1	0	1		Clatsop		85	43.79
US-101	1	21.00	21.08	0.08	16,366	7	0	1	0	6	Seaside	Clatsop	BROADWAY	85	41.00

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-101	1	21.02	21.15	0.13	15,933	10	1	1	1	7	Seaside	Clatsop	BROADWAY	95	61.59
US-101	1	40.51	40.65	0.14	4,900	2	1	1	0	0		Tillamook		85	42.62
US-101	1	49.51	45.48	Z 4.03	4,355	7	2	1	3	1		Tillamook		95	71.31
US-101	1	63.91	64.08	0.17	12,100	5	0	2	1	2		Tillamook	LATIMER RD.	90	47.92
US-101	1	65.75	65.93	0.18	6,622	8	0	3	0	5	Tillamook	Tillamook	FOURTH ST.	95	67.13
US-101	1	89.35	89.46	0.11	4,300	3	1	1	1	0		Tillamook		90	47.83
US-101	1	105.60	110.85	5.25	14,600	4	1	1	1	1		Lincoln		90	47.37
US-101	1	111.68	111.77	0.09	15,900	5	2	0	3	0		Lincoln	NE NEOTSU DR. (ALDERVIEW RD.)	90	50.29
US-101	1	112.76	112.86	0.10	15,700	7	0	1	2	4	Lincoln City	Lincoln	NW LOGAN RD. (ROADS END STATE PARK)	85	41.13
US-101	1	113.16	113.24	0.08	21,900	13	0	0	6	7	Lincoln City	Lincoln	NW 34TH ST.	85	40.02
US-101	1	113.70	113.83	0.13	20,633	6	0	2	3	1	Lincoln City	Lincoln	NE 22ND ST.	90	52.53
US-101	1	116.60	116.70	0.10	18,100	13	0	0	1	12	Lincoln City	Lincoln	SE 31ST ST.	85	40.88
US-101	1	116.65	116.76	0.11	18,100	14	0	0	2	12	Lincoln City	Lincoln	SW 32ND ST.	85	43.25
US-101	1	121.54	121.72	0.18	12,300	9	0	1	2	6		Lincoln	GLENEDEN BEACH LP.	90	47.62
US-101	1	136.74	136.82	0.08	12,600	2	2	0	0	0	Newport	Lincoln	NE AVERY ST.	85	40.44
US-101	1	139.22	139.34	0.12	19,866	8	0	1	1	6	Newport	Lincoln	NE 20TH ST.	85	43.27
US-101	1	139.40	139.63	0.23	24,300	23	0	3	7	13	Newport	Lincoln	NE 17TH ST.	95	70.88
US-101	1	139.70	139.88	0.18	24,300	15	0	2	3	10	Newport	Lincoln	NW 12TH ST.	95	67.26

015 McKenzie

OR-126B	2	2.40	2.58	0.18	10,800	15	0	0	4	11	Springfield	Lane	14TH ST.	90	46.51
OR-126B	1	3.34	3.55	0.21	19,600	19	0	2	6	11	Springfield	Lane	LEG (TO S 28TH ST.)	95	70.24
OR-126B	1	3.54	3.64	0.10	19,400	14	0	0	4	10	Springfield	Lane	30TH ST.	85	42.91
OR-126B	1	3.65	3.82	0.17	21,400	11	0	1	1	9	Springfield	Lane	S 32ND ST.	90	48.26

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-126B	1	4.52	4.69	0.17	23,300	28	0	0	9	19	Springfield	Lane	42ND ST.	95	57.69
OR-126	1	6.34	6.54	0.20	26,500	25	0	2	7	16	Springfield	Lane	S 58TH ST.	95	70.98
OR-126	1	7.18	7.33	0.15	26,500	6	0	2	0	4	Springfield	Lane	66TH ST.	90	51.96
OR-126	1	11.22	11.41	0.19	10,266	10	2	1	2	5		Lane	LEG (TO DEERHORN RD.)	95	69.75
OR-126	1	15.51	15.68	0.17	7,400	2	0	2	0	0		Lane	ROSS LN.	85	41.46

016 Santiam

US-20	1	0.10	0.24	0.14	14,200	15	0	0	4	11	Albany	Linn	BURKHART ST. SE	90	46.94
US-20	1	0.19	0.38	0.19	21,000	28	0	0	4	24	Albany	Linn	COLUMBUS ST. SE	95	63.47
US-20	1	0.40	0.57	0.17	21,000	14	0	1	2	11	Albany	Linn	FULTON ST. SE	95	57.66
US-20	1	0.51	0.70	0.19	20,300	18	0	1	6	11	Albany	Linn	ROAD	95	64.57
US-20	1	6.47	6.64	0.17	10,011	8	0	1	3	4		Linn	LEG (TO KNOX BUTTE RD.)	90	47.58
US-20	1	11.62	11.79	0.17	8,600	8	1	1	3	3		Linn	GORE DR.	95	58.71
US-20	1	13.36	13.49	0.13	8,288	7	0	1	1	5	Lebanon	Linn	E MAPLE ST.	85	44.23
US-20	1	13.65	13.84	0.19	17,100	14	0	1	1	12	Lebanon	Linn	MILTON ST.	90	53.74
US-20	1	14.38	14.48	0.10	22,000	13	0	0	2	11	Lebanon	Linn	DEWEY ST.	85	40.01
US-20	1	14.75	14.87	0.12	21,966	13	0	0	3	10	Lebanon	Linn	MARKET ST.	85	40.02
US-20	1	27.10	27.19	0.09	13,655	7	0	1	1	5	Sweet Home	Linn	9TH AVE.	85	41.64
US-20	1	27.16	27.26	0.10	13,522	8	0	1	1	6	Sweet Home	Linn	9TH AVE.	85	44.47
US-20	1	27.33	27.42	0.09	13,500	9	0	1	2	6	Sweet Home	Linn	12TH AVE.	90	47.19
US-20	1	34.53	34.70	0.17	1,700	5	2	0	2	1		Linn		95	62.95
US-20	1	61.00	61.09	0.09	810	3	0	1	2	0		Linn		85	44.67
US-20	1	74.80	74.99	0.19	5,400	3	1	1	0	1		Linn	ROAD (SANTIAM AIRSTRIP)	90	46.84
US-20	1	75.41	75.59	0.18	5,400	5	2	2	0	1		Linn		95	66.30

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018 Willamette															
OR-58	1	0.23	0.35	0.12	15,900	3	0	2	0	1		Lane	001KY CONN. M.P. 1C188.30	85	43.82
OR-58	1	10.83	10.92	0.09	9,600	2	0	2	0	0		Lane		85	40.90
OR-58	1	14.42	14.60	0.18	7,100	2	0	2	0	0		Lane		85	41.56
OR-58	1	27.91	28.09	0.18	6,000	2	0	2	0	0		Lane		85	42.00
OR-58	1	59.69	59.83	0.14	3,500	2	0	2	0	0		Lane		85	43.86
027 Alsea															
OR-34	1	10.02	10.20	0.18	890	2	0	2	0	0		Lincoln	E SJOSTROM DR.	90	52.22
OR-34	1	23.52	23.69	0.17	480	2	0	1	1	0		Lincoln		85	42.68
029 Tualatin Valley															
OR-47	1	28.68	28.86	0.18	7,466	9	0	1	3	5		Yamhill	NE FLETT RD. (WAPATO-NEWBERG RD.)	90	50.84
030 Willamina-Salem															
OR-22	1	0.00	0.11	0.11	8,700	11	0	2	4	5		Polk		95	69.95
OR-22	1	11.70	11.88	0.18	10,600	11	0	2	2	7		Polk	LEG (TO PERRYDALE RD.)	95	69.14
OR-22	1	12.63	12.81	0.18	10,700	16	0	2	7	7		Polk	LEG (FROM 030AB FRONTAGE RD.)	95	74.65
OR-22	1	20.29	20.47	0.18	36,700	11	0	3	5	3		Polk		95	65.84
OR-22	1	20.49	20.85	0.36	36,700	20	0	1	5	14		Polk	52ND AVE. NW	95	61.98
OR-22	1	20.79	20.91	0.12	36,700	10	0	2	5	3		Polk	52ND AVE. NW	95	61.29
OR-22	1	21.94	22.10	0.16	36,700	11	0	1	6	4		Polk	ROAD	90	46.29
OR-22	1	23.98	24.14	0.16	35,900	14	0	1	4	9	Salem	Polk	ROSEWOOD DR. NW	90	55.73
OR-22	1	26.01	26.13	0.12	47,900	48	0	2	11	35	Salem	Marion		95	76.06
OR-22	2	26.09	26.18	0.09	47,700	20	0	2	5	13	Salem	Marion		95	69.07
031 Albany-Corvallis															
US-20	1	2.12	2.32	0.20	12,400	9	1	0	2	6		Benton	NE CIRCLE BLVD.	90	49.54

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US-20	1	2.83	3.02	0.19	13,900	12	1	2	2	7		Benton	NE CONIFER BLVD.	95	68.26
US-20	1	5.54	5.72	0.18	16,100	25	1	4	13	7		Benton	NE GRANGER AVE.	95	77.29
US-20	1	6.32	6.50	0.18	16,900	16	0	2	6	8		Benton	NW INDEPENDENCE HWY.	95	71.69
US-20	2	10.49	10.66	0.17	16,800	19	0	0	2	17	Albany	Linn	1ST AVE.	90	51.53

032 Three Rivers

OR-22	1	23.72	23.89	0.17	2,200	4	0	2	2	0		Yamhill		90	56.45
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033 Corvallis-Newport

US-20	1	5.66	5.75	0.09	7,466	6	0	1	3	2		Lincoln		85	41.44
US-20	1	5.74	5.83	0.09	6,400	6	0	1	3	2		Lincoln	LEG (TO HWY. 181)	85	42.13
US-20	2	50.58	50.66	0.08	7,700	6	0	1	0	5	Philomath	Benton	N 14TH ST.	85	41.16
US-20	1	50.97	51.13	0.16	18,800	8	0	1	1	6	Philomath	Benton	N 18TH ST.	85	43.60
US-20	1	53.70	53.80	0.10	17,100	13	0	0	5	8	Corvallis	Benton	SW HILLVIEW AVE.	85	41.15
US-20	1	53.76	53.84	0.08	17,100	13	0	0	5	8	Corvallis	Benton	TECHNOLOGY LP.	85	41.15
US-20	1	54.55	54.74	0.19	19,800	21	0	0	4	17	Corvallis	Benton	SW 35TH ST.	90	54.71

037 Wilson River

OR-6	1	1.98	2.16	0.18	7,400	6	0	1	3	2		Tillamook	WILSON RIVER LP.	85	42.13
OR-6	1	33.81	33.98	0.17	4,800	4	0	2	1	1		Washington		90	51.49

039 Salmon River

OR-18	1	1.26	1.36	0.10	10,333	6	0	1	1	4		Lincoln	039BH CONN. M.P. 2C1.36	85	39.99
OR-18	1	1.60	1.76	0.16	9,544	4	1	1	0	2		Lincoln	ROAD	90	48.60
OR-18	1	4.77	4.91	0.14	9,800	7	0	1	1	5		Lincoln	BEAR CREEK RD.	85	43.15
OR-18	1	38.23	38.35	0.12	12,900	2	0	2	0	0		Yamhill	SW OLDSVILLE RD.	85	40.40
OR-18	1	46.60	46.78	0.18	22,100	10	0	1	1	8	McMinnville	Yamhill		90	48.60
OR-18	1	48.50	48.68	0.18	20,100	15	0	3	7	5	McMinnville	Yamhill	SE LOOP RD.	95	70.52

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2019 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-18	1	49.84	50.00	0.16	15,922	23	0	2	7	14		Yamhill		95	76.05
OR-18	1	49.99	50.18	0.19	15,700	7	0	2	1	4		Yamhill	SE ASH RD.	90	56.23

043 Monmouth-Independence

OR-51	1	0.93	1.11	0.18	12,200	13	0	1	0	12	Independence	Polk	SIXTEENTH ST.	90	50.34
OR-51	1	1.21	1.39	0.18	12,200	7	0	2	1	4	Independence	Polk	GUN CLUB RD.	95	57.94

046 Necanicum

OR-53	1	0.96	1.14	0.18	550	2	1	0	1	0		Clatsop		85	41.40
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047 Sunset

US-26	1	22.16	22.32	0.16	7,200	8	0	1	3	4		Clatsop	BEAR RD.	85	41.50
US-26	1	28.55	28.74	0.19	7,200	9	0	3	2	4		Clatsop	LEG (FROM 047AB CONN.)	95	68.00
US-26	1	45.32	45.44	0.12	9,800	2	0	2	0	0		Washington		85	41.17
US-26	1	46.26	46.36	0.10	13,000	2	0	2	0	0		Washington		85	40.38
US-26	1	51.14	51.32	0.18	12,000	3	0	2	1	0		Washington		85	44.38

051 Wilsonville-Hubbard

OR-551	1	2.91	3.09	0.18	12,500	3	0	2	0	1		Marion	KEIL RD. NE	85	44.36
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058 Albany-Junction City

OR-99E	1	0.35	0.52	0.17	26,477	17	0	0	4	13	Albany	Linn	LEG (TO ALBANY AVE. SE)	90	46.07
OR-99E	1	0.56	0.73	0.17	25,000	10	0	1	1	8	Albany	Linn	SE KILLDEER AVE	90	47.36
OR-99E	1	1.33	1.52	0.19	18,700	24	0	0	4	20	Albany	Linn	CHICAGO ST. SE	95	63.22
US-20	1	1.62	1.80	0.18	18,300	21	1	0	3	17	Albany	Linn	OAK ST. SE	95	65.12
US-20	1	1.73	1.82	0.09	18,122	13	0	0	0	13	Albany	Linn	SHERMAN ST. SE	85	40.87
US-20	1	1.77	1.97	0.20	18,122	22	0	2	5	15	Albany	Linn	MAIN ST. SE	95	63.08
OR-99E	1	2.90	3.09	0.19	21,500	20	0	0	6	14	Albany	Linn	CALAPOOIA ST. SW	90	49.32
OR-99E	1	3.93	4.11	0.18	19,166	8	0	1	1	6	Albany	Linn	PACIFIC PL. SW	85	44.08

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-99E	1	21.30	21.48	0.18	4,100	7	0	2	1	4		Linn	LAKE CREEK DR.	95	64.09

062 Florence-Eugene

OR-126	1	11.17	11.29	0.12	5,700	2	1	1	0	0		Lane		85	42.15
OR-126	1	17.69	17.87	0.18	4,500	3	0	2	0	1		Lane		90	47.63
OR-126	1	19.27	19.40	0.13	5,900	3	2	0	1	0		Lane	ROAD	90	46.49
OR-126	1	19.33	19.45	0.12	5,900	3	1	1	1	0		Lane	ROAD	90	46.49
OR-126	1	25.91	26.07	0.16	4,700	2	1	1	0	0		Lane		85	42.76
OR-126	1	47.75	47.89	0.14	11,433	6	0	2	3	1	Veneta	Lane	HUSTON RD.	90	54.71

069 Beltline

OR-126	1	1.19	1.37	0.18	18,400	19	0	1	7	11		Lane	LEG (FROM GREENHILL RD.)	95	65.34
OR-126	1	3.06	3.19	0.13	19,388	7	0	1	1	5	Eugene	Lane	W 11TH AVE.	85	40.66
OR-569	1	4.15	4.31	0.16	24,433	17	0	0	5	12	Eugene	Lane	ROOSEVELT BLVD.	90	47.07
OR-569	1	7.02	7.18	0.16	58,066	20	0	0	5	15		Lane		90	51.83
OR-569	1	8.34	8.54	0.20	70,977	26	0	1	3	22	Eugene	Lane		95	60.25
OR-569	1	8.72	8.84	0.12	72,400	10	0	1	2	7	Eugene	Lane		85	45.04
OR-569	1	9.40	9.60	0.20	86,700	15	0	2	6	7	Eugene	Lane		95	65.14
OR-569	1	9.54	9.63	0.09	86,700	8	0	1	2	5	Eugene	Lane		85	40.25
OR-569	1	9.79	9.92	0.13	86,700	11	0	1	3	7	Eugene	Lane		90	47.03
OR-569	1	12.91	13.00	0.09	36,700	26	0	1	6	19	Springfield	Lane	GATEWAY ST.	95	72.42

072 Salem

OR-99EB	1	1.43	1.64	0.21	27,300	28	0	1	6	21	Salem	Marion	LEG (TO VERDA LN. NE)	95	73.21
OR-99EB	1	3.07	3.25	0.18	22,322	16	0	1	5	10	Salem	Marion	LEG (TO BRDWCY ST. NE)	95	60.16
OR-99EB	1	4.27	4.39	0.12	17,300	14	0	0	3	11	Salem	Marion	GAINES ST. NE	85	43.54
OR-99EB	1	4.34	4.44	0.10	17,633	15	0	0	4	11	Salem	Marion	MARKET ST. NE	85	43.40

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-99EB	1	4.72	4.94	0.22	26,000	23	1	0	8	14	Salem	Marion	LEG (FROM HWY. 072 DECREASING RDWY)	95	73.51
OR-99EB	1	5.18	5.28	0.10	33,600	16	0	0	3	13	Salem	Marion	030AR CONN. M.P. 1C26.20	85	43.01
OR-22	1	5.35	5.60	0.25	13,544	33	1	0	10	22	Salem	Marion	COMMERCIAL ST.	95	75.97
OR-22	2	5.38	5.48	0.10	16,800	16	0	0	7	9	Salem	Marion	LIBERTY ST.	90	48.37
OR-22	1	6.68	6.87	0.19	35,100	28	0	1	5	22	Salem	Marion	17TH ST. SE	95	73.55
OR-22	1	6.89	7.05	0.16	32,700	8	1	1	0	6	Salem	Marion	HINES ST. SE	90	54.17
OR-22	1	7.06	7.17	0.11	32,700	15	0	0	5	10	Salem	Marion	21ST ST. SE	85	43.04
OR-22	1	7.11	7.20	0.09	32,255	15	0	0	4	11	Salem	Marion	22ND ST. SE	85	43.07
OR-22	1	7.28	7.38	0.10	31,900	10	0	1	1	8	Salem	Marion	23RD ST. SE	90	46.64
OR-22	1	7.31	7.45	0.14	31,900	16	0	1	6	9	Salem	Marion	23RD ST. SE	90	53.62
OR-22	1	7.40	7.48	0.08	31,900	14	0	0	5	9	Salem	Marion	HELM ST.	85	40.88
OR-22	1	7.44	7.62	0.18	44,800	26	0	2	5	19	Salem	Marion	25TH ST. SE	95	71.06
OR-22	1	7.83	8.02	0.19	45,600	26	0	0	5	21	Salem	Marion	LEG (FROM AIRPORT RD.)	90	54.69
OR-22	1	8.17	8.38	0.21	52,000	40	0	2	5	33	Salem	Marion	HAWTHORNE AVE.	95	72.50

081 Pacific Highway East

OR-99E	1	28.94	29.05	0.11	16,500	8	0	1	3	4	Hubbard	Marion	PARKWAY BLVD.	85	43.69
OR-99E	1	29.18	29.29	0.11	16,500	7	0	1	0	6	Hubbard	Marion	D ST.	85	41.00
OR-99E	1	29.33	29.51	0.18	15,600	11	0	2	2	7	Hubbard	Marion	G ST.	95	66.69
OR-99E	1	31.50	31.68	0.18	18,600	11	0	2	3	6	Woodburn	Marion		95	65.91
OR-99E	1	31.61	31.78	0.17	19,700	22	0	2	2	18	Woodburn	Marion	LEG (HWY. 140)	95	73.84
OR-99E	1	31.72	31.80	0.08	19,700	7	0	2	0	5	Woodburn	Marion	LEG (HWY. 140)	90	55.41
OR-99E	1	31.77	31.89	0.12	19,700	3	1	1	0	1	Woodburn	Marion	MT. JEFFERSON AVE.	85	43.47
OR-99E	1	32.78	32.93	0.15	19,800	16	0	0	3	13	Woodburn	Marion	TOMLIN AVE.	90	45.92

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-99E	1	32.91	33.06	0.15	14,800	16	0	1	3	12	Woodburn	Marion	SILVERTON AVE.	95	64.04
OR-99E	1	32.99	33.09	0.10	14,800	8	0	1	2	5	Woodburn	Marion		85	41.35
OR-99E	1	34.51	34.69	0.18	12,500	9	1	0	3	5		Marion	HOWELL PRAIRIE RD. NE	90	47.55
OR-99E	1	36.13	36.25	0.12	12,200	12	0	0	5	7		Marion	E. DOUGLAS AVE.	85	40.49
OR-99E	1	45.16	45.34	0.18	16,900	19	0	2	9	8	Salem	Marion	LANCASTER DR. NE	95	75.00
OR-99E	1	45.81	45.98	0.17	28,400	14	1	2	1	10	Salem	Marion	WARD DR. NE	95	65.93
	1	46.37	46.49	0.12	28,400	28	0	3	8	17	Salem	Marion	HYACINTH ST. NE	95	74.50

091 Pacific Highway West

OR-99W	1	19.75	19.95	0.20	37,800	3	0	3	0	0		Washington	HAUREN RD.	95	57.74
OR-99W	1	21.96	22.14	0.18	37,100	19	0	1	2	16	Newberg	Yamhill	LEG (TO N SPRINGBROOK RD.)	95	62.14
OR-99W	2	23.41	23.50	0.09	18,800	13	0	0	3	10	Newberg	Yamhill	N SCHOOL ST.	85	40.70
OR-99W	1	25.83	25.93	0.10	26,400	8	0	1	1	6	Dundee	Yamhill	SW 5TH ST.	85	42.22
OR-99W	1	29.72	29.82	0.10	22,022	14	0	0	6	8		Yamhill	HWY. 091 M.P. 29.73	85	42.33
OR-99W	1	29.77	29.88	0.11	13,577	12	0	0	5	7		Yamhill	MCDOUGALL RD.	85	41.55
OR-99W	1	31.31	31.42	0.11	10,200	7	0	1	2	4		Yamhill	MCDOUGALL RD.	85	42.88
OR-99W	1	33.99	34.09	0.10	16,266	3	2	0	1	0		Yamhill	ST. JOSEPH RD.	85	43.79
OR-99W	1	34.77	34.93	0.16	21,955	14	0	0	7	7		Yamhill	LEG (TO HWY. 029)	85	42.34
OR-99W	1	35.24	35.35	0.11	21,600	6	0	2	2	2	McMinnville	Yamhill	NE DORAN DR.	90	52.42
OR-99W	1	35.29	35.41	0.12	21,600	5	0	2	1	2	McMinnville	Yamhill		90	49.56
OR-99W	1	35.39	35.57	0.18	21,600	15	0	0	3	12	McMinnville	Yamhill	GRANDHAVEN ST.	85	45.43
OR-99W	1	35.68	35.78	0.10	23,000	9	0	1	2	6	McMinnville	Yamhill	NE 27TH ST.	85	45.14
OR-99W	1	36.61	36.82	0.21	23,400	23	0	0	5	18	McMinnville	Yamhill	LEG (TO BAKER CREEK RD.)	95	57.66
OR-99W	2	37.42	37.55	0.13	14,300	7	0	1	1	5	McMinnville	Yamhill	NE 8TH ST.	85	41.47

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OR-99W	2	37.67	37.80	0.13	13,577	15	0	0	3	12	McMinnville	Yamhill	THIRD ST.	85	40.03
OR-99W	1	38.24	38.38	0.14	22,900	6	0	2	0	4	McMinnville	Yamhill	FELLOWS ST.	90	52.49
OR-99W	1	39.06	39.16	0.10	15,500	14	0	0	4	10	McMinnville	Yamhill	BOOTH BEND RD.	85	44.06
OR-99W	1	43.38	43.48	0.10	9,188	6	0	1	3	2		Yamhill	LEG (TO HWY. 155)	85	40.41
OR-99W	1	48.48	48.61	0.13	5,000	2	0	2	0	0		Polk		85	42.55
OR-99W	1	49.63	49.81	0.18	5,000	13	0	1	5	7		Polk	BETHEL RD.	95	64.44
OR-99W	1	57.73	57.84	0.11	11,900	7	0	1	1	5		Polk	BURCH ST.	85	42.20
OR-99W	1	59.94	60.12	0.18	14,800	18	1	1	7	9		Polk	CLOW CORNER RD.	95	74.60
OR-99W	1	62.22	62.40	0.18	14,800	13	0	1	4	8		Polk	HOFFMAN RD.	90	57.32
OR-99W	1	63.47	63.59	0.12	12,200	8	0	1	2	5	Monmouth	Polk	E CLAY ST.	85	45.16
OR-99W	1	64.71	64.89	0.18	9,500	4	0	2	0	2		Polk	STAPLETON RD.	90	48.60
OR-99W	1	66.47	66.65	0.18	9,500	3	2	0	0	1		Polk	PARKER RD.	85	45.02
OR-99W	1	81.10	81.25	0.15	15,166	9	0	1	0	8	Corvallis	Benton	NE CONIFER BLVD.	90	46.70
OR-99W	2	83.18	83.30	0.12	12,511	8	0	1	3	4	Corvallis	Benton	NW POLK AVE.	85	45.11
OR-99W	1	83.26	83.38	0.12	10,933	8	0	1	2	5	Corvallis	Benton	NW TYLER AVE.	90	45.80
OR-99W	2	83.26	83.44	0.18	14,811	22	0	1	6	15	Corvallis	Benton	NW TYLER AVE.	95	71.03
OR-99W	1	83.33	83.44	0.11	12,533	12	0	1	2	9	Corvallis	Benton		90	55.57
US-20	1	83.70	83.86	0.16	14,300	10	0	1	3	6	Corvallis	Benton	SW JEFFERSON AVE.	90	46.97
OR-99W	1	84.29	84.45	0.16	25,200	7	1	1	2	3	Corvallis	Benton	SW TWIN OAKS CIR.	90	49.48
OR-99W	1	87.46	87.61	0.15	7,311	3	0	2	0	1		Benton	LEG (TO SW AIRPORT AVE. (CORVALLIS AIRPORT))	90	46.69
OR-99W	1	89.59	89.75	0.16	5,600	8	0	2	6	0		Benton	LEG (TO LLEWELLYN RD.)	95	61.19
OR-99W	1	105.92	106.11	0.19	5,300	6	1	1	2	2		Lane	JAGER LN.	95	58.23
OR-99W	1	106.40	106.58	0.18	5,300	9	0	4	2	3		Lane	LINGO LN.	95	72.73

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OR-99	1	109.14	109.31	0.17	16,700	13	0	1	5	7	Junction City	Lane	W 11TH AVE.	90	53.85
OR-99	1	111.20	111.31	0.11	16,233	7	0	1	2	4	Junction City	Lane		85	41.12
OR-99	1	115.73	115.91	0.18	17,100	5	0	2	1	2		Lane	LEG (TO AWBREY LN.)	90	50.40
OR-99	1	116.62	116.84	0.22	16,300	7	0	1	2	4		Lane	LEG (TO W ENID RD.)	85	41.18
OR-99	1	117.79	118.00	0.21	22,900	13	1	0	2	10		Lane	LEG (TO CLEAR LAKE RD.)	90	54.91
OR-99	1	118.14	118.32	0.18	22,900	21	0	2	7	12		Lane	LEG (TO THEONA DR.)	95	72.71
OR-99	1	118.27	118.43	0.16	22,900	15	0	2	7	6		Lane		95	69.45

092 Lower Columbia River

US-30	1	19.67	19.86	0.19	25,100	13	0	1	6	6	Scappoose	Columbia	HAVLIK DR.	90	54.47
US-30	1	20.28	20.44	0.16	25,100	18	0	0	4	14	Scappoose	Columbia	HIGH SCHOOL RD.	90	48.53
US-30	1	20.51	20.60	0.09	30,233	14	0	0	3	11	Scappoose	Columbia	SW E.M. WATTS RD.	85	41.07
US-30	1	20.60	20.76	0.16	31,700	11	0	1	1	9	Scappoose	Columbia	SE SANTOSH ST.	90	49.03
US-30	1	20.82	21.00	0.18	33,100	14	0	1	2	11	Scappoose	Columbia	SW HALL ST.	90	46.55
US-30	1	25.39	25.57	0.18	24,400	8	0	2	2	4		Columbia	LEG (FROM CHURCH RD.)	95	57.43
US-30	1	25.71	25.88	0.17	24,400	10	0	1	3	6		Columbia	LEG (TO OLD PORTLAND RD.)	90	47.77
US-30	1	27.60	27.77	0.17	24,900	25	0	0	3	22	St. Helens	Columbia	GABLE RD.	95	66.01
US-30	1	28.15	28.26	0.11	24,522	5	1	1	2	1	St. Helens	Columbia	MCBRIDE ST.	90	49.34
US-30	1	28.47	28.59	0.12	21,500	10	0	1	6	3	St. Helens	Columbia	COLUMBIA BLVD.	85	45.36
US-30	1	28.55	28.65	0.10	21,500	7	0	1	3	3	St. Helens	Columbia	COLUMBIA BLVD.	85	40.15
US-30	1	40.38	40.54	0.16	9,000	6	0	1	2	3		Columbia	NICOLAI RD.	85	40.58
US-30	1	40.71	40.90	0.19	9,000	4	0	3	0	1		Columbia	NEER CITY RD.	95	62.15
US-30	1	44.99	45.15	0.16	8,000	6	1	0	2	3		Columbia	LAURELWOOD RD.	85	40.97
US-30	1	48.29	48.47	0.18	17,600	17	1	0	9	7	Rainier	Columbia	ROCKCREST ST.	95	67.44

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2019 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-30	1	75.64	75.82	0.18	5,400	4	1	1	0	2		Clatsop	CLIFTON RD.	90	50.90
US-30	1	94.00	94.10	0.10	10,600	6	2	0	4	0		Clatsop		90	54.71
US-30	1	95.45	95.56	0.11	11,700	4	1	1	0	2	Astoria	Clatsop	53RD ST.	90	47.95
US-30	1	96.43	96.60	0.17	12,900	2	0	2	0	0	Astoria	Clatsop	39TH ST.	85	40.40
US-30	2	98.36	98.45	0.09	11,577	7	0	1	2	4	Astoria	Clatsop	COMMERCIAL ST. (2ND LT.)	85	42.31
US-30	1	99.15	99.24	0.09	22,800	7	0	1	1	5	Astoria	Clatsop		85	40.00
US-30	1	99.21	99.30	0.09	22,800	7	0	1	0	6	Astoria	Clatsop	BASIN ST.	85	40.00

102 Nehalem

OR-202	1	6.07	6.24	0.17	1,800	5	0	1	0	4		Clatsop		90	47.45
OR-202	1	10.27	10.45	0.18	960	3	0	1	1	1		Clatsop		85	43.13
OR-202	1	14.85	14.96	0.11	680	3	0	2	1	0		Clatsop		95	61.33
OR-202	1	41.28	41.44	0.16	500	2	1	1	0	0		Columbia		90	57.29
	1	64.28	64.41	0.13	4,300	2	2	0	0	0		Columbia	TIMBER RD.	85	43.42
OR-47	1	71.82	71.94	0.12	4,400	7	0	1	3	3		Washington	NW HOFFMAN RD.	85	44.42

104 Fort Stevens

OR-104	1	1.50	1.65	0.15	4,100	3	1	1	0	1	Warrenton	Clatsop	ROAD (EBEN CARRUTHERS CO. PARK)	90	48.06
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140 Hillsboro-Silverton

OR-219	1	17.83	17.94	0.11	3,199	5	0	1	2	2		Yamhill	NE BELL RD.	85	43.22
OR-219	1	20.01	20.18	0.17	6,266	18	0	0	4	14	Newberg	Yamhill	E SHERMAN ST.	90	55.43
OR-219	1	20.71	20.82	0.11	12,600	8	0	1	3	4	Newberg	Yamhill	EVEREST RD.	85	44.78
OR-219	1	21.11	21.29	0.18	12,511	12	0	0	2	10	Newberg	Yamhill	2ND ST.	85	40.49
OR-219	1	24.05	24.23	0.18	13,700	2	0	2	0	0		Marion	NE CHAMPOEG RD.	85	40.31
OR-219	1	29.98	30.16	0.18	3,200	2	0	2	0	0		Marion	NE ST. PAUL HWY.	85	44.24
OR-219	1	36.65	36.73	0.08	15,300	7	0	1	1	5	Woodburn	Marion	001YL CONN. M.P. 2C272.40	85	41.23

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2019 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-219	1	36.69	36.82	0.13	19,900	10	0	1	1	8	Woodburn	Marion	001YL CONN. M.P. 2C272.40	90	45.77
OR-219	1	36.77	36.90	0.13	22,200	15	0	0	1	14	Woodburn	Marion	001YM CONN. M.P. 1C271.93	85	44.59
OR-214	1	36.95	37.12	0.17	22,200	22	0	1	3	18	Woodburn	Marion	LAWSON AVE.	95	73.78
OR-214	1	37.04	37.23	0.19	19,500	24	0	1	9	14	Woodburn	Marion	OREGON WY.	95	74.14
OR-214	1	38.02	38.22	0.20	15,300	16	0	2	1	13	Woodburn	Marion	N MERIDIAN DR.	95	69.27
OR-214	1	38.73	38.85	0.12	14,000	11	0	1	2	8	Woodburn	Marion	ROAD (WOODBURN POLICE STATION)	90	49.65
OR-214	1	38.97	39.16	0.19	14,000	12	0	1	7	4	Woodburn	Marion		90	52.22
OR-214	1	39.09	39.28	0.19	14,000	28	0	3	6	19	Woodburn	Marion	LEG (TO HWY. 081(1E))	95	75.78
OR-214	1	49.29	49.46	0.17	8,400	9	0	1	5	3		Marion	NE HOBART RD.	90	51.40

150 Salem-Dayton

OR-221	1	11.44	11.59	0.15	3,400	6	1	1	4	0		Polk		95	61.24
OR-221	1	12.62	12.72	0.10	6,500	3	1	1	1	0		Polk		90	46.13
OR-221	1	20.04	20.26	0.22	30,800	23	0	0	5	18	Salem	Polk	HWY. 150 M.P. (2)20.13	90	54.10
OR-221	1	20.26	20.47	0.21	41,200	32	0	1	10	21	Salem	Polk	GLEN CREEK RD.	95	72.90
OR-221	1	20.48	20.66	0.18	41,300	20	0	1	3	16	Salem	Polk	7TH ST.	95	65.81
OR-221	1	20.60	20.69	0.09	41,300	14	0	0	3	11	Salem	Polk	BASSETT ST.	85	40.07
OR-221	1	20.63	20.72	0.09	41,300	14	0	0	2	12	Salem	Polk	BASSETT ST.	85	40.07
OR-221	1	20.66	20.75	0.09	41,300	14	0	0	1	13	Salem	Polk	BASSETT ST.	85	40.07

151 Yamhill-Newberg

OR-240	1	9.01	9.12	0.11	8,000	6	1	0	2	3		Yamhill	RED HILLS RD.	85	40.97
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157 Willamina-Sheridan

OR-18B	1	2.63	2.80	0.17	4,877	3	0	2	1	0	Willamina	Yamhill	OAKEN HILLS DR.	90	47.43
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160 Cascade Hwy South

OR-213	1	24.68	24.88	0.20	5,000	10	0	1	4	5		Marion	MT. ANGEL-SCOTTS MILL RD. NE	90	56.37
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161 Woodburn-Estacada															
OR-211	1	0.04	0.13	0.09	8,900	7	0	1	1	5	Woodburn	Marion	MOLALLA AVE.	85	43.53
OR-211	1	1.01	1.10	0.09	8,900	2	0	2	0	0		Marion		85	41.05
OR-211	1	3.69	3.86	0.17	7,800	11	0	0	3	8		Clackamas	S MERIDIAN RD.	85	40.67
OR-211	1	7.50	7.68	0.18	6,000	17	2	1	4	10		Clackamas	LEG (TO S KROPF RD.)	95	79.81
162 North Santiam															
OR-22	1	1.20	1.37	0.17	52,000	20	1	1	4	14	Salem	Marion	001PD CONN. M.P. 2C254.57	95	67.97
OR-22	1	1.45	1.68	0.23	46,500	24	0	4	4	16	Salem	Marion		95	70.32
OR-22	1	35.44	35.61	0.17	4,600	3	2	0	1	0		Marion		90	47.53
OR-22	1	47.90	48.04	0.14	4,700	2	0	2	0	0		Marion		85	42.76
OR-22	1	69.91	70.09	0.18	4,200	3	0	3	0	0		Linn	TWIN MEADOWS RD.	95	62.94
163 Silver Creek Falls															
OR-214	1	15.50	15.69	0.19	1,700	9	0	1	3	5		Marion	LEG (TO CASCADE HWY. SE)	95	63.29
164 Jefferson															
OR-164	1	8.04	8.21	0.17	7,500	4	0	3	0	1		Linn	MASON RD.	95	63.01
181 Siletz															
OR-229	1	16.53	16.71	0.18	450	2	0	2	0	0		Lincoln		95	58.30
OR-229	1	20.87	21.02	0.15	610	2	0	1	0	1		Lincoln		85	40.46
189 Dallas-Rickreall															
OR-223	1	1.75	1.84	0.09	13,800	7	0	1	4	2		Polk	PLEASANT DR.	85	41.60
OR-223	1	1.77	1.86	0.09	13,800	7	0	1	4	2		Polk		85	41.60
193 Independence															
OR-51	1	4.02	4.18	0.16	8,200	3	1	1	0	1		Polk	ROGERS RD.	85	45.37

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2019 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
210 Corvallis-Lebanon															
OR-34	1	0.27	0.44	0.17	35,500	13	0	1	2	10		Linn	HWY. 210 M.P. 0.34	90	52.19
OR-34	1	1.09	1.27	0.18	35,500	45	0	0	2	43		Linn	PEORIA RD.	95	76.83
OR-34	1	5.27	5.45	0.18	32,988	7	0	2	2	3		Linn	OAKVILLE RD.	90	54.56
OR-34	1	9.74	9.92	0.18	19,600	16	0	2	3	11		Linn	OLSON RD.	95	60.68
OR-34	1	12.68	12.86	0.18	18,900	5	0	2	2	1		Linn	GOLTRA RD.	90	49.87
OR-34	1	15.59	15.76	0.17	17,933	13	0	3	4	6		Linn	DENNY SCHOOL RD.	95	75.02
211 Albany-Lyons															
OR-226	1	11.91	12.09	0.18	1,600	4	0	1	2	1		Linn	RICHARDSONS GAP RD.	85	43.98
212 Halsey-Sweet Home															
OR-228	1	19.91	20.02	0.11	4,100	5	0	1	2	2		Linn		85	41.26
227 Eugene-Springfield															
I-105	1	0.14	0.32	0.18	57,500	20	0	1	1	18	Eugene	Lane		95	58.51
I-105	1	1.11	1.19	0.08	59,800	4	0	2	1	1	Eugene	Lane		85	45.40
I-105	1	2.91	3.09	0.18	64,900	24	0	2	5	17	Eugene	Lane		95	68.52
OR-126	1	8.96	9.13	0.17	33,900	22	0	0	5	17	Springfield	Lane	52ND ST.	95	58.63
228 Springfield															
OR-528	1	0.56	0.74	0.18	18,711	18	0	1	8	9	Springfield	Lane	LEG (TO CENTENNIAL BLVD.)	95	68.03
229 Mapleton-Junction City															
OR-36	1	37.92	38.11	0.19	980	5	0	1	4	0		Lane	ROAD (ALDERWOOD WAYSIDE STATE PARK)	90	53.10

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2020 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
001 Pacific															
I-5	1	194.91	195.04	0.13	76,700	8	0	1	1	6	Eugene	Lane		85	40.37
I-5	1	233.88	234.07	0.19	55,200	17	0	0	4	13	Albany	Linn		90	45.71
I-5	1	234.91	235.02	0.11	70,500	9	1	0	1	7		Linn		85	42.80
I-5	1	236.92	237.08	0.16	68,800	16	0	0	2	14		Linn		85	43.10
I-5	1	238.91	239.08	0.17	68,300	17	0	0	2	15		Linn		90	45.19
I-5	1	239.95	240.12	0.17	68,400	9	0	1	2	6		Linn		85	42.84
I-5	1	243.92	244.05	0.13	68,200	10	0	1	2	7		Marion		85	42.85
I-5	1	255.83	255.98	0.15	103,200	6	1	1	1	3	Salem	Marion		90	47.78
I-5	1	256.57	256.69	0.12	102,800	6	0	2	1	3	Salem	Marion		90	50.32
I-5	1	256.66	256.75	0.09	102,800	7	0	2	1	4	Salem	Marion		90	52.75
I-5	1	267.00	267.14	0.14	97,800	5	0	2	0	3		Marion		90	47.81
I-5	1	271.89	271.99	0.10	97,600	11	0	1	3	7	Woodburn	Marion		85	44.70
I-5	1	271.95	272.05	0.10	97,600	8	0	1	5	2	Woodburn	Marion	001QA CONN. M.P. 2C272.03	85	40.15
I-5	1	274.03	274.15	0.12	97,600	8	0	1	0	7		Marion	ROAD (ODOT SCALE SITE)	85	40.15
I-5	1	281.88	281.97	0.09	100,100	10	0	1	1	8		Clackamas		85	44.66
I-5	1	281.97	282.05	0.08	100,100	15	0	0	4	11		Clackamas		85	40.36
I-5	1	282.00	282.08	0.08	100,100	15	0	0	4	11		Clackamas		85	40.36

009 Oregon Coast

US-101	1	3.89	4.03	0.14	22,077	7	0	1	2	4	Astoria	Clatsop	PORTWAY ST.	85	40.09
US-101	1	4.27	4.39	0.12	21,433	13	0	0	1	12	Astoria	Clatsop	PEDESTRIAN WALKWAY & BIKE TRAIL	85	40.19
US-101	1	6.75	6.90	0.15	14,900	14	0	0	1	13	Warrenton	Clatsop	NEPTUNE AVE.	85	41.86
US-101	1	6.98	7.16	0.18	15,600	14	0	1	2	11	Warrenton	Clatsop		90	51.86
US-101	1	7.96	8.14	0.18	14,600	10	0	2	3	5	Warrenton	Clatsop	SE ENSIGN LN.	95	64.46

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-101	1	12.61	12.73	0.12	16,500	8	0	1	0	7		Clatsop		85	43.69
US-101	1	13.35	13.54	0.19	16,500	12	1	3	2	6		Clatsop	LEG (TO SUNSET BEACH LN.)	95	68.90
US-101	1	13.88	14.06	0.18	16,500	3	1	1	0	1		Clatsop		85	43.75
US-101	1	21.02	21.23	0.21	16,233	17	1	1	5	10	Seaside	Clatsop	BROADWAY	95	66.63
US-101	1	49.51	45.48	Z 4.03	4,455	5	2	1	1	1		Tillamook		95	67.49
US-101	1	63.91	64.08	0.17	12,200	6	0	2	2	2		Tillamook	LATIMER RD.	90	54.24
US-101	2	65.74	65.91	0.17	6,300	8	0	2	1	5	Tillamook	Tillamook	FOURTH ST.	90	50.19
US-101	1	65.75	65.88	0.13	6,500	6	0	2	0	4	Tillamook	Tillamook	FOURTH ST.	95	57.31
US-101	1	89.35	89.46	0.11	4,300	2	1	1	0	0		Tillamook		85	43.07
US-101	1	90.28	90.38	0.10	3,911	5	1	0	2	2		Tillamook	LEG (TO BROOTEN RD.)	85	41.83
US-101	1	105.60	110.85	5.25	14,600	3	1	1	1	0		Lincoln		85	43.98
US-101	1	110.88	111.04	0.16	16,000	10	0	2	3	5		Lincoln	N CLANCY RD.	95	61.50
US-101	1	111.68	111.77	0.09	16,000	4	2	0	2	0		Lincoln	NE NEOTSU DR. (ALDERVIEW RD.)	90	47.16
US-101	1	112.76	112.86	0.10	15,800	7	0	1	1	5	Lincoln City	Lincoln	NW LOGAN RD. (ROADS END STATE PARK)	85	41.12
US-101	1	113.70	113.89	0.19	21,000	10	0	2	4	4	Lincoln City	Lincoln	NW 22ND ST.	95	57.92
US-101	1	117.76	117.85	0.09	16,400	3	0	2	0	1	Lincoln City	Lincoln	SW FLEET AVE.	85	43.79
US-101	1	131.51	131.67	0.16	9,000	3	1	1	1	0		Lincoln		90	45.10
US-101	1	139.23	139.34	0.11	19,833	7	0	1	2	4	Newport	Lincoln	NW 20TH ST.	85	40.60
US-101	1	139.40	139.50	0.10	24,500	7	0	1	2	4	Newport	Lincoln	NE 17TH ST.	85	39.82
US-101	1	139.44	139.63	0.19	24,500	13	0	2	5	6	Newport	Lincoln	NW 16TH ST.	95	64.85
US-101	1	139.70	139.88	0.18	24,500	14	0	2	3	9	Newport	Lincoln	NW 12TH ST.	95	67.90
US-101	1	140.27	140.36	0.09	23,700	13	0	0	5	8	Newport	Lincoln	NE 2ND ST.	85	39.70
US-101	1	184.63	184.80	0.17	4,400	3	0	2	1	0		Lane	ROAD (BOAT LAUNCH)	90	47.73

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-101	1	189.48	189.59	0.11	15,600	7	0	1	1	5	Florence	Lane	21ST ST.	85	41.16
US-101	1	193.13	193.29	0.16	8,100	2	1	1	0	0		Lane		85	41.25

015 McKenzie

OR-126B	2	1.44	1.55	0.11	16,366	8	0	1	3	4	Springfield	Lane	LEG (TO MILL ST.)	85	43.74
OR-126B	1	2.95	3.05	0.10	21,300	8	0	1	0	7	Springfield	Lane	S 20TH ST.	85	42.83
OR-126B	1	3.41	3.50	0.09	26,400	13	0	0	3	10	Springfield	Lane	LEG (TO S 28TH ST.)	85	39.28
OR-126B	1	3.42	3.53	0.11	26,400	14	0	0	3	11	Springfield	Lane	S 28TH ST.	85	41.57
OR-126B	1	3.66	3.82	0.16	25,755	9	0	1	1	7	Springfield	Lane	S 32ND ST.	90	45.51
OR-126B	1	4.18	4.29	0.11	21,100	5	0	2	2	1	Springfield	Lane	S 38TH ST.	90	49.61
OR-126B	1	4.52	4.69	0.17	21,100	26	0	0	7	19	Springfield	Lane	42ND ST.	90	56.14
OR-126	1	6.34	6.54	0.20	31,400	29	0	3	8	18	Springfield	Lane	S 58TH ST.	95	73.19
OR-126	1	7.18	7.33	0.15	31,400	5	0	2	0	3	Springfield	Lane	66TH ST.	90	48.89
OR-126	1	11.23	11.42	0.19	8,911	8	1	2	1	4		Lane	LEG (TO DEERHORN RD.)	95	68.34
OR-126	1	15.51	15.68	0.17	6,600	2	0	2	0	0		Lane	ROSS LN.	85	41.75
OR-126	1	29.80	29.90	0.10	3,800	5	0	1	2	2		Lane		85	41.75
OR-242	1	63.57	63.75	0.18	200	2	0	1	1	0		Lane		90	48.81
OR-242	1	71.92	72.09	0.17	200	1	0	1	0	0		Lane		85	40.76

016 Santiam

US-20	1	0.15	0.24	0.09	14,200	12	0	0	4	8	Albany	Linn	COLUMBUS ST. SE	85	39.66
US-20	1	0.18	0.38	0.20	22,500	32	0	0	3	29	Albany	Linn	COLUMBUS ST. SE	95	69.43
US-20	1	0.40	0.57	0.17	24,200	16	0	1	2	13	Albany	Linn	FULTON ST. SE	95	61.64
US-20	1	1.66	1.81	0.15	18,300	10	1	0	2	7	Albany	Linn	GOLDFISH FARMS RD. SE	90	48.48
US-20	1	6.46	6.64	0.18	10,500	9	0	1	3	5		Linn	LEG (TO KNOX BUTTE RD.)	90	49.58
US-20	1	11.62	11.79	0.17	10,300	10	1	1	3	5		Linn	GORE DR.	95	63.53

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2020 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-20	1	13.36	13.52	0.16	9,222	8	0	1	0	7	Lebanon	Linn	W MAPLE ST.	90	46.48
US-20	1	13.65	13.83	0.18	17,200	10	0	1	1	8	Lebanon	Linn	MILTON ST.	90	46.17
US-20	1	14.10	14.19	0.09	21,488	14	0	0	3	11	Lebanon	Linn	AIRPORT RD.	85	42.44
US-20	1	27.09	27.20	0.11	13,800	8	0	1	0	7	Sweet Home	Linn	9TH AVE.	85	44.42
US-20	1	27.16	27.26	0.10	13,100	9	0	1	0	8	Sweet Home	Linn	9TH AVE.	90	47.33
US-20	1	27.33	27.42	0.09	13,000	8	0	1	1	6	Sweet Home	Linn	12TH AVE.	85	44.64
US-20	1	27.84	28.03	0.19	13,200	8	0	1	1	6	Sweet Home	Linn	22ND AVE.	85	44.57
US-20	1	33.91	34.06	0.15	1,500	4	1	0	1	2		Linn		85	44.52
US-20	1	34.53	34.71	0.18	1,500	6	3	0	3	0		Linn		95	78.18
US-20	1	67.91	68.09	0.18	750	3	0	1	1	1		Linn	TOAD CREEK RD.	90	45.39
US-20	1	74.80	74.99	0.19	6,100	4	1	1	1	1		Linn	ROAD (SANTIAM AIRSTRIP)	90	53.45
US-20	1	75.41	75.56	0.15	6,100	3	1	1	0	1		Linn		90	46.37

018 Willamette

OR-58	1	0.23	0.35	0.12	16,300	2	1	1	0	0		Lane	001KY CONN. M.P. IC188.30	85	40.08
OR-58	1	1.73	1.87	0.14	16,300	2	1	1	0	0		Lane		85	40.08
OR-58	1	10.75	10.84	0.09	9,800	2	0	2	0	0		Lane	MATHEWS DR.	85	40.86
OR-58	1	10.83	10.92	0.09	9,800	2	0	2	0	0		Lane		85	40.86
OR-58	1	14.42	14.60	0.18	6,700	3	0	2	0	1		Lane		90	46.03
OR-58	1	34.60	34.70	0.10	8,200	3	1	1	1	0	Oakridge	Lane	UNION ST.	90	45.37
OR-58	1	59.69	59.83	0.14	3,300	2	0	2	0	0		Lane		85	44.10

027 Alsea

OR-34	1	10.02	10.19	0.17	880	4	0	1	2	1		Lincoln	E SJOSTROM DR.	90	49.39
OR-34	1	10.67	10.82	0.15	880	4	0	1	2	1		Lincoln	BRILEMAR ST.	90	49.39

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
029 Tualatin Valley															
OR-47	1	28.68	28.86	0.18	7,488	12	0	1	3	8		Yamhill	FLETT RD. (WAPATO-NEWBERG RD.)	95	59.09
OR-47	1	36.05	36.16	0.11	5,866	3	0	2	0	1		Yamhill	MERCHANT RD.	90	46.56
030 Willamina-Salem															
OR-22	1	0.00	0.11	0.11	8,600	10	0	2	4	4		Polk		95	67.32
OR-22	1	11.70	11.88	0.18	10,600	11	1	1	4	5		Polk	LEG (TO PERRYDALE RD.)	95	69.14
OR-22	1	12.63	12.81	0.18	10,600	10	0	1	4	5		Polk	LEG (FROM 030AB FRONTAGE RD.)	90	51.21
OR-22	1	20.29	20.47	0.18	36,600	10	0	2	5	3		Polk		95	61.81
OR-22	1	20.49	20.78	0.29	36,600	14	0	0	3	11		Polk		85	40.43
OR-22	1	20.54	20.85	0.31	36,600	17	0	1	5	11		Polk	52ND AVE. NW	90	55.43
OR-22	1	20.79	20.93	0.14	36,600	10	0	2	4	4		Polk	52ND AVE. NW	95	61.30
OR-22	1	21.94	22.13	0.19	36,600	11	0	1	3	7		Polk	ROAD	90	48.82
OR-22	1	23.98	24.16	0.18	36,000	16	0	2	4	10	Salem	Polk	ROSEWOOD DR. NW	95	67.82
OR-22	1	25.93	26.06	0.13	48,000	15	0	0	2	13	Salem	Marion		85	39.66
OR-22	1	26.01	26.13	0.12	48,000	40	0	1	7	32	Salem	Marion		95	73.99
OR-22	2	26.09	26.18	0.09	47,800	26	0	2	5	19	Salem	Marion		95	71.27
031 Albany-Corvallis															
US-20	1	2.88	3.02	0.14	13,800	4	1	1	0	2		Benton	NE CONIFER BLVD.	90	47.63
US-20	1	5.54	5.72	0.18	16,100	27	1	4	13	9		Benton	NE GRANGER AVE.	95	78.31
US-20	1	6.32	6.50	0.18	16,900	16	0	3	5	8		Benton	NW INDEPENDENCE HWY.	95	71.69
US-20	2	10.55	10.63	0.08	14,400	12	0	0	1	11	Albany	Linn	1ST AVE.	85	39.58
033 Corvallis-Newport															
US-20	1	0.51	0.61	0.10	12,655	12	0	0	1	11	Newport	Lincoln	SE MOORE DR.	85	40.40
US-20	1	54.57	54.74	0.17	19,600	20	0	0	5	15	Corvallis	Benton	SW 35TH ST.	90	50.27

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037 Wilson River															
OR-6	1	1.98	2.16	0.18	7,400	8	0	1	5	2		Tillamook	WILSON RIVER LP.	90	48.44
OR-6	1	33.30	33.48	0.18	4,800	4	0	2	1	1		Washington		90	51.49
OR-6	1	41.44	41.54	0.10	5,300	5	1	0	2	2		Washington		85	39.74
OR-6	1	49.94	50.11	0.17	9,300	9	0	1	3	5		Washington	NW WASHINGTON AVE	90	49.16
039 Salmon River															
OR-18	1	3.74	3.89	0.15	9,500	3	0	2	0	1		Lincoln		90	44.95
OR-18	1	4.74	4.92	0.18	9,700	10	0	2	4	4		Lincoln	BEAR CREEK RD.	95	66.66
OR-18	1	15.22	15.39	0.17	8,200	2	0	2	0	0		Polk		85	41.23
OR-18	1	21.17	21.27	0.10	11,800	6	0	1	2	3		Polk	GRAND RONDE RD.	85	39.28
OR-18	1	31.58	31.76	0.18	8,000	7	0	2	3	2		Yamhill	RED PRAIRIE RD.	95	59.09
OR-18	1	48.50	48.68	0.18	20,400	20	0	5	9	6	McMinnville	Yamhill	LOOP RD.	95	74.17
OR-18	1	49.84	50.00	0.16	16,344	25	0	3	8	14		Yamhill		95	76.94
OR-18	1	50.91	51.06	0.15	15,600	7	1	1	2	3		Yamhill		90	56.16
OR-18	1	51.64	51.82	0.18	17,400	5	1	3	0	1		Yamhill	KREDER RD.	95	61.73
043 Monmouth-Independence															
OR-51	1	0.20	0.31	0.11	9,955	7	0	1	3	3	Monmouth	Polk	N HEFFLEY ST.	85	43.06
OR-51	1	0.93	1.11	0.18	12,100	13	0	1	1	11	Independence	Polk	SIXTEENTH ST.	90	52.98
OR-51	1	1.21	1.38	0.17	12,100	5	0	2	0	3	Independence	Polk	GUN CLUB RD.	90	51.79
047 Sunset															
US-26	1	22.19	22.33	0.14	7,200	9	1	0	3	5		Clatsop	CHRISTMAS TREE RD.	90	47.70
US-26	1	51.14	51.32	0.18	11,900	3	0	2	1	0		Washington		85	44.40
051 Wilsonville-Hubbard															
OR-551	1	2.91	3.09	0.18	12,600	2	0	2	0	0		Marion	KEIL RD.	85	40.49

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OR-551	1	3.46	3.57	0.11	10,177	11	0	0	1	10		Marion	NE EHLEN RD.	85	39.32

058 Albany-Junction City

OR-99E	1	0.35	0.52	0.17	26,377	17	0	1	5	11	Albany	Linn	LEG (TO ALBANY AVE. SE)	95	58.98
OR-99E	1	0.85	0.96	0.11	23,111	13	0	0	3	10	Albany	Linn	WAVERLY DR. SE	85	39.89
OR-99E	2	1.33	1.44	0.11	12,100	12	0	0	3	9	Albany	Linn	HWY. 058 M.P. (2)1.36	85	40.54
OR-99E	1	1.33	1.43	0.10	9,088	12	0	0	2	10	Albany	Linn	CHICAGO ST.	85	43.24
OR-99E	1	1.36	1.52	0.16	18,600	18	0	0	3	15	Albany	Linn	HWY. 016 M.P. (2)-0.04	90	50.03
US-20	1	1.62	1.80	0.18	18,300	17	1	0	4	12	Albany	Linn	OAK ST. SE	90	55.83
US-20	1	1.77	2.02	0.25	18,900	25	1	2	6	16	Albany	Linn	MAIN ST.	95	73.24
OR-99E	1	3.04	3.16	0.12	21,400	9	0	1	1	7	Albany	Linn	18TH AVE.	90	45.38
OR-99E	1	3.10	3.20	0.10	21,400	7	0	1	0	6	Albany	Linn	19TH AVE.	85	40.17
OR-99E	1	4.00	4.11	0.11	14,800	7	0	1	0	6	Albany	Linn	34TH AVE.	85	41.35

062 Florence-Eugene

OR-126	1	11.17	11.29	0.12	5,600	2	1	1	0	0		Lane		85	42.20
OR-126	1	17.69	17.87	0.18	4,400	3	0	2	0	1		Lane		90	47.73
OR-126	1	19.33	19.45	0.12	5,900	4	1	1	1	1		Lane	ROAD	90	50.48
OR-126	1	46.83	46.97	0.14	9,066	11	0	0	3	8	Veneta	Lane	HWY. 200 M.P. 19.49	85	41.03
OR-126	1	47.75	47.89	0.14	12,511	4	0	2	1	1	Veneta	Lane	HUSTON RD.	90	48.30
OR-126	1	51.51	51.64	0.13	14,300	4	2	0	0	2		Lane	ROAD (FERN RIDGE WILDLIFE AREA)	90	47.42

069 Beltline

OR-126	1	1.19	1.37	0.18	18,300	12	0	1	4	7		Lane	LEG (FROM GREENHILL RD.)	90	48.76
OR-569	1	7.01	7.18	0.17	58,766	21	0	0	5	16		Lane		90	51.80
OR-569	1	8.40	8.53	0.13	70,411	15	0	1	3	11	Eugene	Lane		90	56.04
OR-569	1	9.40	9.55	0.15	87,900	10	0	1	6	3	Eugene	Lane		85	44.81

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OR-569	1	9.49	9.60	0.11	87,900	9	0	1	5	3	Eugene	Lane		85	40.24
OR-569	1	9.79	9.89	0.10	87,900	8	0	1	1	6	Eugene	Lane		85	40.24
OR-569	1	12.91	13.00	0.09	38,700	23	0	1	7	15	Springfield	Lane	LEG (TO GATEWAY ST.)	95	71.05

072 Salem

OR-99EB	1	1.43	1.62	0.19	27,300	19	0	1	3	15	Salem	Marion	LEG (TO VERDA LN. NE)	95	67.63
OR-99EB	1	2.52	2.70	0.18	29,566	13	1	0	0	12	Salem	Marion	LEG (TO CHERRY AVE. NE)	90	51.84
OR-99EB	1	3.07	3.25	0.18	22,377	18	0	1	5	12	Salem	Marion	LEG (TO BRDWDY ST. NE)	95	64.69
OR-99EB	1	3.54	3.66	0.12	15,522	13	0	0	2	11	Salem	Marion	HICKORY ST. NE	85	41.65
OR-99EB	1	4.27	4.40	0.13	16,477	17	0	0	3	14	Salem	Marion	GAINES ST. NE	90	50.76
OR-99EB	1	4.34	4.44	0.10	16,655	15	0	0	3	12	Salem	Marion	MARKET ST. NE	85	43.69
OR-99EB	1	4.72	4.90	0.18	19,488	20	1	0	6	13	Salem	Marion	FRONT ST. NE	95	65.36
OR-99EB	1	5.18	5.34	0.16	33,600	16	1	0	5	10	Salem	Marion	030AR CONN. M.P. 1C26.20	95	58.08
OR-22	2	5.33	5.48	0.15	16,800	26	0	0	12	14	Salem	Marion	LEG (TO HWY 072 INCREASING RDWY)	95	63.99
OR-22	1	5.35	5.60	0.25	13,544	35	1	1	11	22	Salem	Marion	COMMERCIAL ST.	95	79.44
OR-22	2	5.47	5.56	0.09	16,800	13	0	0	6	7	Salem	Marion	LIBERTY ST.	85	41.25
OR-22	1	6.12	6.21	0.09	23,299	13	0	0	1	12	Salem	Marion		85	40.09
OR-22	1	6.68	6.87	0.19	35,200	28	0	1	4	23	Salem	Marion	17TH ST. SE	95	72.05
OR-22	1	6.99	7.21	0.22	32,700	24	0	2	5	17	Salem	Marion	20TH ST. SE	95	69.59
OR-22	1	7.28	7.45	0.17	31,900	17	0	1	5	11	Salem	Marion	23RD ST. SE	90	51.34
OR-22	1	7.44	7.62	0.18	44,800	23	1	1	4	17	Salem	Marion	25TH ST. SE	95	66.82
OR-22	1	7.83	8.02	0.19	45,600	22	0	0	5	17	Salem	Marion	LEG (FROM AIRPORT RD.)	90	50.53
OR-22	1	8.14	8.38	0.24	52,000	44	0	1	7	36	Salem	Marion	HAWTHORNE AVE.	95	72.19

081 Pacific Highway East

OR-99E	1	25.86	26.04	0.18	7,200	2	0	2	0	0		Marion		85	41.53
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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-99E	1	29.18	29.34	0.16	16,100	10	0	1	1	8	Hubbard	Marion	D ST.	90	46.49
OR-99E	1	29.33	29.41	0.08	15,100	7	0	1	0	6	Hubbard	Marion	G ST.	85	41.27
OR-99E	1	31.50	31.68	0.18	17,500	14	0	2	2	10	Woodburn	Marion		95	69.37
OR-99E	1	31.61	31.80	0.19	20,100	23	0	3	3	17	Woodburn	Marion	LEG (FROM HWY. 140)	95	73.56
OR-99E	1	31.77	31.89	0.12	20,100	4	1	1	0	2	Woodburn	Marion	MT. JEFFERSON AVE.	90	46.70
OR-99E	1	32.15	32.24	0.09	20,433	13	0	0	4	9	Woodburn	Marion	HARDCASTLE AVE.	85	40.32
OR-99E	1	32.78	32.92	0.14	19,700	17	0	0	4	13	Woodburn	Marion	TOMLIN AVE.	90	49.87
OR-99E	1	32.91	33.06	0.15	15,000	16	0	0	3	13	Woodburn	Marion	SILVERTON AVE.	90	48.96
OR-99E	1	34.53	34.69	0.16	13,000	7	1	0	2	4		Marion	NE HOWELL PRAIRIE RD.	85	41.84
OR-99E	1	36.13	36.25	0.12	11,800	13	0	0	4	9		Marion	DOUGLAS AVE.	85	43.19
OR-99E	1	36.19	36.31	0.12	11,800	14	0	0	4	10		Marion	DOUGLAS AVE.	90	45.66
OR-99E	1	39.81	40.00	0.19	12,500	2	1	1	0	0		Marion	NE TOPAZ ST.	85	40.45
OR-99E	1	44.37	44.54	0.17	16,900	10	1	0	3	6		Marion	LEG (TO CHEMAWA RD.)	90	48.09
OR-99E	1	45.16	45.34	0.18	16,900	15	0	1	6	8	Salem	Marion	NE LANCASTER DR.	95	62.24
OR-99E	1	45.73	45.89	0.16	17,800	19	1	1	3	14	Salem	Marion	ASTORIA ST.	95	63.59
OR-99E	1	45.84	45.92	0.08	21,300	13	0	0	0	13	Salem	Marion	ASTORIA ST.	85	40.14
OR-99E	1	45.87	45.98	0.11	28,300	11	1	0	0	10	Salem	Marion	ASTORIA ST.	90	49.80
	1	46.39	46.49	0.10	28,300	19	0	0	4	15	Salem	Marion	HYACINTH ST.	90	52.34

091 Pacific Highway West

OR-99W	1	17.41	17.55	0.14	36,600	14	0	0	8	6		Washington	CHAPMAN RD.	85	40.43
OR-99W	1	19.75	19.95	0.20	38,000	2	0	2	0	0		Washington	HAUGEN RD.	85	39.37
OR-99W	1	21.71	21.88	0.17	37,200	16	0	1	2	13	Newberg	Yamhill	BRUTSCHER ST.	95	59.77
OR-99W	1	21.96	22.14	0.18	37,200	22	0	1	4	17	Newberg	Yamhill	LEG (TO N SPRINGBROOK RD.)	95	70.58

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Oregon Department of Transportation

Region

2020 - On-State, Top 15% SPIS Groups - By Hwy, MP

2

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-99W	1	22.63	22.74	0.11	32,188	7	0	1	2	4	Newberg	Yamhill	HULET LN.	85	39.22
OR-99W	2	23.39	23.50	0.11	15,333	7	0	1	1	5	Newberg	Yamhill	N SCHOOL ST.	85	41.29
OR-99W	1	29.72	29.90	0.18	24,111	15	0	1	5	9		Yamhill	HWY. 091 M.P. 29.73	95	59.22
OR-99W	1	30.70	30.88	0.18	11,200	4	0	2	0	2		Yamhill	STOLLER RD.	90	48.08
OR-99W	1	34.59	34.71	0.12	8,300	5	1	1	0	3		Yamhill		90	49.07
OR-99W	1	35.23	35.42	0.19	19,700	10	1	3	2	4	McMinnville	Yamhill	NE DORAN DR.	95	62.65
OR-99W	1	35.39	35.57	0.18	18,188	15	0	0	3	12	McMinnville	Yamhill	LAFAYETTE AVE.	85	43.79
OR-99W	1	35.68	35.78	0.10	21,800	7	0	1	2	4	McMinnville	Yamhill	NE 27TH ST.	85	40.12
OR-99W	1	36.27	36.44	0.17	21,800	15	0	1	1	13	McMinnville	Yamhill	NE MCDONALD LN.	90	50.27
OR-99W	1	36.61	36.82	0.21	21,344	23	0	0	5	18	McMinnville	Yamhill	LEG (TO BAKER CREEK RD.)	95	56.87
OR-99W	1	38.36	38.55	0.19	19,400	10	0	1	1	8	McMinnville	Yamhill	LINFIELD AVE.	90	48.26
OR-99W	1	39.05 Z	39.16	0.11	13,300	14	0	0	3	11	McMinnville	Yamhill	BOOTH BEND RD.	85	42.49
OR-99W	1	42.07	42.19	0.12	8,500	3	0	2	0	1		Yamhill	WILLAMETTE ST.	90	45.26
OR-99W	1	48.48	48.61	0.13	5,400	3	0	2	1	0		Polk		90	46.84
OR-99W	1	49.63	49.81	0.18	5,400	17	0	0	5	12		Polk	BETHEL RD.	95	59.02
OR-99W	1	59.94	60.12	0.18	15,100	20	1	1	8	10		Polk	CLOW CORNER RD.	95	76.06
OR-99W	1	62.22	62.40	0.18	15,100	13	0	1	4	8		Polk	HOFFMAN RD.	95	57.36
OR-99W	1	63.33	63.44	0.11	13,533	12	0	0	3	9	Monmouth	Polk	E JACKSON ST.	85	39.99
OR-99W	1	63.41	63.50	0.09	13,333	14	0	0	2	12	Monmouth	Polk	E CLAY ST.	85	40.01
OR-99W	1	63.47	63.60	0.13	13,300	11	0	1	2	8	Monmouth	Polk	E CLAY ST.	90	52.82
OR-99W	1	63.56	63.66	0.10	10,011	6	0	1	1	4	Monmouth	Polk	E MADRONA AVE.	85	40.13
OR-99W	1	64.71	64.89	0.18	9,600	7	0	1	2	4		Polk	STAPLETON RD.	85	43.17
OR-99W	1	66.47	66.65	0.18	9,700	3	2	0	0	1		Polk	PARKER RD.	90	44.92

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2020 - On-State, Top 15% SPIS Groups - By Hwy, MP

Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-99W	1	79.67	79.86	0.19	15,100	5	0	2	2	1	Corvallis	Benton	NE ELLIOTT CIR.	90	50.88
OR-99W	2	83.26	83.44	0.18	14,066	26	0	0	6	20	Corvallis	Benton	NW TYLER AVE.	95	65.33
OR-99W	1	83.26	83.43	0.17	11,999	16	0	1	3	12	Corvallis	Benton	NW TYLER AVE.	90	55.68
US-20	1	83.85	84.00	0.15	14,300	12	0	1	3	8	Corvallis	Benton	SW WASHINGTON AVE.	90	46.96
OR-99W	1	84.24	84.42	0.18	25,600	10	2	1	1	6	Corvallis	Benton	SE CHAPMAN PL. (CRYSTAL LAKE DR.)	95	64.82
OR-99W	1	84.35	84.44	0.09	25,600	7	1	0	2	4	Corvallis	Benton	SW TWIN OAKS CIR.	85	39.71
OR-99W	1	87.46	87.61	0.15	7,666	5	0	2	0	3		Benton	LEG (TO SW AIRPORT AVE. (CORVALLIS AIRPORT))	90	54.24
OR-99W	1	106.40	106.58	0.18	5,600	6	0	2	0	4		Lane	LINGO LN.	95	57.90
OR-99	1	109.14	109.31	0.17	16,300	15	0	1	3	11	Junction City	Lane	W 11TH AVE.	90	56.39
OR-99	1	109.91	110.01	0.10	16,500	2	0	2	0	0	Junction City	Lane		85	40.07
OR-99	1	110.89	110.98	0.09	16,900	2	1	1	0	0	Junction City	Lane	PRAIRIE RD.	85	40.04
OR-99	1	110.91	111.07	0.16	16,900	2	2	0	0	0	Junction City	Lane		85	40.04
OR-99	1	111.20	111.31	0.11	16,600	8	0	1	2	5	Junction City	Lane		85	43.73
OR-99	1	111.25	111.37	0.12	16,099	7	0	2	2	3	Junction City	Lane		90	56.07
OR-99	1	115.73	115.91	0.18	16,900	6	0	4	0	2		Lane	LEG (TO AWBREY LN.)	95	63.20
OR-99	1	118.14	118.32	0.18	23,100	25	0	1	12	12		Lane	LEG (TO THEONA DR.)	95	74.06
OR-99	1	118.27	118.43	0.16	23,100	14	0	2	6	6		Lane		95	68.79

092 Lower Columbia River

US-30	1	19.67	19.86	0.19	33,400	14	0	1	5	8	Scappoose	Columbia	HAVLIK DR.	90	55.73
US-30	1	20.27	20.47	0.20	33,400	24	0	1	5	18	Scappoose	Columbia	WALNUT ST.	95	71.29
US-30	1	20.61	20.76	0.15	35,000	7	0	1	1	5	Scappoose	Columbia	SE SANTOSH ST.	85	39.05
US-30	1	20.82	20.93	0.11	34,000	9	0	1	1	7	Scappoose	Columbia	SW HALL ST.	85	44.08
US-30	1	20.87	21.00	0.13	34,000	8	0	1	1	6	Scappoose	Columbia	COLUMBIA AVE.	85	41.62

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
US-30	1	25.39	25.57	0.18	28,000	9	0	2	2	5		Columbia	LEG (FROM CHURCH RD.)	95	59.57
US-30	1	25.71	25.88	0.17	28,000	8	0	2	4	2		Columbia	BENNETT RD.	95	57.34
US-30	1	26.66	26.79	0.13	25,200	2	1	1	0	0		Columbia		85	39.64
US-30	1	27.60	27.77	0.17	24,900	26	0	0	5	21	St. Helens	Columbia	GABLE RD.	95	67.85
US-30	1	28.15	28.26	0.11	24,677	4	1	1	1	1	St. Helens	Columbia	MCBRIDE ST.	90	46.36
US-30	1	28.47	28.59	0.12	22,900	10	0	1	5	4	St. Helens	Columbia	COLUMBIA BLVD.	90	47.65
US-30	1	37.50	37.65	0.15	9,000	3	1	1	0	1		Columbia		90	45.10
US-30	1	40.38	40.54	0.16	9,000	7	0	1	1	5		Columbia	GOBLE BOAT RAMP RD. (MOORAGE RD.)	85	43.53
US-30	1	40.71	40.90	0.19	8,900	5	0	4	0	1		Columbia	NEER CITY RD.	95	63.95
US-30	1	48.29	48.47	0.18	14,600	12	1	1	6	4	Rainier	Columbia	ROCKCREST ST.	95	70.49
US-30	1	75.64	75.82	0.18	5,100	4	1	1	0	2		Clatsop	CLIFTON RD.	90	51.18
US-30	1	91.91	92.00	0.09	8,700	3	2	0	0	1		Clatsop		90	45.20
US-30	1	95.45	95.56	0.11	11,800	3	1	1	1	0	Astoria	Clatsop	53RD ST.	85	44.42
US-30	1	96.00	96.13	0.13	11,800	9	0	1	3	5	Astoria	Clatsop	46TH ST.	90	47.83
US-30	1	96.43	96.60	0.17	12,800	2	0	2	0	0	Astoria	Clatsop	39TH ST.	85	40.41
US-30	2	98.18	98.34	0.16	9,200	5	0	2	0	3	Astoria	Clatsop	11TH ST.	90	48.71
US-30	2	98.34	98.44	0.10	9,644	6	0	1	2	3	Astoria	Clatsop	COMMERCIAL ST. (2ND LT.)	85	40.10
US-30	1	98.41	98.58	0.17	19,300	12	1	0	0	11	Astoria	Clatsop	7TH ST. (2ND RT.)	90	48.27
US-30	1	99.15	99.24	0.09	21,100	11	0	1	2	8	Astoria	Clatsop		90	50.40

102 Nehalem

OR-202	1	6.07	6.24	0.17	1,800	4	0	1	1	2		Clatsop		85	43.01
OR-202	1	10.27	10.45	0.18	950	4	0	1	2	1		Clatsop		90	48.66
OR-202	1	14.78	14.96	0.18	680	4	0	3	1	0		Clatsop		95	80.28

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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-202	1	16.94	17.05	0.11	680	2	0	1	1	0		Clatsop		85	39.49
OR-47	1	57.02	57.20	0.18	1,600	5	0	2	2	1		Columbia	SCAPPOOSE-VERNONIA RD.	95	63.93
OR-47	1	64.28	64.41	0.13	4,166	3	2	0	1	0		Columbia	LEG (TO TIMBER RD.)	90	48.48
OR-47	1	71.81	71.95	0.14	4,400	6	0	1	3	2		Washington	NW HOFFMAN RD.	85	44.42

104 Fort Stevens

OR-104	1	1.50	1.65	0.15	4,100	3	1	1	0	1	Warrenton	Clatsop	ROAD (EBEN CARRUTHERS CO. PARK)	90	48.06
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140 Hillsboro-Silverton

OR-219	1	20.08	20.18	0.10	6,744	12	0	0	2	10	Newberg	Yamhill	E SHERIDAN ST.	90	44.90
OR-219	1	20.71	20.88	0.17	8,600	8	0	1	2	5	Newberg	Yamhill	EVEREST RD.	90	46.82
OR-219	1	32.89	33.07	0.18	3,111	6	0	1	1	4		Marion	NE FRENCH PRAIRIE RD.	90	50.13
OR-214	1	36.95	37.12	0.17	26,300	25	0	1	3	21	Woodburn	Marion	LAWSON AVE.	95	74.20
OR-214	1	37.04	37.23	0.19	19,600	26	0	2	8	16	Woodburn	Marion	OREGON WY.	95	75.06
OR-214	1	37.64	37.82	0.18	19,600	14	0	1	1	12	Woodburn	Marion	LEISURE ST.	90	50.69
OR-214	1	38.09	38.18	0.09	15,100	12	0	0	2	10	Woodburn	Marion	N MERIDIAN DR.	85	39.34
OR-214	1	38.31	38.49	0.18	15,100	8	0	1	0	7	Woodburn	Marion	ROAD (HIGH SCHOOL)	85	44.03
OR-214	1	38.73	38.85	0.12	14,100	8	0	1	2	5	Woodburn	Marion	ROAD (WOODBURN POLICE STATION)	85	41.52
OR-214	1	38.78	38.90	0.12	14,100	7	0	1	1	5	Woodburn	Marion	PARK AVE.	85	41.52
OR-214	1	38.97	39.13	0.16	14,100	8	0	1	4	3	Woodburn	Marion		85	44.30
OR-214	1	39.09	39.26	0.17	14,100	18	0	1	5	12	Woodburn	Marion		95	68.96
OR-214	1	41.70	41.85	0.15	6,000	2	1	1	0	0		Marion		85	42.00
OR-214	1	41.79	41.88	0.09	6,000	2	1	1	0	0		Marion		85	42.00
OR-214	1	49.29	49.46	0.17	8,300	13	0	2	4	7		Marion	NE HOBART RD.	95	75.64

150 Salem-Dayton

OR-221	1	11.44	11.59	0.15	3,400	5	1	1	3	0		Polk		95	57.50
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Rte	Rdwy	BMP	EMP	Length	ADT	Crash	Fatal	A	B	C	City	County	Connection	Percent	SPIS
OR-221	1	14.91	15.07	0.16	9,700	12	0	0	2	10		Polk	LINCOLN RD. NW	85	42.46
OR-221	1	20.06	20.14	0.08	28,133	13	0	0	3	10	Salem	Polk	HWY. 150 M.P. (2)20.13	85	39.05
OR-221	1	20.26	20.35	0.09	31,600	16	0	0	6	10	Salem	Polk	TAYBIN RD. NW	90	45.35
OR-221	1	20.28	20.46	0.18	41,022	25	0	1	8	16	Salem	Polk	GLEN CREEK RD.	95	71.97
OR-221	1	20.49	20.66	0.17	42,400	12	0	1	1	10	Salem	Polk	MOYER LN. NW	90	48.27

151 Yamhill-Newberg

OR-240	1	9.00	9.12	0.12	8,100	10	1	0	2	7		Yamhill	RED HILLS RD.	90	52.69
OR-240	1	9.06	9.16	0.10	8,100	11	0	0	2	9		Yamhill	RED HILLS RD.	85	40.41

160 Cascade Hwy South

OR-213	1	24.68	24.88	0.20	5,300	8	0	1	3	4		Marion	MT. ANGEL-SCOTTS MILL RD. NE	90	49.74
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161 Woodburn-Estacada

OR-211	1	0.04	0.13	0.09	8,000	7	0	1	1	5	Woodburn	Marion	MOLALLA AVE.	85	44.09
OR-211	1	3.69	3.86	0.17	7,000	14	0	0	4	10		Clackamas	S MERIDIAN RD.	90	49.32
OR-211	1	7.50	7.68	0.18	5,800	19	1	2	5	11		Clackamas	LEG (TO S KROPF RD.)	95	80.83

162 North Santiam

OR-22	1	1.20	1.37	0.17	52,000	17	1	1	3	12	Salem	Marion	001PD CONN. M.P. 2C254.57	95	67.09
OR-22	1	1.45	1.65	0.20	47,100	22	0	3	6	13	Salem	Marion		95	69.51
OR-22	1	16.01	16.19	0.18	11,400	3	0	2	0	1		Marion		85	44.49
OR-22	1	27.33	27.49	0.16	7,400	2	0	2	0	0		Marion		85	41.46
OR-22	1	35.44	35.61	0.17	4,700	4	2	0	1	1		Marion		90	51.60
OR-22	1	64.87	64.97	0.10	4,400	2	0	2	0	0		Linn		85	42.98

163 Silver Creek Falls

OR-214	1	15.50	15.69	0.19	1,700	11	0	2	3	6		Marion	LEG (TO CASCADE HWY. SE)	95	84.58
OR-214	1	22.11	22.28	0.17	1,100	3	0	1	2	0		Marion		85	41.94

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OR-214	1	27.18	27.35	0.17	860	2	0	2	0	0		Marion		90	52.50

181 Siletz

OR-229	1	20.87	21.02	0.15	610	2	0	1	0	1		Lincoln		85	40.46
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189 Dallas-Rickreall

OR-223	1	0.14	0.30	0.16	15,766	13	0	1	5	7	Dallas	Polk	SE UGLOW ST.	90	54.55
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193 Independence

OR-51	1	3.19	3.31	0.12	8,000	7	0	1	3	3		Polk		85	44.09
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OR-51	1	3.27	3.37	0.10	8,000	3	0	2	0	1		Polk		90	45.45
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OR-51	1	4.02	4.18	0.16	8,000	3	1	1	0	1		Polk	ROGERS RD.	90	45.45
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194 Monmouth

OR-194	1	3.35	3.48	0.13	880	3	0	1	0	2		Polk		85	43.91
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210 Corvallis-Lebanon

OR-34	1	0.02	0.14	0.12	13,111	12	0	0	0	12	Corvallis	Benton	NW 1ST ST.	85	40.51
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OR-34	1	0.27	0.44	0.17	35,400	12	0	1	4	7		Linn	PEDESTRIAN WALKWAY & BIKE TRAIL	90	49.83
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OR-34	1	1.09	1.27	0.18	33,700	35	0	0	2	33		Linn	PEORIA RD.	95	72.41
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OR-34	1	5.27	5.36	0.09	32,633	7	0	1	3	3		Linn	OAKVILLE RD.	85	39.18
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OR-34	1	9.74	9.95	0.21	25,400	26	0	1	7	18		Linn	OLSON RD.	90	47.31
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OR-34	1	12.68	12.86	0.18	19,000	4	0	2	2	0		Linn	GOLTRA RD.	90	46.80
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OR-34	1	15.59	15.76	0.17	18,022	11	0	4	2	5		Linn	DENNY SCHOOL RD.	95	72.83
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211 Albany-Lyons

OR-226	1	11.91	12.09	0.18	1,700	8	0	0	6	2		Linn	RICHARDSONS GAP RD.	85	44.33
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212 Halsey-Sweet Home

OR-228	1	19.91	20.00	0.09	4,400	5	0	1	2	2		Linn		85	40.82
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227 Eugene-Springfield															
I-105	1	0.00	0.11	0.11	58,800	19	0	1	3	15	Eugene	Lane	W 7TH AVE.	95	64.70
I-105	1	0.21	0.32	0.11	58,800	13	0	1	1	11	Eugene	Lane		90	52.03
I-105	1	1.10	1.28	0.18	58,300	9	1	2	1	5	Eugene	Lane	227AE CONN. M.P. 4C1.21	95	60.78
I-105	1	2.41	2.56	0.15	61,100	11	0	1	3	7	Eugene	Lane		90	47.54
I-105	1	2.91	3.04	0.13	61,100	9	0	1	3	5	Eugene	Lane		85	43.00
OR-126	1	8.96	9.13	0.17	33,500	15	0	0	3	12	Springfield	Lane	52ND ST.	85	43.82
228 Springfield															
OR-528	1	0.55	0.73	0.18	19,700	19	0	1	7	11	Springfield	Lane	LEG (TO CENTENNIAL BLVD.)	95	70.96
OR-528	2	1.22	1.39	0.17	5,233	5	0	1	1	3	Springfield	Lane	B ST.	85	40.87
229 Mapleton-Junction City															
OR-36	1	37.92	38.10	0.18	980	3	0	1	2	0		Lane	ROAD (ALDERWOOD WAYSIDE STATE PARK)	85	42.95
OR-36	1	51.20	51.38	0.18	3,800	3	1	1	0	1		Lane		90	48.44
OR-36	1	51.50	51.59	0.09	3,800	3	0	2	0	1		Lane	091BM CONN. M.P. 1C111.30	90	48.44

**Crash data shown in the SPIS group report results from the summation of crash data between the begin and end mile points of the Group.
 **ADT, SPIS Score, and Percent data shown in the SPIS group report are the highest values from all sites within the Group.

APPENDIX F
**IN-PROCESS
TRIPS**



TRANSPORTATION IMPACT ANALYSIS

To
City of Woodburn

For
Woodburn Senior Living
Apartments

Dated
February 5, 2021
(Revised April 9, 2021)
(Revised August 4, 2021)

Project Number
2200104.00



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I. INTRODUCTION

This Transportation Impact Analysis (TIA) has been prepared in support of the proposed Woodburn Senior Living Apartments in Woodburn, Oregon. Figure 1 in Appendix A presents a vicinity map indicating the project location.

Project Description

The Woodburn Senior Living Apartments will include up to 17 studio units, 61 one-bedroom units, and 20 two-bedroom units for a total of up to 98 dwelling units. The units will be similar to traditional apartments except they will be limited to senior residents and provide shared amenities. The development is different from a nursing home or assisted living facility in that residents live independently. Access to the site will be provided via Sprague Lane opposite the Woodburn Premium Outlets. Figure 2 presents the proposed site plan.

The site is identified as Marion County Tax Lot 052W12B000100. The site is within the Urban Growth Boundary (UGB), within City Limits, and within the I-5 Interchange Management Area (IMA). The site is approximately 8.91 acres and is zoned Medium Density Residential (RM).

Scope of Analysis

This TIA has been prepared in accordance with Woodburn Development Ordinance (WDO), Sections 2.05.02 and 3.04.05 and ODOT's *Analysis Procedures Manual (APM)*, Version 2. Per WDO Section 2.05.02, the City requires a TIA for developments within the IMA estimated to generate more than 20 peak hour trips. The site is not subject to a trip budget as specified in this section of the WDO as the trip budgets apply only to commercial and industrial parcels, and the subject site is zoned residential.

This study includes a summary of base year traffic conditions, crash review, proposed trip generation, and an analysis of intersection operations, sight distance, and queuing. A TIA scoping letter dated November 11, 2020 was submitted to City and ODOT staff. The scope was approved by ODOT staff in an email dated November 16, 2020. The TIA scoping letter and associated correspondence are provided in Appendix B for reference.

Study Area

The City does not publish guidelines for determining a TIA study area. A similar study area presented in Mackenzie's April 6, 2017 TIA for the Woodland Crossing Master Development was utilized. The study area includes the following intersections:

1. Arney Road/Arney Lane
2. Sprague Lane/Site Access
3. Woodland Avenue/Robin Avenue
4. Arney Road/Sprague Lane
5. Hillsboro-Silverton Highway (OR 219)/Woodland Avenue

All intersections along OR 219 are maintained by ODOT. All intersections in the study area are located within the City of Woodburn.

IV. SITE DEVELOPMENT

The trip-making characteristics of the proposed senior living apartments are described below.

Trip Generation

Trip Generation estimates for the proposed Woodburn Senior Living apartments were developed with the use of the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual*, 10th Edition. Site trip generation calculations are based on trip rates for ITE’s “Senior Adult Housing – Attached” (ITE Land Use Code (LUC) 252). The trip generation data compiled by ITE for this use include survey sites for “attached independent living developments, including retirement communities, age-restricted housing, and active adult communities” that can “take the form of bungalows, townhouses, and apartments”. Table 3 presents the trip generation estimates for the proposed Woodburn Senior Living Apartments.

TABLE 3 – TRIP GENERATION ESTIMATES									
Land Use	ITE LUC	Dwelling Units	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Senior Adult Housing - Attached	252	98	7	13	20	14	11	25	363

Trip Distribution and Traffic Assignment

Trip distribution for the proposed apartments was assumed to be consistent with the distribution utilized for the Woodland Crossing Apartments study. The following trip distribution was assumed:

- 15% to/from the west on OR 219 (Hillsboro-Silverton Highway)
- 80% to/from the east on OR 219 (Hillsboro-Silverton Highway)
- 5% to/from the north on Arney Road

We have assumed traffic traveling to and from the north on Arney Road will utilize Sprague Lane instead of driving through the Woodburn Premium Outlets parking lots.

Figure 8 – 2022 Pre-Development Traffic Volumes

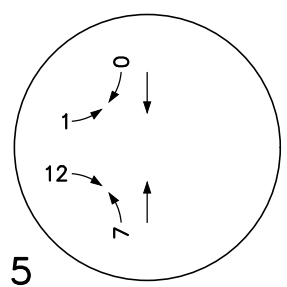
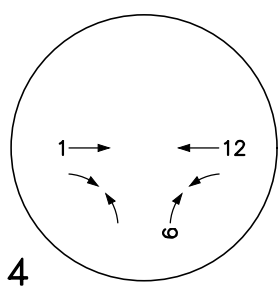
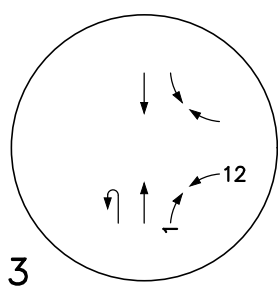
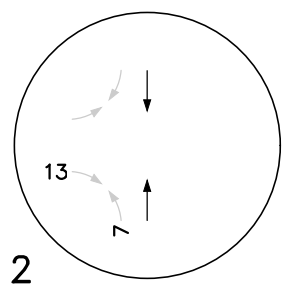
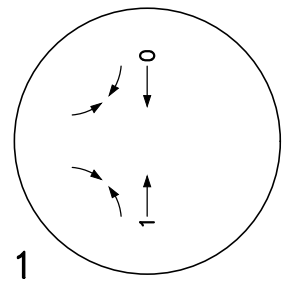
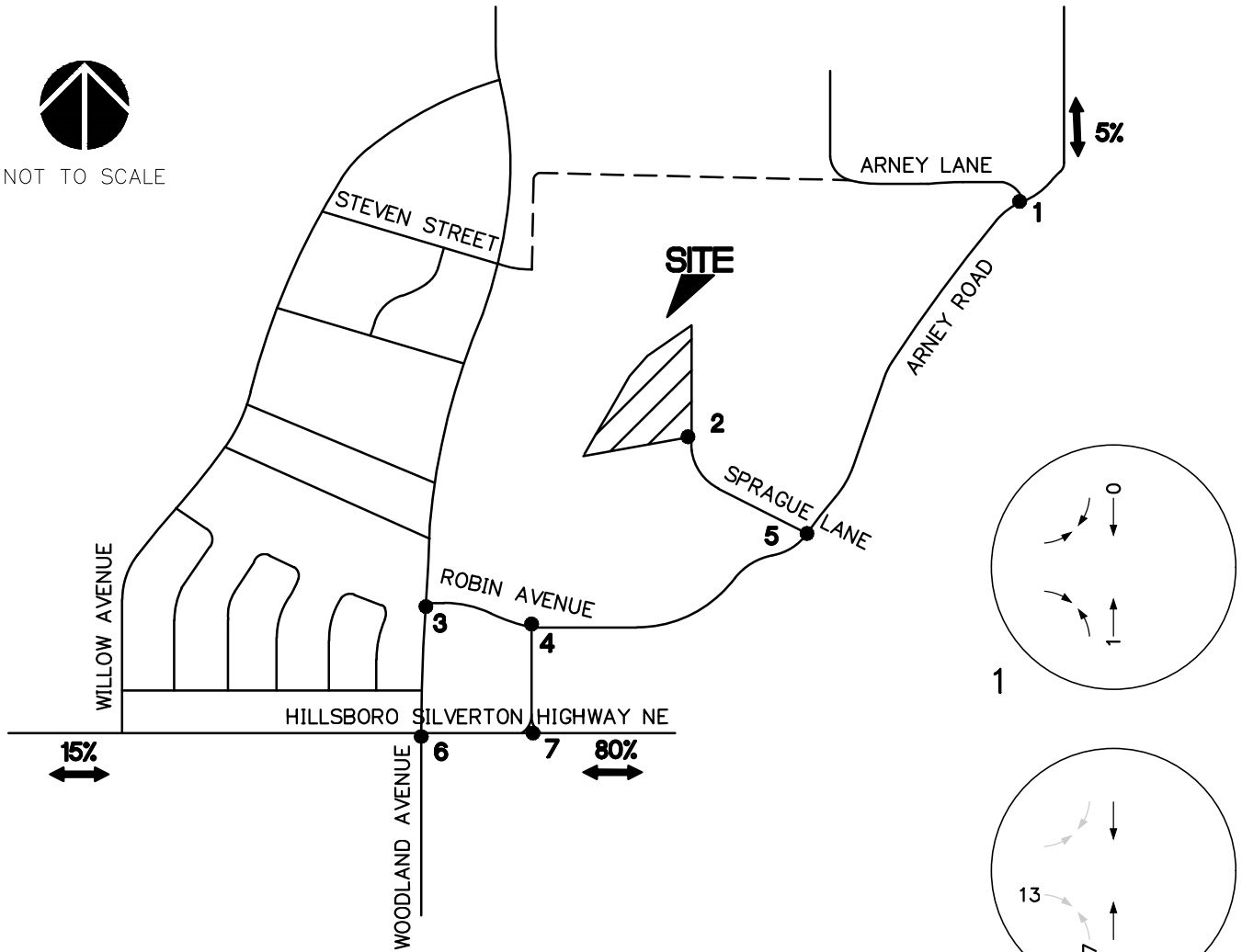
Figure 9 presents the trip distribution and traffic assignment for project trips during the AM and PM peak hours.

Interchange Management Area Overlay District

Section 2.05.02 of the WDO is intended “to preserve the long-term capacity of the I-5/Highway 214 interchange”. The code implements a trip budget for commercial and industrial parcels located within the Interchange Management Area (IMA) Overlay District that allows for 2,500 peak hour vehicle trips for the combined parcels within the district. This budget is allocated to specific parcels identified in Table 2.05A of the code on a first-developed, first-served basis. It also noted that 1,500 residential trips are planned within the IMA, but the WDO does not provide a specific budget for residential trips.

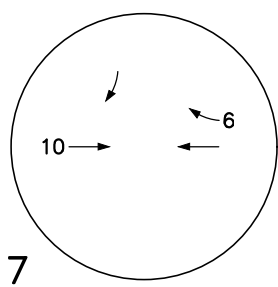
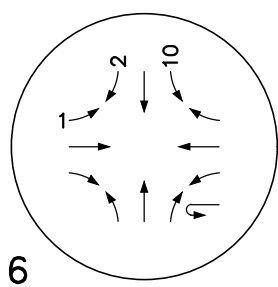


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AM PEAK HOUR

In - 7
 Out - 13
 Total - 20



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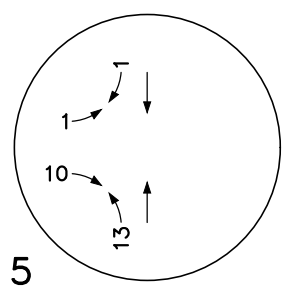
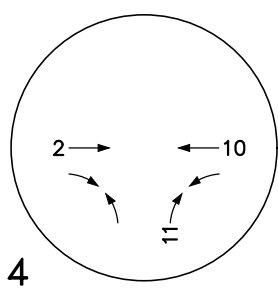
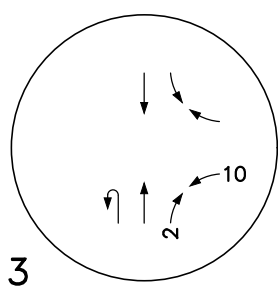
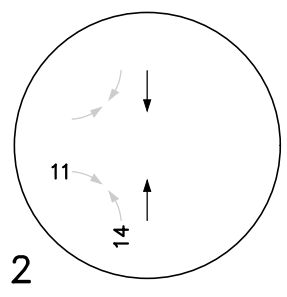
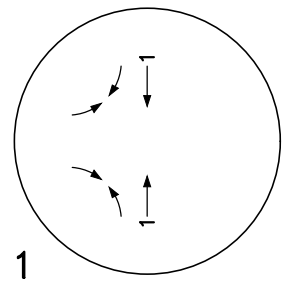
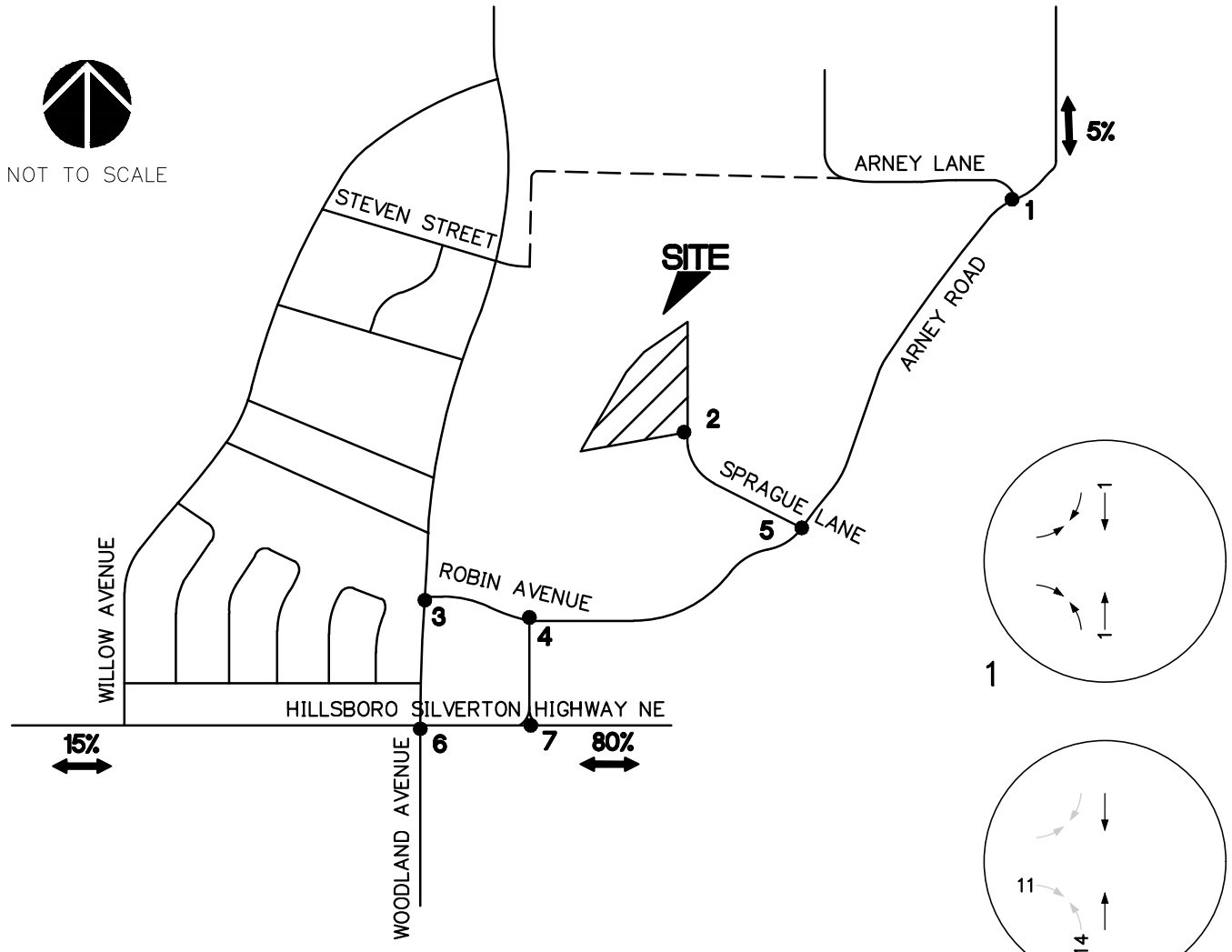
**TRIP DISTRIBUTION +
 TRAFFIC ASSIGNMENT -
 AM PEAK HOUR**
 WOODBURN SENIOR LIVING APARTMENTS
 WOODBURN, OREGON

**FIGURE
 9A**

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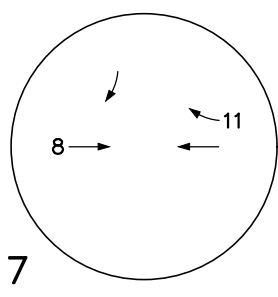
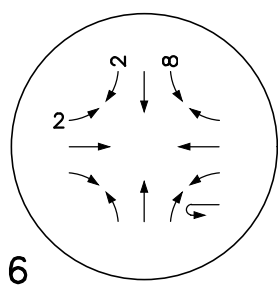


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PM PEAK HOUR

In - 14
 Out - 11
 Total - 25



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**TRIP DISTRIBUTION +
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 PM PEAK HOUR**
**WOODBURN SENIOR LIVING APARTMENTS
 WOODBURN, OREGON**

**FIGURE
 9B**

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TRANSPORTATION IMPACT ANALYSIS

To
City of Woodburn

For
Woodland Crossing
Master Development
Woodburn, OR

Submitted
April 6, 2017

Project Number
2150567.00



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EXECUTIVE SUMMARY

This Transportation Impact Analysis (TIA) has been prepared in support of the proposed Woodland Crossing development in Woodburn, Oregon. This analysis addresses requirements established by the City of Woodburn Development Ordinance (WDO), Section 3.04.05 and ODOT's *Analysis Procedures Manual* (APM). The following are key findings supported by these analysis results for the proposed Woodland Crossing development.

Project Description

- The proposed development will consist of up to 300 apartment units and up to 127 spaces to store recreational vehicles (RVs).
- Access to the multifamily portion of the development will be provided via a new public street connection between Woodland Avenue, aligned opposite Steven Street, and Arney Lane.
- Access to the RV storage portion of the development will be provided via Sprague Lane.

Existing Conditions

- The proposed project site is approximately 34.7 acres and is located within the City of Woodburn Urban Growth Boundary but outside city limits.
- The site has a Medium Density Residential Comprehensive Plan designation. Upon annexation to City of Woodburn, the site will be zoned Medium Density Residential (RM).
- The Hillsboro-Silverton Highway (OR 219) is the only arterial street in the study area; access routes from the highway to the site include Woodland Avenue (Access Street), Robin Avenue (Service Collector), and Arney Lane (Service Collector).
- Sidewalks are provided on at least one side of all study area roadways except Willow Avenue.
- Clearly marked bike lanes are provided on Robin Avenue, Sprague Lane, and Arney Road, and parts of OR 219 and Woodland Avenue.
- Existing traffic volumes were collected in November 2016 and seasonally adjusted to reflect a commuter trend to/from the east on OR 219 and a summer trend to/from the west on OR 219.
- All study area intersections currently operate within City and ODOT mobility standards during the AM and PM peak hours.
- All turn lanes have adequate storage with no anticipated queue spillover into adjacent lanes.

Pre-Development Conditions

- A linear 2.0% annual growth rate over two (2) years was applied to 2016 seasonally adjusted traffic volumes to reflect 2018 background traffic.
- In-process trips from the recently approved Woodburn Station development were added to 2018 background traffic to reflect 2018 pre-development conditions.
- The *City of Woodburn Adopted Budget FY 2016-17* did not identify any traffic improvement projects within the study area.
- All study area intersections are anticipated to operate within City and ODOT mobility standards during the AM and PM peak hours.
- All turn lanes have adequate storage with no anticipated queue spillover into adjacent lanes.

IV. SITE DEVELOPMENT

The trip-making characteristics of the proposed development are described below.

Trip Generation

Multifamily residential and an RV storage site are proposed with the Woodland Crossing development. Up to 300 apartment dwelling units and up to 127 RV storage units are proposed. A property line adjustment will be requested to separate the multifamily subdivision from the RV storage site, but the impacts of both components are analyzed in this study.

Trip generation estimates for the proposed Woodland Crossing development were prepared with the use of the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual, 9th Edition*. Data for the “Apartments” (LUC 220) land use were used to estimate trip generation for the proposed 300 dwelling units and data for the “Mini-Warehouse” (LUC 151) land use were used to estimate trip generation for the proposed 127 RV storage units. No pass-by trip rate information is available for the proposed uses.

Trip generation for the proposed development is summarized in Table 3 below.

TABLE 3 – TRIP GENERATION										
Proposed Use	ITE Land Use	ITE Code	Size	AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
Apartments	Apartments	220	300 units	30	121	151	119	64	183	1,942
RV Storage	Mini-Warehouse	151	127 units	2	1	3	1	2	3	32
TOTAL				32	122	154	120	66	186	1,974

As presented in Table 3, the proposed development is anticipated to generate an average of 154 AM peak hour trips, 186 PM peak hour trips, and 1,974 daily trips.

Trip Distribution and Traffic Assignment

Trip distribution for the proposed development was developed by examining existing traffic volumes on the roadway network and intersection turning movement data yielding the following pattern:

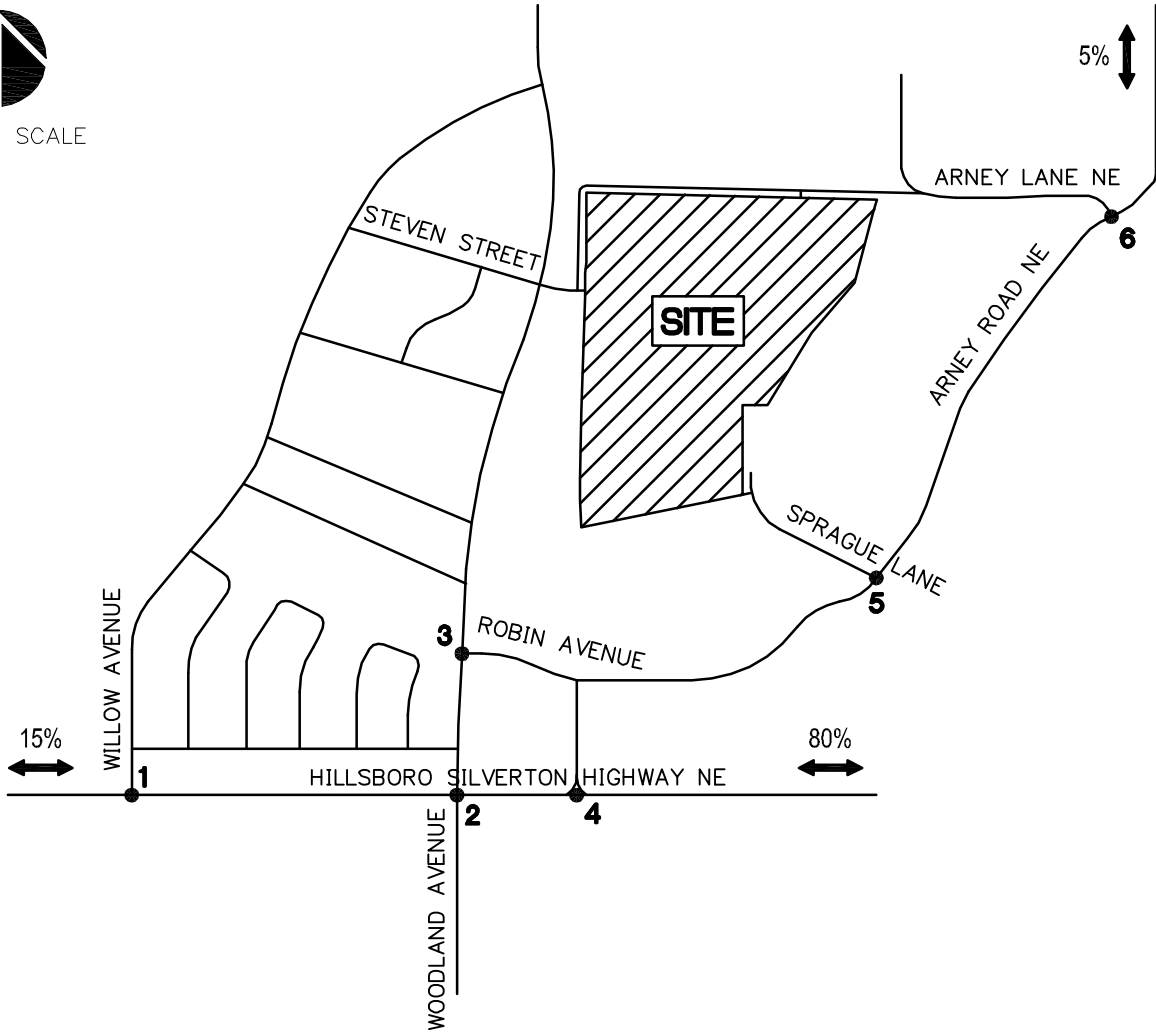
- 15% to/from the west on OR 219 (Hillsboro-Silverton Highway)
- 80% to/from the east on OR 219 (Hillsboro-Silverton Highway)
- 5% to/from the north on Arney Road

This distribution pattern is consistent with what was assumed for the Woodburn Station development.

Figure 9A and Figure 9B present the trip distribution and site-generated traffic assignment for the AM and PM peak hours.

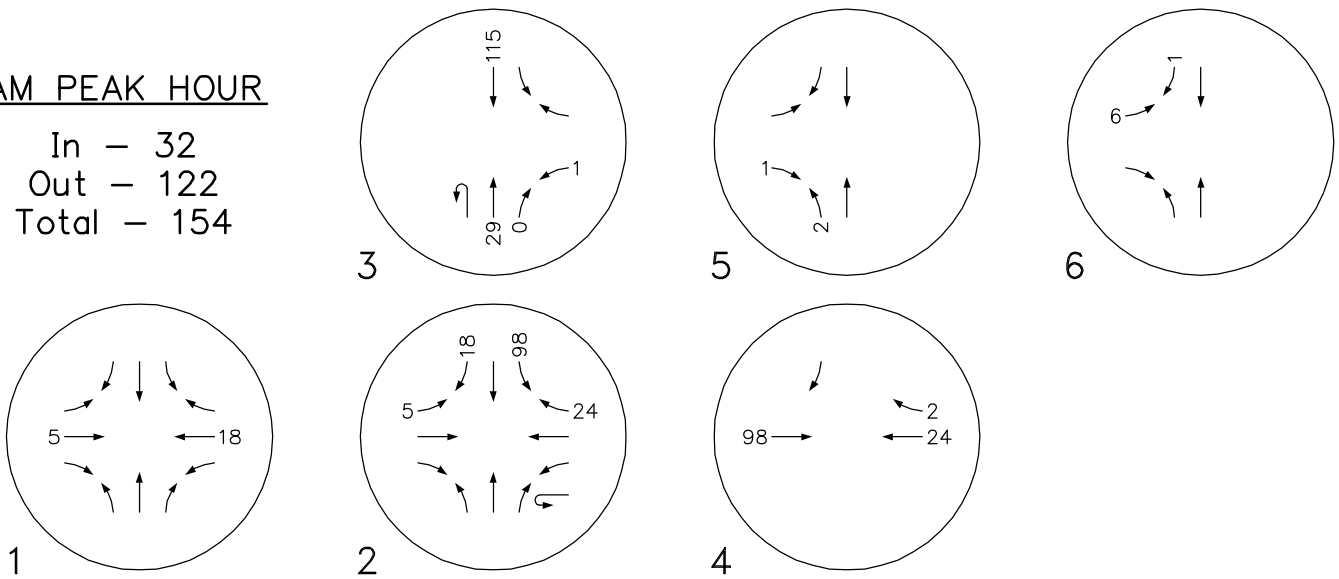


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AM PEAK HOUR

In - 32
 Out - 122
 Total - 154



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PROJECT TRIP
 DISTRIBUTION + ASSIGNMENT -
 AM PEAK HOUR

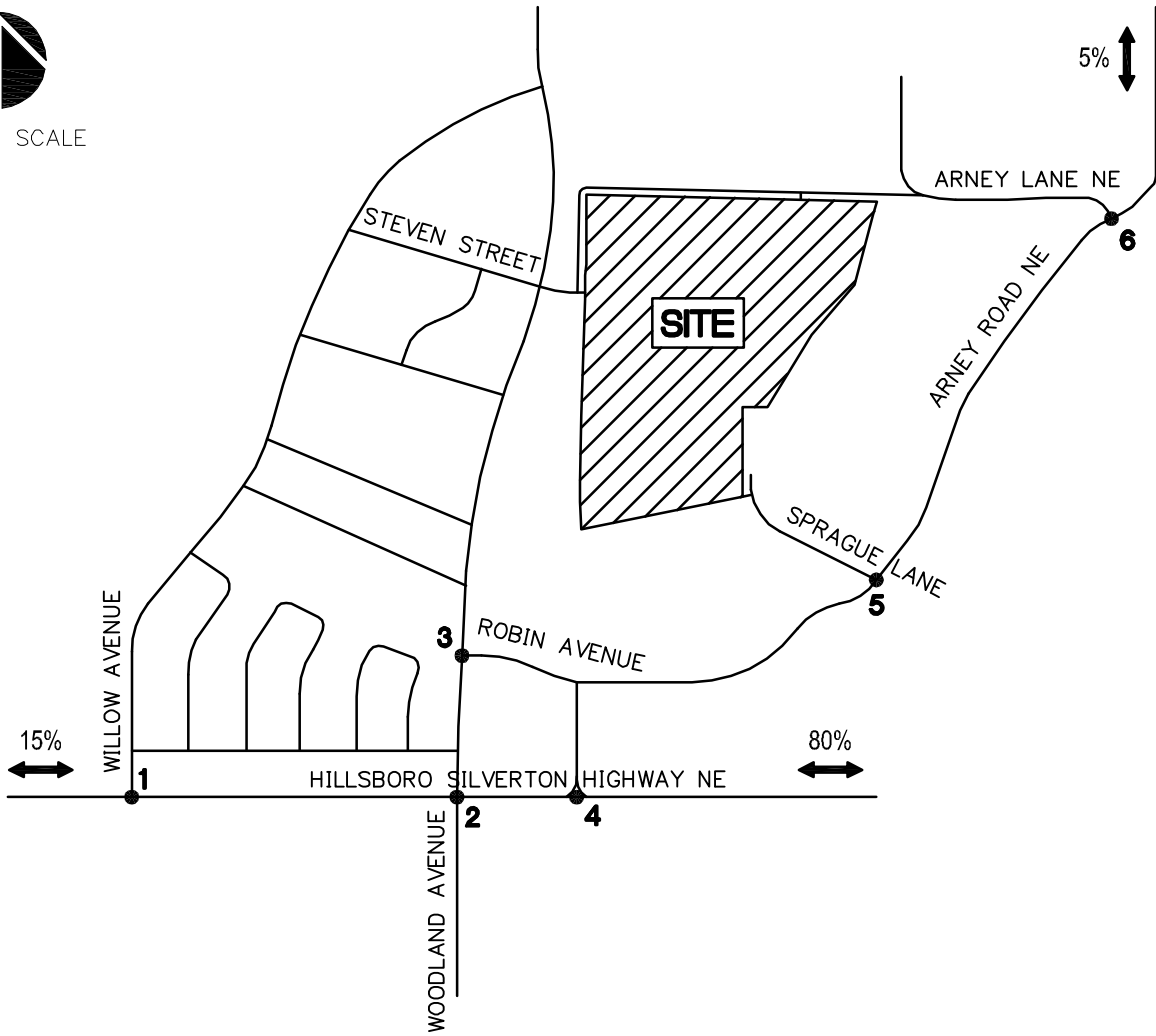
WOODLAND CROSSING
 WOODBURN, OREGON

FIGURE
 9A

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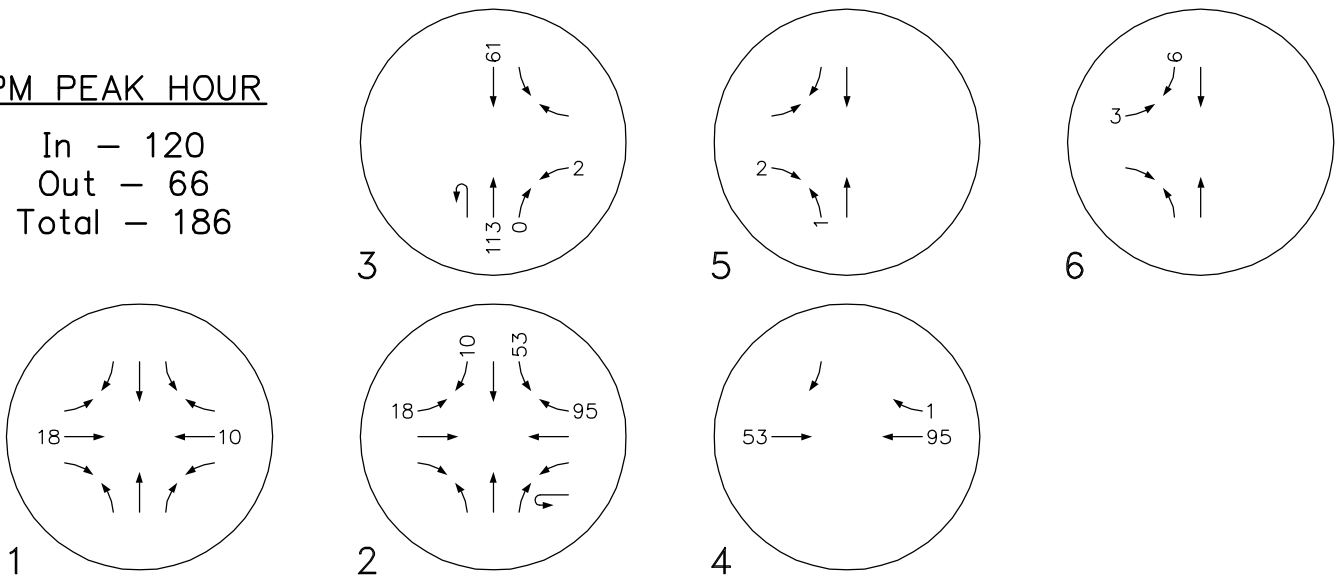


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PM PEAK HOUR

In - 120
 Out - 66
 Total - 186



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PROJECT TRIP
 DISTRIBUTION + ASSIGNMENT -
 PM PEAK HOUR

WOODLAND CROSSING
 WOODBURN, OREGON

FIGURE
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July 6, 2021

Project #: 26306

Eric Liljequist and Chris Kerr
City of Woodburn
270 Montgomery Street
Woodburn, OR 97071

RE: Project Basie Transportation Impact Analysis (Revised and expanded version from the original May 26, 2021 report)

Dear Eric and Chris,

This Transportation Impact Analysis has been prepared to support development of a proposed fulfillment/distribution center (herein referred to as Project Basie) in Woodburn. As discussed herein, the following changes to the transportation system are identified for implementation in conjunction with site development, subject to City of Woodburn, Oregon Department of Transportation (ODOT), and Marion County approval:

- Realign the northern segment of Butteville Road to the east of Senecal Creek and its affiliated wetlands. This new alignment would be constructed to a symmetrical City of Woodburn Minor Arterial design section on both sides where it would be widened as necessary to fit the geometric design needs of a proposed roundabout at OR 219 (see next bullet).
- Construct a new double lane roundabout at the realigned Butteville Road intersection with OR 219 that is sized and designed to accommodate long-term projected traffic and heavy vehicle demands. West of the new roundabout, OR 219 should be widened to be consistent with and connected to the fully improved section that currently ends near the Willow Avenue intersection.
- Following completion of the Butteville Road realignment and roundabout intersection with OR 219, close the old Butteville Road connection with OR 219.
- Reconstruct and widen the southern segment of Butteville Road abutting the development site consistent with the Minor Arterial special design section agreed upon by the City of Woodburn and Marion County, with three twelve-foot travel lanes (one NB lane, one center turn lane, and one SB lane), a rural shoulder on the west side, six-foot bike lanes, and curb, landscape strip and a six-foot sidewalk on the east side. To facilitate left-turn movements at the three southernmost proposed site driveways, the widened section of Butteville Road should be striped with center turn lane striping. At the northernmost Sit Access/old Butteville Road intersection, provide northbound and southbound left-turn lane striping.

- Modify the existing I-5 southbound offramp to provide 250 feet of additional right-turn lane storage to better accommodate projected vehicular and freight demand. The exact extents of the right-turn lane lengthening and design will need to be determined through additional conversations with ODOT and City design staff.
- Install STOP (R1-1) signs at each of the four proposed site access driveway approaches to Butteville Road in accordance with County standards and the *Manual on Uniform Traffic Control Devices* (MUTCD).
- Work with ODOT and City of Woodburn staff to develop proportionate share contributions towards offsite improvements at the OR 214/Boones Ferry Road/N Settlemier Avenue intersection.

Additional details of the methodology, findings and recommendations are provided herein.

INTRODUCTION

Trammell Crow Company is proposing to construct a five-story industrial building on approximately 88 acres of land¹ located southeast of the OR 219/Butteville Road intersection and west of the existing WinCo Foods distribution center. The site location and vicinity are shown in Figure 1. When complete, the building will contain approximately 3.849 million square feet of floor area accommodating package fulfillment activities supported by on-site access and circulation roadways, vehicle parking and fleet vehicle/trailer storage, landscaping, and stormwater management facilities. Multiple site access driveways are proposed along the site's Butteville Road frontage as shown in Figure 2. This figure also illustrates changes to the transportation system near the site frontage recommended as part of site development, including a proposed realignment of the north end of Butteville Road and a new roundabout intersection with OR 219. Additional details regarding these changes are documented later in this report. For the purposes of this analysis, it has been assumed that occupancy of the building will occur in the year 2023.

SCOPE OF THE REPORT

This report identifies the transportation-related impacts associated with the proposed Project Basie development. The study intersections and scope were selected to assess the anticipated local and regional transportation impacts and were identified in consultation with City, ODOT, and County staff

¹ The land use application package includes consolidation of lots and a land partition to reconfigure the 130-acre property to form the proposed development site (Parcel 2), dedicate right-of-way for the proposed realignment of Butteville Road, and create two remainder parcels (Parcels 1 and 3).

(see *Appendix A* for a copy of the scoping memorandum and jurisdictional responses)². Per the scoping direction, operational analyses were performed at the following study intersections:

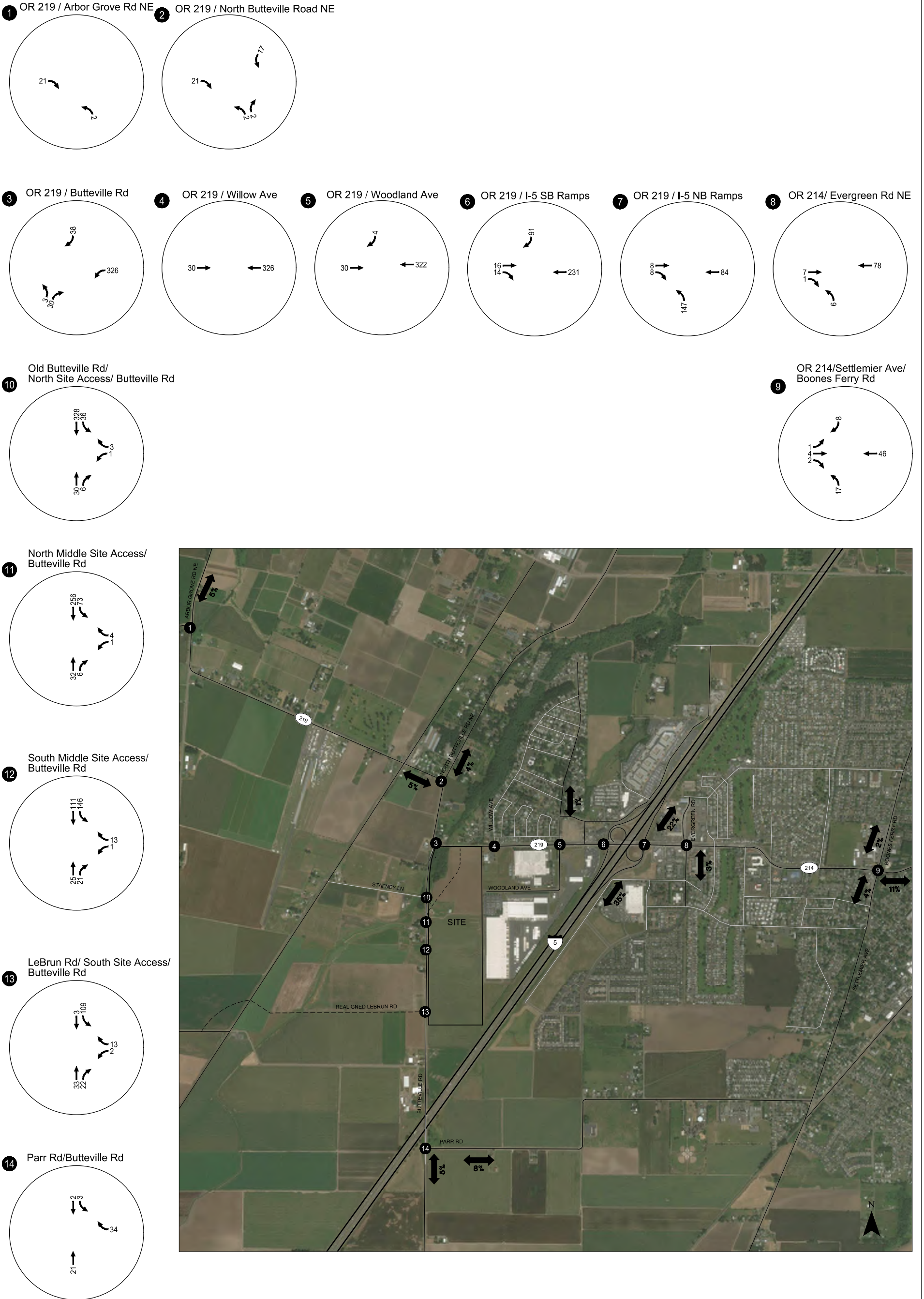
- OR 219/Arbor Grove Road
- OR 219/North Butteville Road
- OR 219/Butteville Road
- OR 219/Willow Avenue
- OR 219/Woodland Avenue
- OR 219/I-5 Southbound (SB) Ramp Terminal
- OR 219/I-5 Northbound (NB) Ramp Terminal
- OR 214/Evergreen Road
- OR 214/Settlemier Avenue/Boones Ferry Road
- Butteville Road/LeBrun Road
- Butteville Road/Parr Road
- Butteville Road/proposed site driveways

This report evaluates the following transportation issues:

- Existing land use and transportation system conditions within the site vicinity during the following weekday AM and PM peak periods:
 - 6:30 – 7:30 AM: captures the anticipated peak arrival period for the proposed Project Basie dayshift
 - 7:00 - 8:00 AM: approximate existing system peak hour along the OR 219 study corridor from Butteville Road to the I-5 ramp terminals
 - 4:30 – 5:30 PM: approximate existing system peak hour along the OR 219 study corridor from Butteville Road to the I-5 ramp terminals
 - 5:30 – 6:30 PM: captures the anticipated peak dayshift departure and the peak nightshift arrival period for Project Basie
- Forecast year 2023 and 2040 background traffic conditions (without the proposed Project Basie development, but still considering other planned developments and local/regional growth) during the four identified weekday AM and PM peak periods;

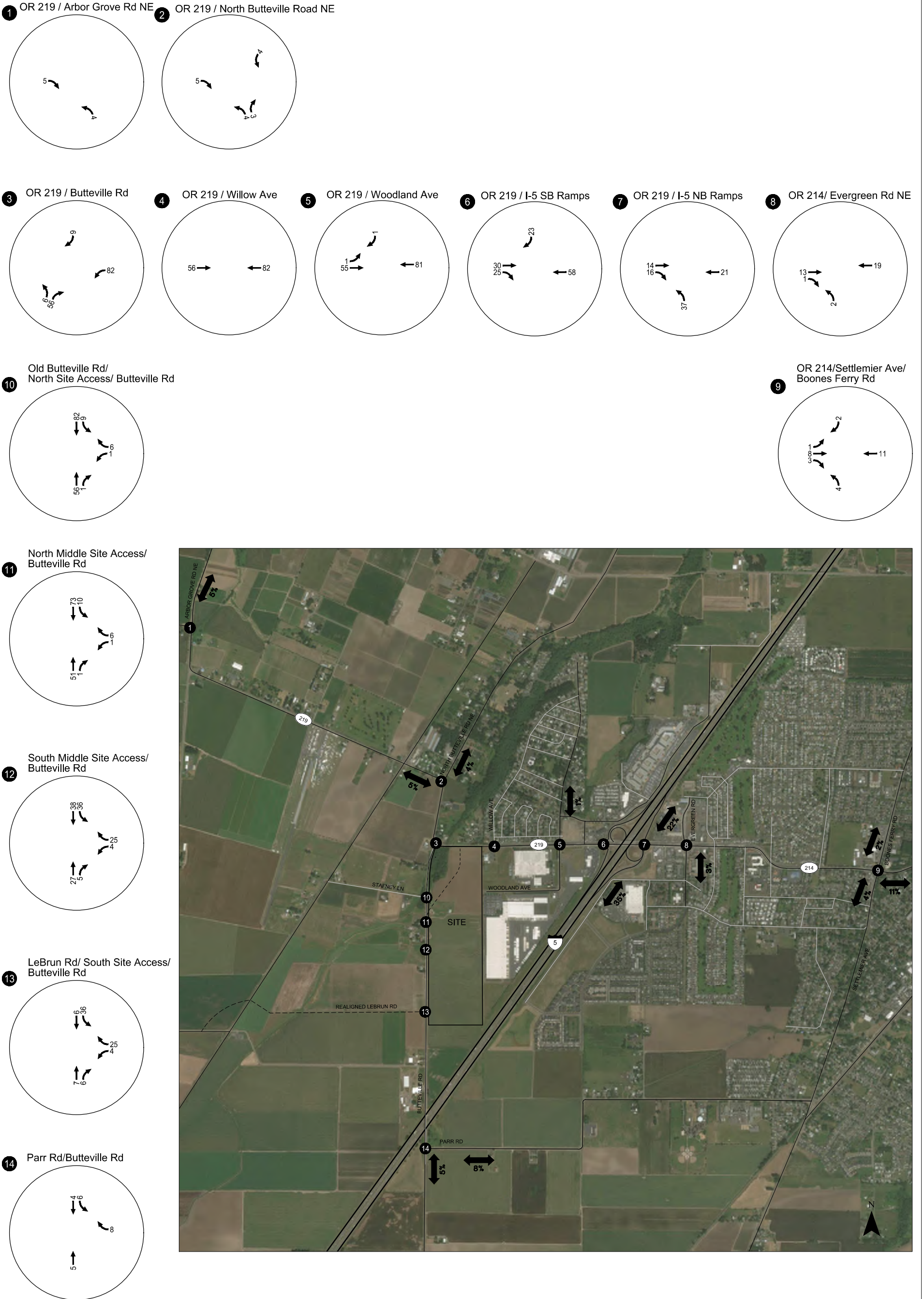
² As noted in the jurisdictional responses to the scoping memorandum, additional study intersections and microsimulation of the OR 219 study corridor was requested. This revised and expanded version of the TIA contains the requested study intersections and microsimulation results.

- Development of a use-specific trip generation and traffic distribution pattern;
- Forecast year 2023 and 2040 total traffic conditions (with full buildout and occupancy of the proposed Project Basie development) during the four identified weekday AM and PM peak periods; and,
- Recommended changes to the transportation system.



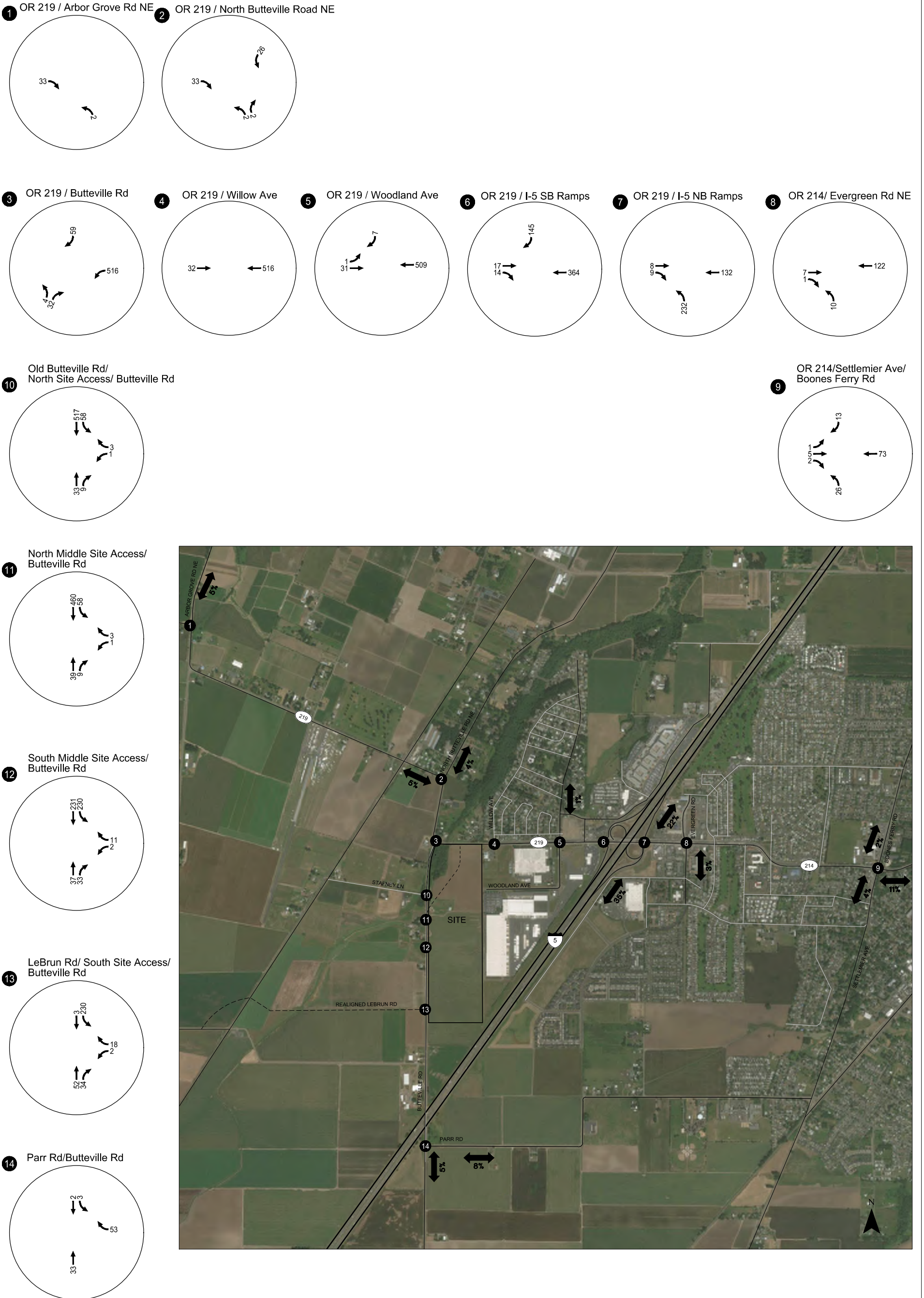
Site-Generated Trips
System Peak Hour (7:00 AM to 8:00 AM)
Woodburn, OR

Figure
13



Site-Generated Trips
System Peak Hour (4:30 PM to 5:30 PM)
Woodburn, OR

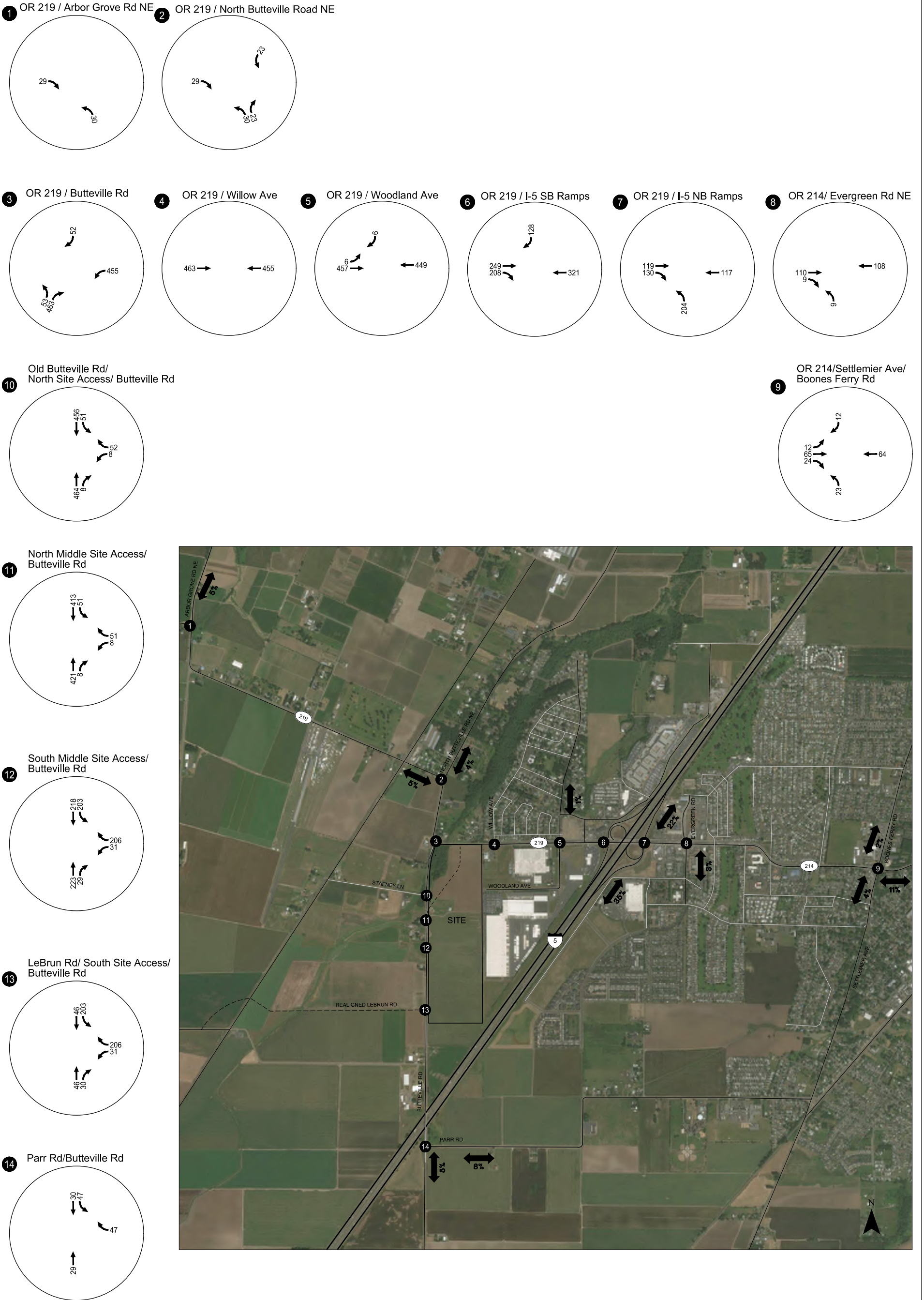
Figure
14



Site-Generated Trips
Peak Hour of Generator (6:30 AM to 7:30 AM)
Woodburn, OR

Figure
15

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Site-Generated Trips
Peak Hour of Generator (5:30 PM to 6:30 PM)
Woodburn, OR

Figure
16

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Allison Way Apartments

Traffic Impact Analysis

Woodburn, Oregon

Date:

May 1, 2020

Prepared for:

Pacific Valley Apartments, LLC
West Coast Home Solutions, LLC

Prepared by:

Jessica Hajar
Brian Davis
Daniel Stumpf, PE



**LANCASTER
ENGINEERING**



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Executive Summary

1. A 586-unit apartment complex is proposed to be located on tax lots 052W1402000, 052W142100, and 052W142300 in Woodburn, Oregon. The proposed development will be built in two phases over a period of four years.
2. The trip generation calculations show that the proposed development will generate a total of 211 trips during the morning peak hour, 258 trips during the evening peak hour, and 3,188 trips on a typical weekday.
3. The projected number of site trips is well below the Interchange Area Management threshold for the two tax lots, which is 495 peak hour trips.
4. The intersection of OR 214 at Evergreen Road is calculated to have a crash rate above 1.0. Based on the high number of southbound left-turn collisions, it is recommended that the eastbound and westbound left-turn movements be altered to protected only mode. Based on the review of crash history, no design flaws or deficiencies are evident at any other intersections.
5. Pedestrian crossing warning signs should be installed for all proposed marked crosswalks at non-intersection locations and adequate visibility should be provided by parking prohibitions.
6. Preliminary traffic signal warrants are met at the intersection of Evergreen Road at Stacey Allison Way under year 2022 background conditions, without the addition of site trips from the proposed development. Capacity analysis results show this intersection exceeds the City of Woodburn performance thresholds under the year 2034 planning horizon, which is ten years after the full buildout of the proposed development. While there is no mitigation in the City's TSP, an alternative route on Harvard Drive is planned to be improved which may alleviate some of the congestion along Evergreen Road.
7. Preliminary traffic signal warrants are met at the intersection of Evergreen Road at Hayes Street under year 2024 traffic conditions with the addition of site trips from Phases 1 and 2 of the proposed development. Capacity analysis results show this intersection exceeds the City of Woodburn performance thresholds under year 2022 background conditions, prior to the addition of site trips from the proposed development. Mitigation for this intersection is discussed in the Smith Creek TIS, which includes adding a southbound left-turn and a northbound receiving lane.
8. Similar to the Smith Creek development, a proportional share contribution to determine potential transportation related mitigation measures is proposed for the subject development.
9. No other study intersections meet traffic signal warrants under any analysis scenario.
10. All other study intersections are projected to operate acceptably per ODOT and City of Woodburn standards.



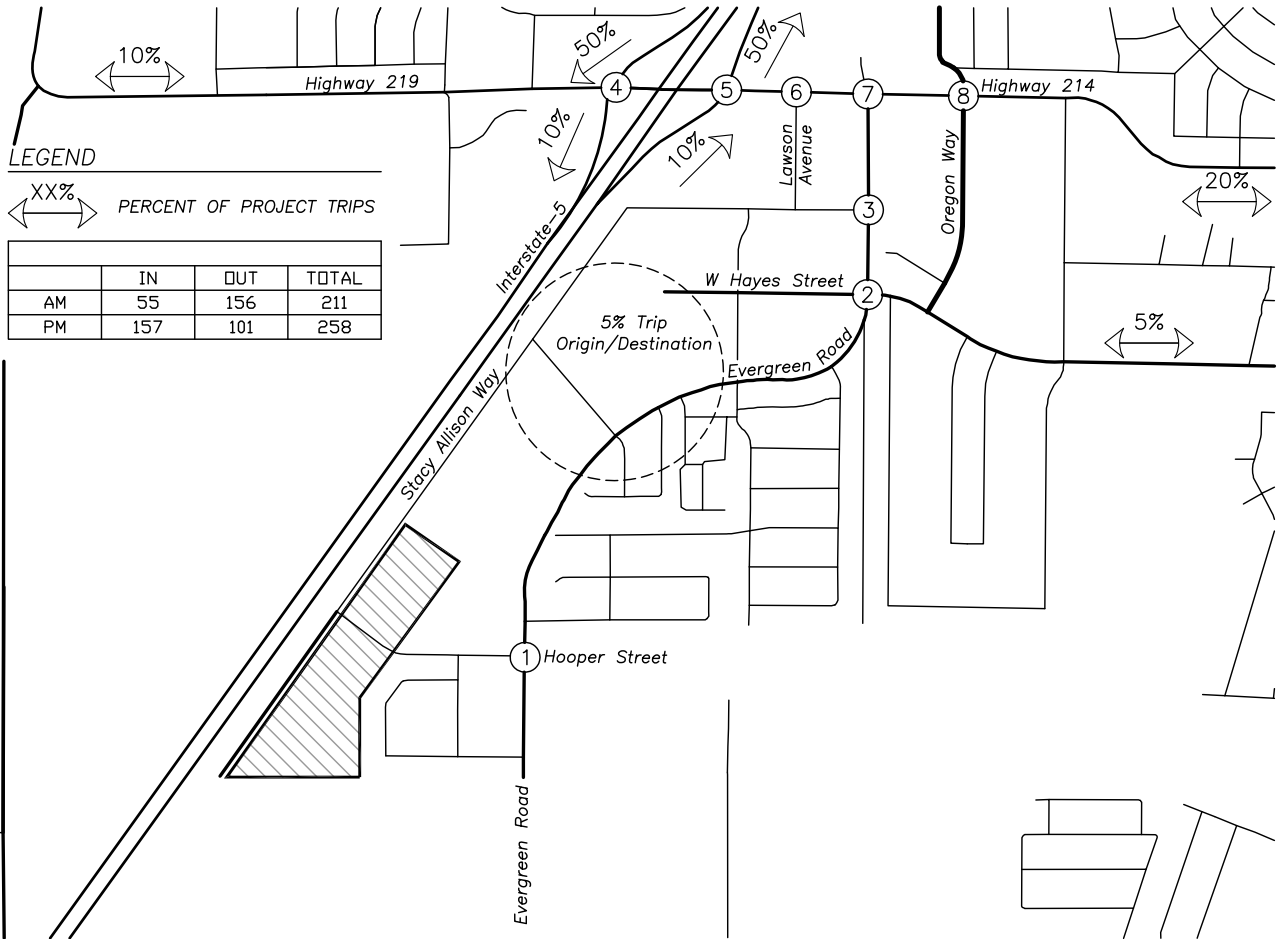
Introduction

The purpose of this study is to provide an analysis of potential traffic impacts of a proposed 586-unit apartment complex, to be located on tax lots 052W1402000, 052W142100, and 052W142300, on the surrounding transportation system and to recommend any required mitigative measures. The proposed development will be built in two phases of equal size, with each buildout taking approximately two years. The analysis includes an estimate of trip generation and distribution of the proposed development as well as an operational analysis. An aerial image of the site vicinity is shown in Figure 1 on page 3 with the project site highlighted in yellow.

According to the requirements for a traffic study outlined in the Analysis Procedures Manual¹, ODOT requires analysis at all state highway intersections that will increase by either 50 peak hour trips or 300 ADT. The scope of work has been coordinated with both local and state jurisdictions and includes the following intersections:

1. Evergreen Road at Hooper Street
2. Evergreen Road at Hayes Street
3. Evergreen Road at Stacey Allison Way
4. OR 214 at I-5 Southbound ramps
5. OR 214 at I-5 Northbound ramps
6. OR 214 at Lawson Avenue
7. OR 214 at Evergreen Road
8. OR 214 at Oregon Way

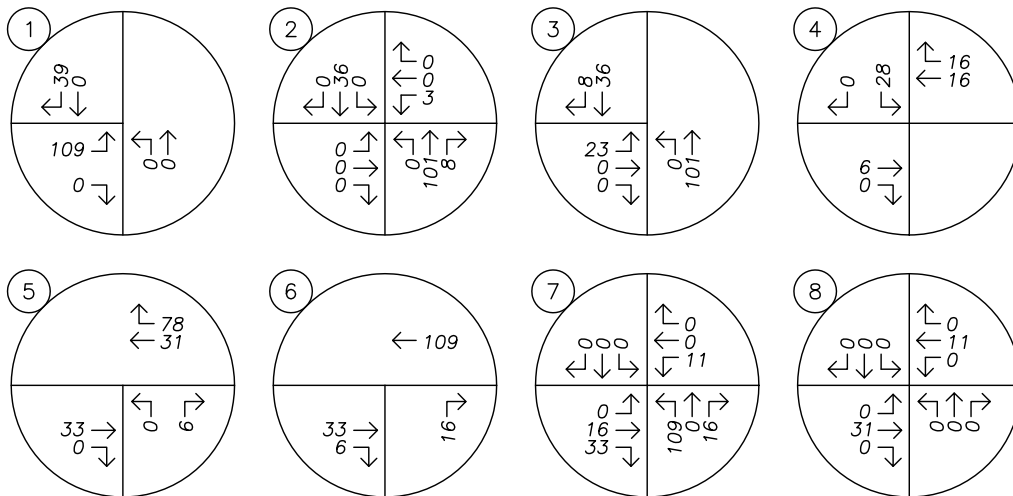
¹ ODOT Transportation Planning Analysis Unit, *Analysis Procedures Manual (APM)*, April 2020



LEGEND

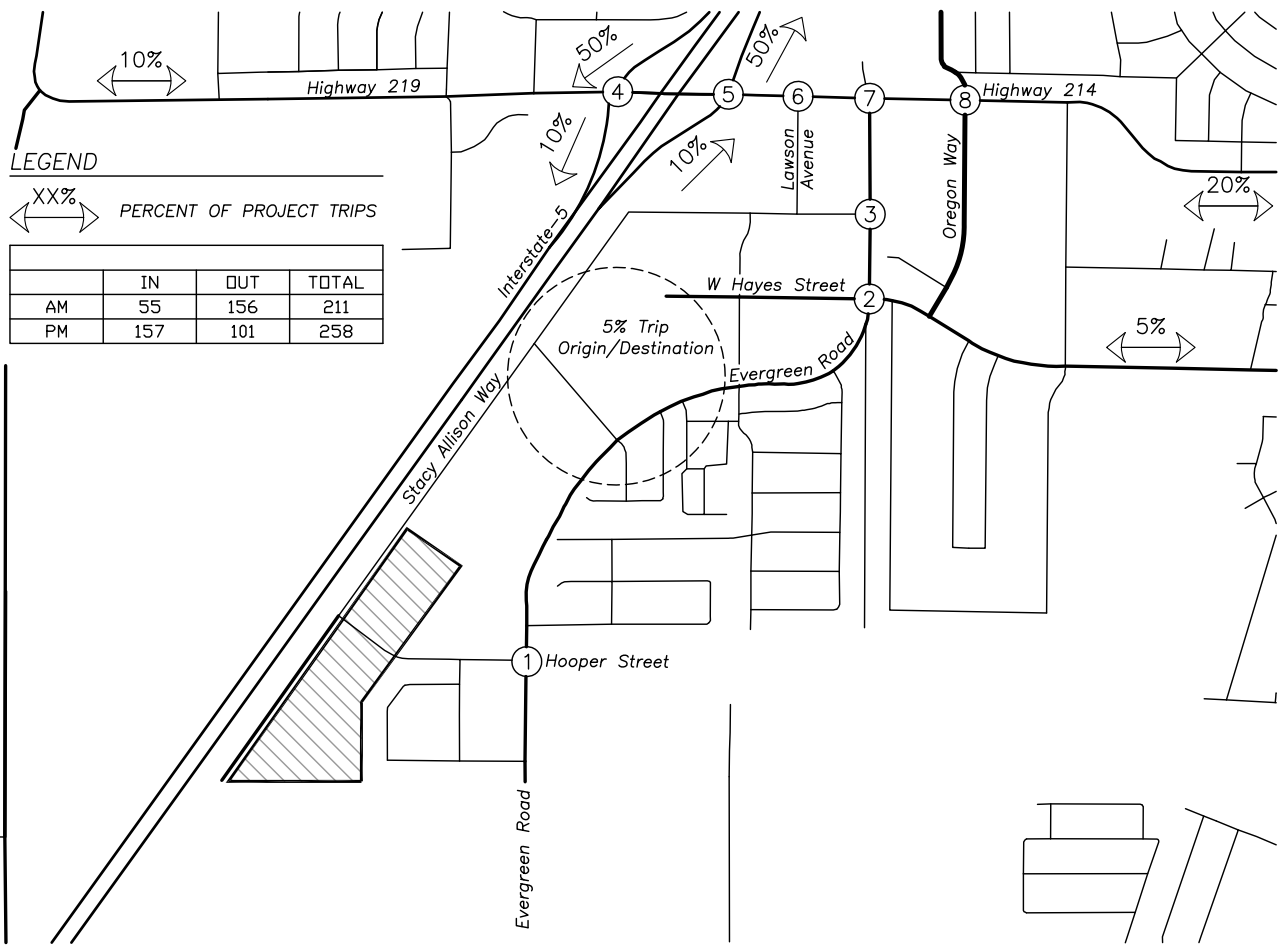
XX% PERCENT OF PROJECT TRIPS

	IN	OUT	TOTAL
AM	55	156	211
PM	157	101	258



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Phase 1 & 2
 AM Peak Hour

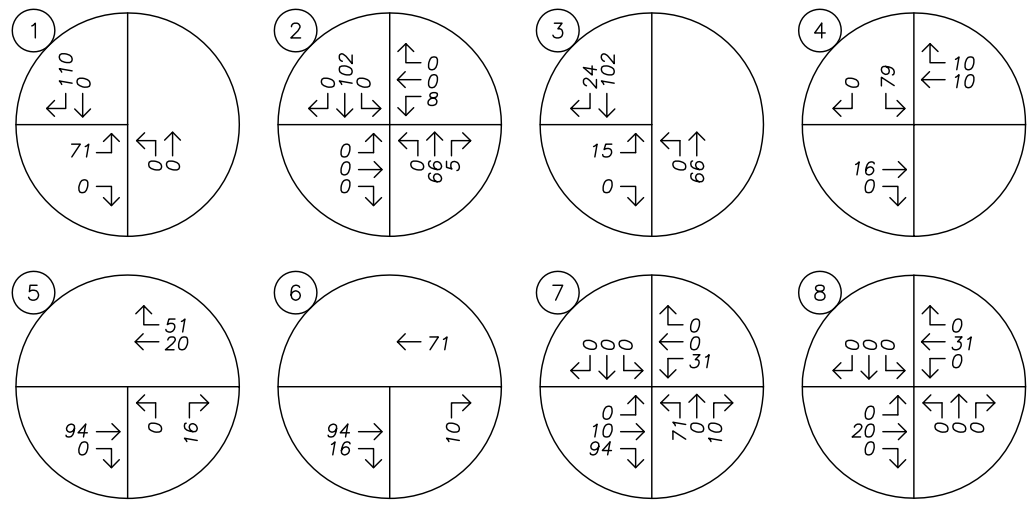




LEGEND

XX% PERCENT OF PROJECT TRIPS

	IN	OUT	TOTAL
AM	55	156	211
PM	157	101	258



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Phase 1 & 2
 PM Peak Hour



Molalla Rd Apartments

Traffic Impact Analysis

Woodburn, Oregon

Date:

January 13, 2020

Prepared for:

Karl Ivanov

Prepared by:

Tegan Enloe, PE



CHAPTER 1: INTRODUCTION AND SUMMARY

This study evaluates the transportation impacts for the proposed Molalla Road Apartments residential development in Woodburn, Oregon. Currently, the parcel of land is a greenfield and adjacent to commercial and industrial uses. The proposed development would construct 231 apartment units. The development would have a single point of access to Molalla Road.

The purpose of this transportation impact analysis (TIA) is to evaluate possible system impacts from the proposed development and, where necessary, recommend mitigation measures on the nearby transportation network. The impact analysis is focused on intersections identified as being in the study area, based on guidance from City and ODOT staff, and shown in **Figure 1**.

1. N Pacific Hwy (99E) / Molalla Road (OR 211)
2. Molalla Road (OR 211) / June Way
3. Molalla Road (OR 211) / Proposed Site Driveway
4. Molalla Road (OR 211) / Cooley Road



Figure 1: Study Area



Proposed Development

The project sponsor is proposing to build an apartment complex located on the north side of Molalla Road just east of N Pacific Highway (Hwy) at 2145 Molalla Road. The proposed development would build two-hundred thirty-one (231) apartment units. The complex would have direct access to Molalla Road.

Appendix A provides the site plan of the proposed development. **Table 1** lists important characteristics of the study area and proposed project.

Table 1: Key Study Area and Proposed Development Characteristics

Characteristics	Information
Study Area	
Number of Study Intersections	Two
Analysis Period	Weekday A.M and P.M. Peak Hours
Analysis Scenarios	2019 Existing Conditions, AM Peak Hour 2019 Existing Conditions, PM Peak Hour 2021 Background Traffic, AM Peak Hour 2021 Background Traffic, PM Peak Hour 2021 Total Traffic (Background + Site), AM Peak Hour 2021 Total Traffic (Background + Site), PM Peak Hour
Project Site	
Existing Land Use	Vacant
Proposed Development	231 apartment units
Project Access	The development will be served via a single access to Molalla Road

Figure 8: Trip Distribution

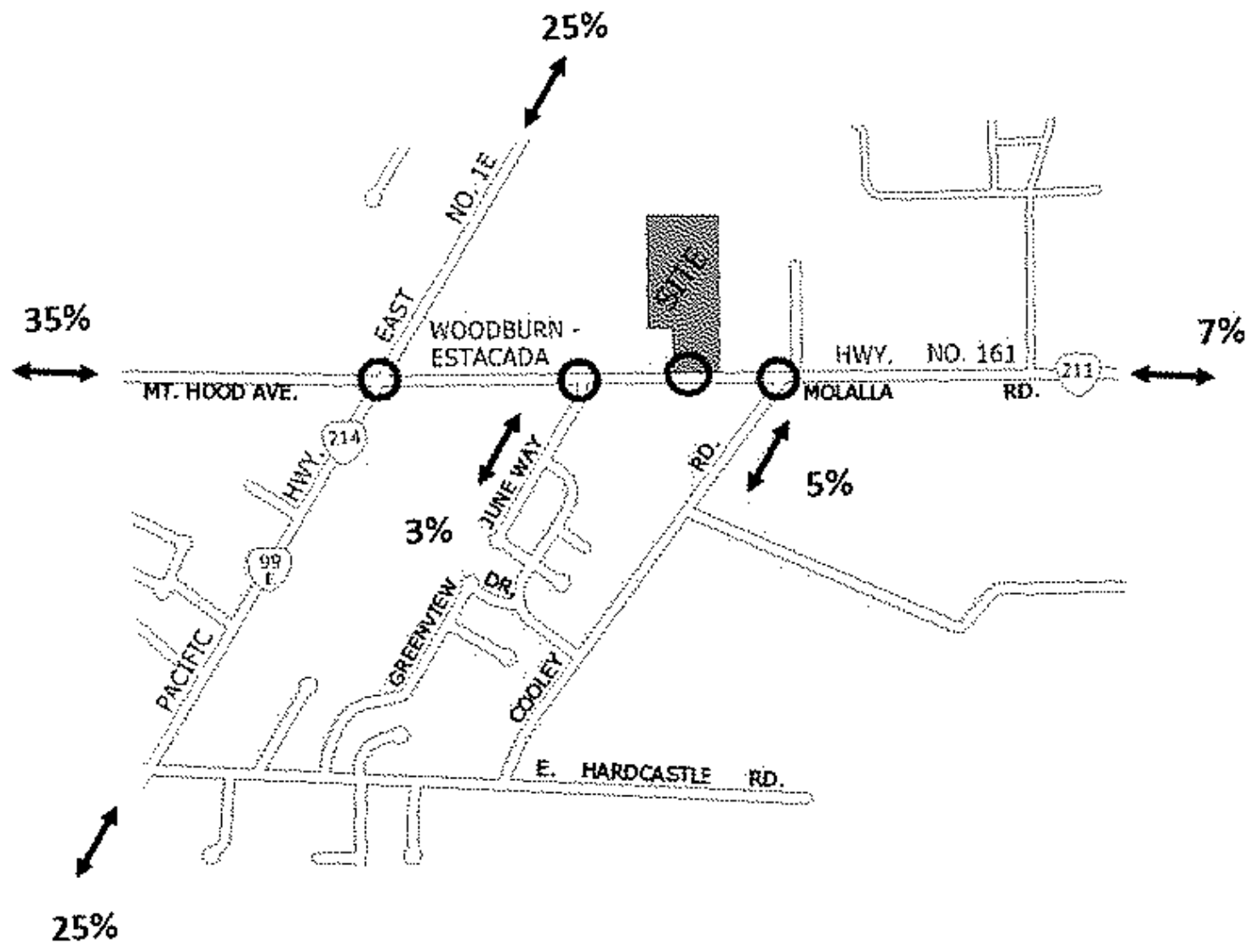


Figure 9: AM Peak Hour Site Generated Volumes

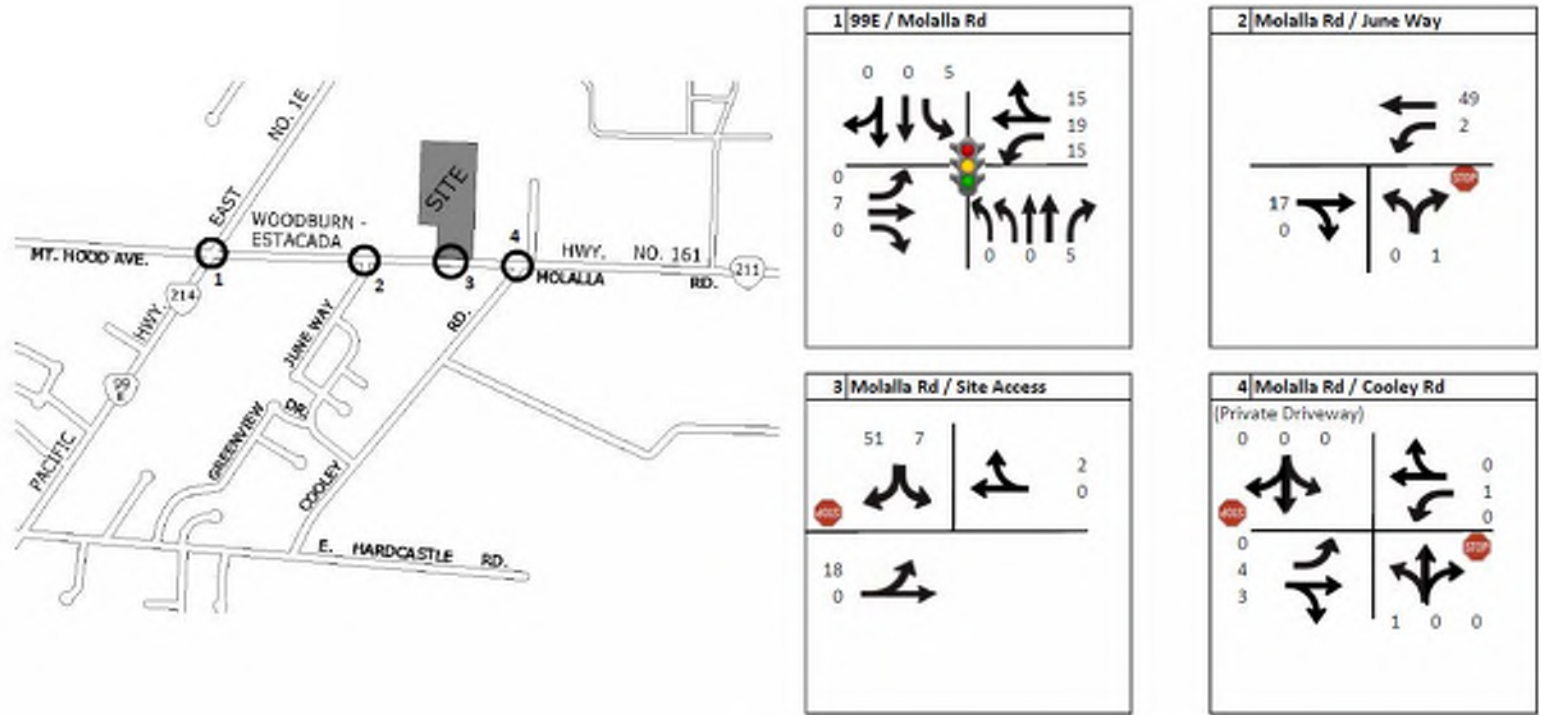
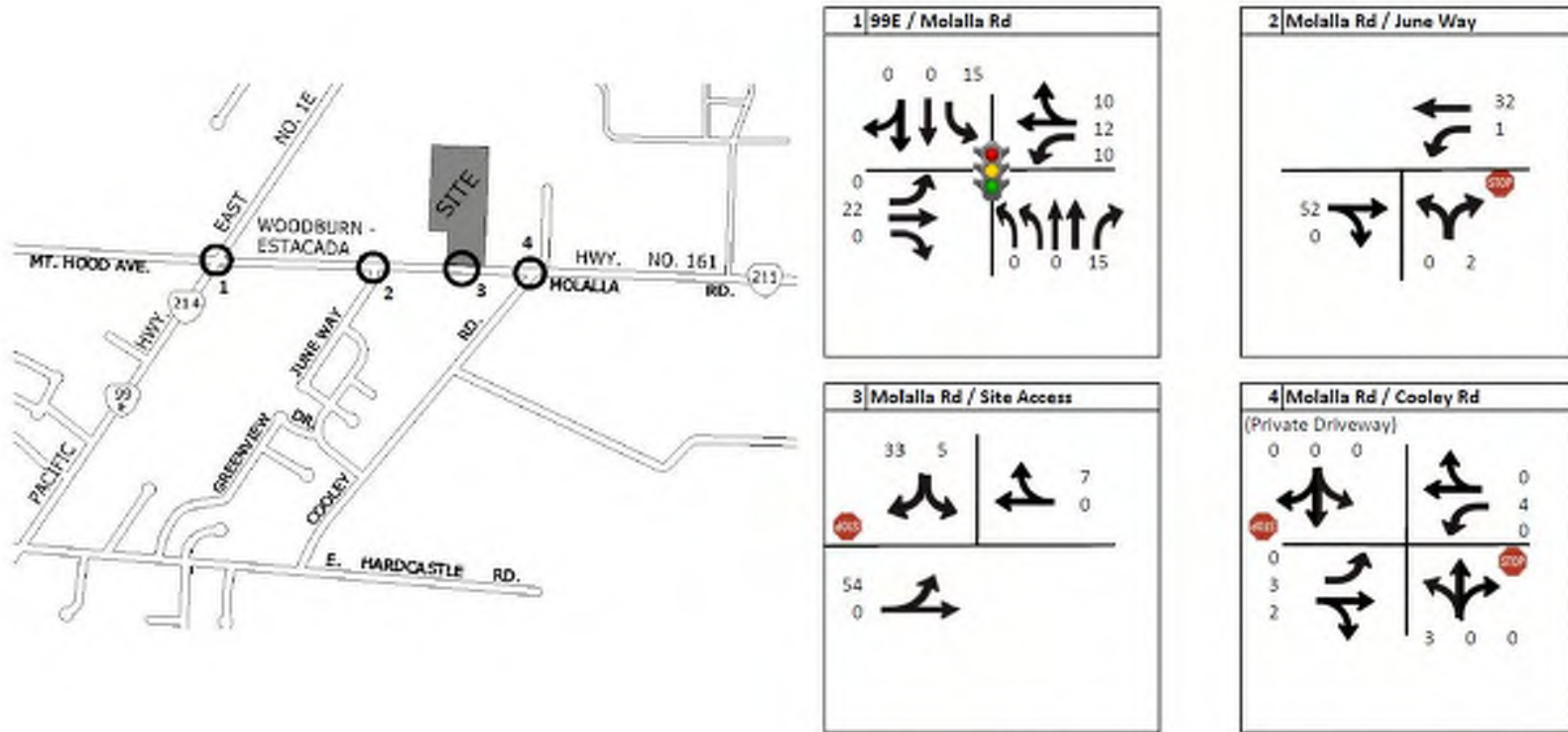


Figure 10: PM Peak Hour Site Generated Volumes





lancaster
moble

Schultz Farm

Transportation Impact
Study

Woodburn, Oregon

Date: October 30, 2020

Prepared for: Amanda Kilmartin

Prepared by: Jessica Hjar

Jennifer Danziger, PE



Renews 12.31.21

Executive Summary

1. The annexation of tax lots 051W06C00400 (14 acres) and 051W06C00800 (17.13 acres) and subsequent 154-lot planned unit development is proposed in Woodburn, Oregon.
2. The calculations show that the proposed development is projected to generate 114 trips during the morning peak hour, 152 trips during the evening peak hour, and 1,454 daily trips.
3. The intersection of OR 214 at Evergreen Road is calculated to have a crash rate above 1.0. Specifically, a high number of eastbound and westbound collisions involving left-turning vehicles were reported. However, due to the small number of trips to be added and the movement to which the trips will contribute, no mitigation is recommended at the intersection in conjunction with the proposed development. Based on the review of crash history, no design flaws or deficiencies are evident at any other intersections.
4. Intersection sight distance at both the site accesses was measured to exceed 525 feet to north and south, which meets the intersection sight distance recommendation of 500 feet.
5. Preliminary traffic signal warrants are not met at any of the unsignalized study intersections upon full buildout of the proposed development.
6. All study intersections are projected to operate acceptably per each applicable performance standard under all analysis scenarios; therefore, no mitigation is recommended.



Project Description

The section below describes the proposed project and the surrounding transportation system.

Introduction

The annexation of tax lots 051W06C00400 (14 acres) and 051W06C00800 (17.13 acres) and subsequent 154-lot planned unit development is proposed in Woodburn, Oregon. This subject site is currently located outside city limits, but inside the Urban Growth Boundary.

Location Description

The planned residential development will be located north of Hazelnut Drive and west of Boones Ferry Road. The property is bordered by rural land to the north and residential uses to the south. A golf course is located east of the site and many Woodburn schools are within two miles of the subject site. Access to the site will be provided via two local streets which will be constructed in conjunction with the residential development.

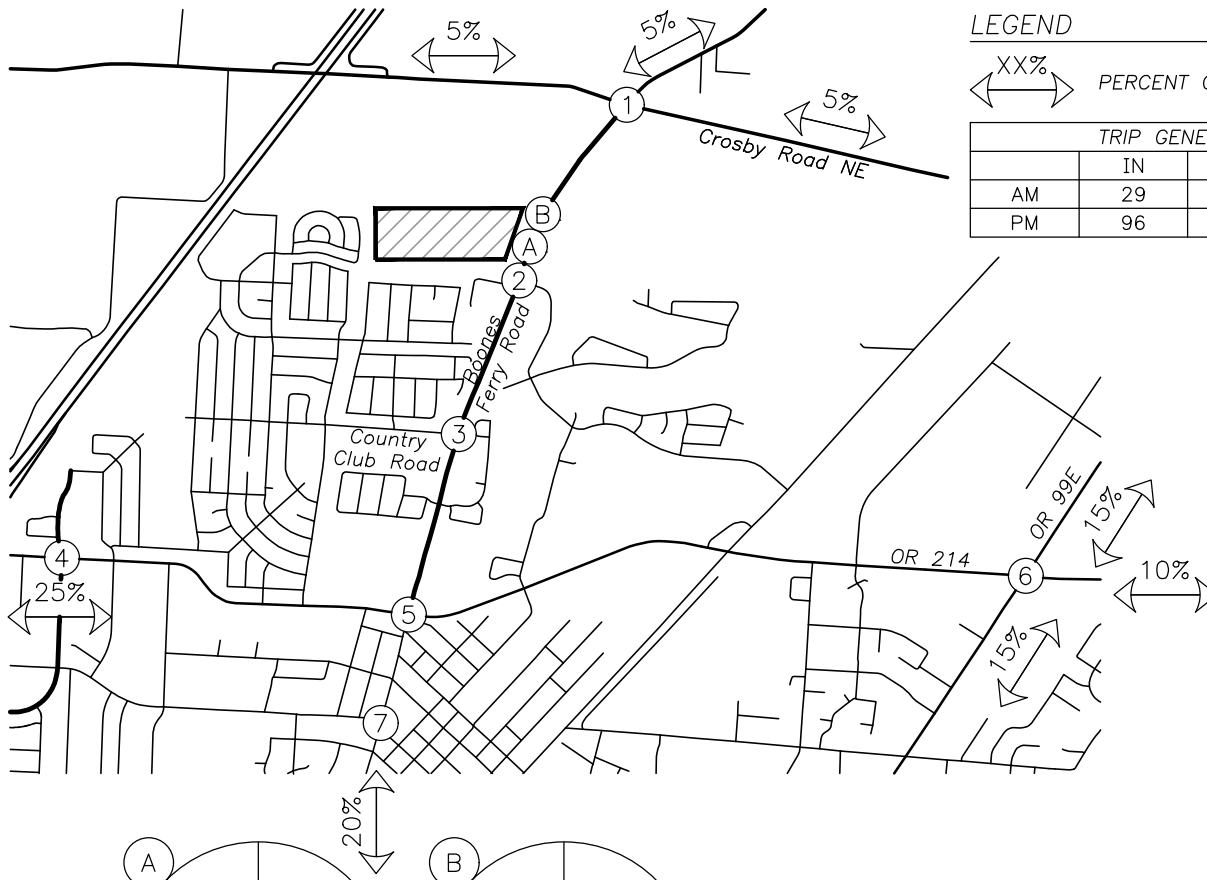
Vicinity Streets

Nine roadways within the study area are anticipated to carry site trips to and from the proposed development. The characteristics of these roadways are summarized in Table 1.

Table 1: Vicinity Roadway Characteristics

Roadway	Jurisdiction	Classification	Travel Lanes	Speed (MPH)	Curbs/ Sidewalks	Bicycle Lanes	On-Street Parking
Boones Ferry Road	City/County	Minor Arterial	2-3	35-45	Partial	Partial	Not Permitted
Crosby Road NE	Marion County	Major/Minor Collector	2	55	None	None	Not Permitted
Hazelnut Drive	City of Woodburn	Access Street	2	25	Yes	Partial	Not Permitted
Country Club Road NE	City of Woodburn	Access Street/ Local Street	2	25	Yes	Partial	Not Permitted
OR 214	ODOT	District Highway	2-5	30-35	Yes	Yes	Not Permitted
Evergreen Road	City of Woodburn	Minor Arterial	3	25-30	Yes	Partial	Partially Permitted
N Settlemier Avenue	City of Woodburn	Minor Arterial	2	25	Yes	Partial	Not Permitted
Hayes Street	City of Woodburn	Service Collector	2	25	Partial	None	Partially Permitted
OR 99E	ODOT	Regional Highway	2-5	35	Yes	Yes	Not Permitted

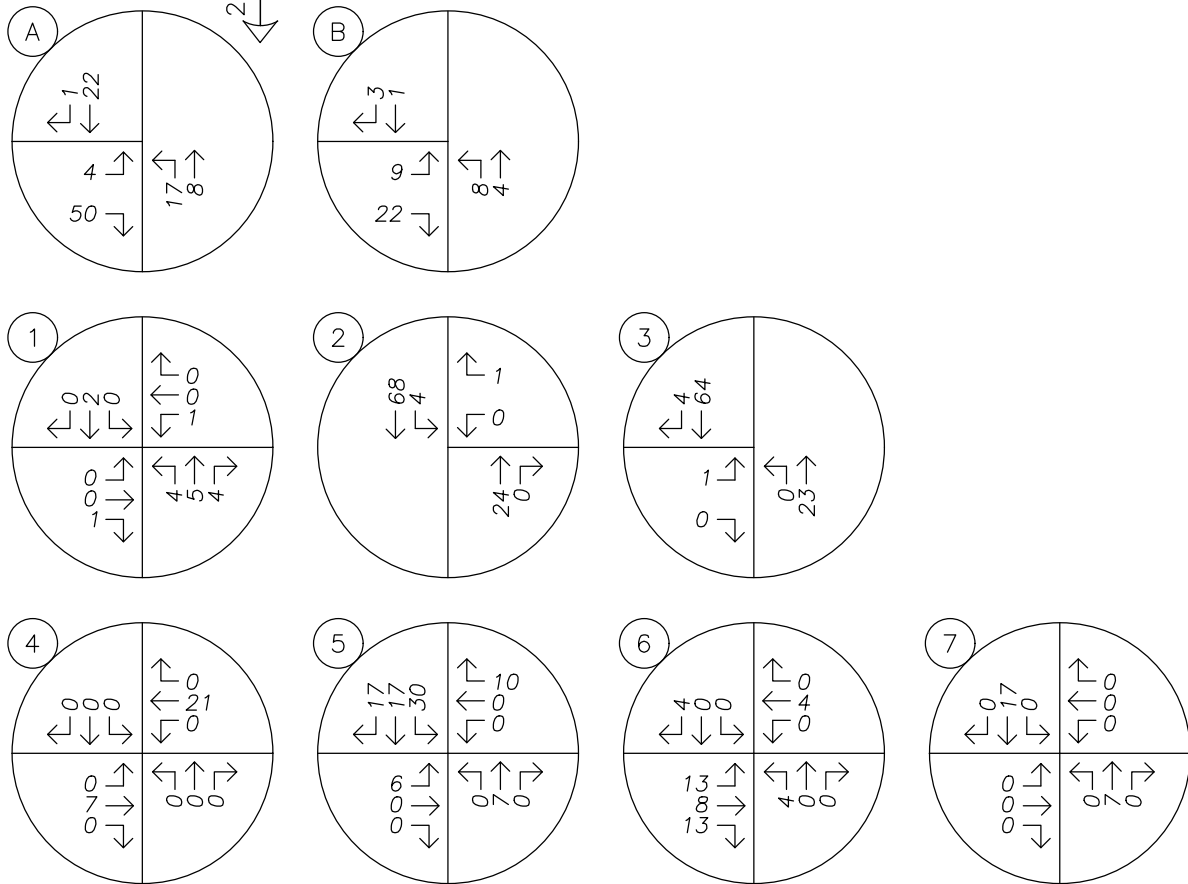




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XX% PERCENT OF PROJECT TRIPS

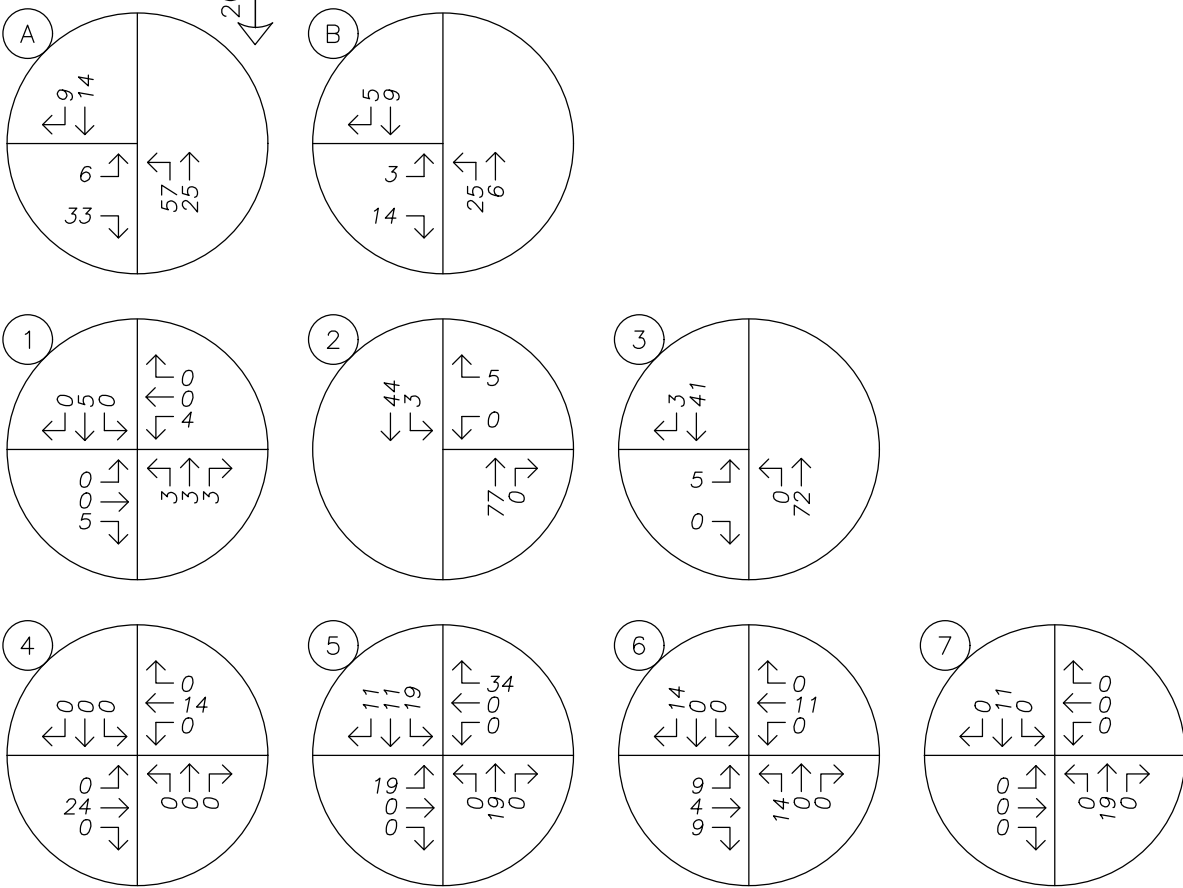
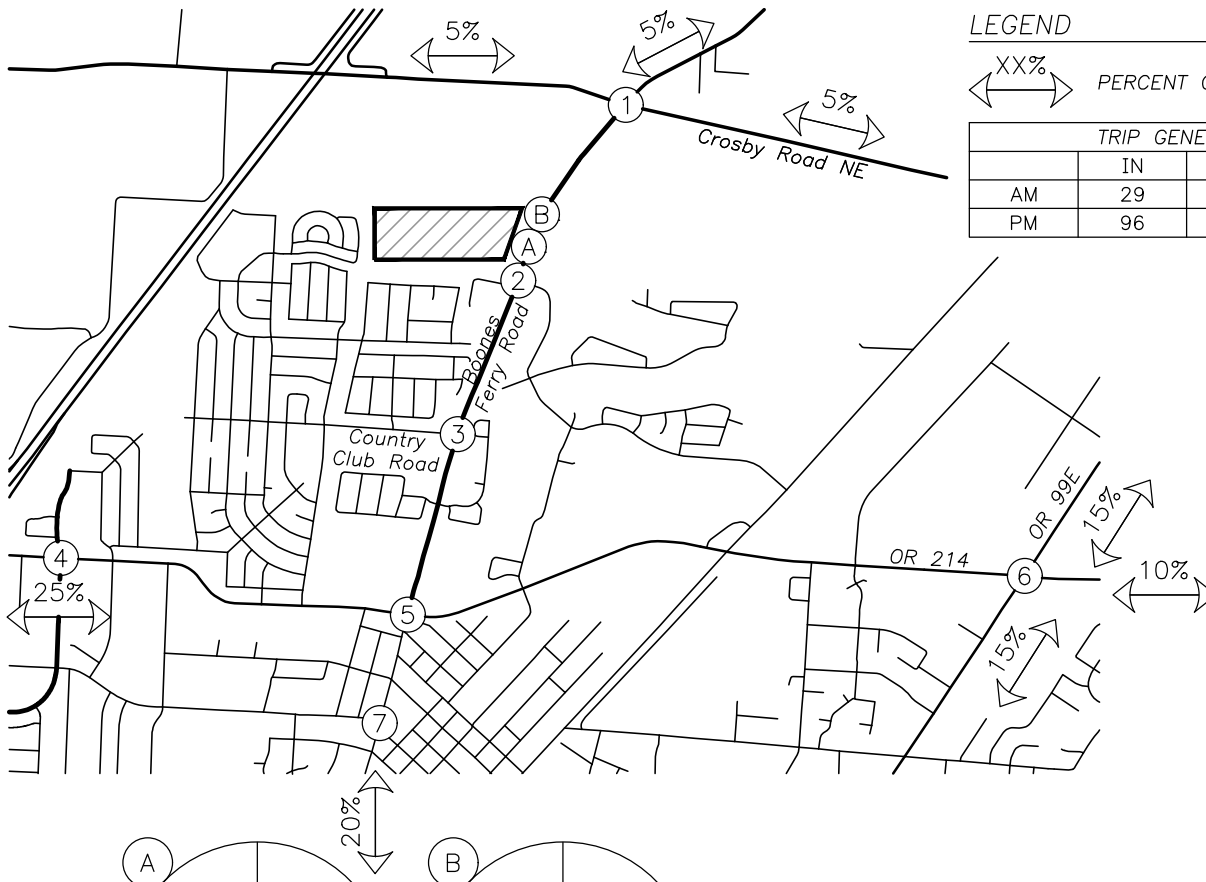
TRIP GENERATION			
	IN	OUT	TOTAL
AM	29	85	114
PM	96	56	152



LEGEND

XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	29	85	114
PM	96	56	152





lancaster
moble

Oregon Port of Willamette Intermodal Facility

Transportation Impact
Study

Marion County, Oregon

Date:

May 28, 2021

Prepared for:

Stew Stone, Willamette Intermodal Group

Prepared by:

Nick Mesler, EIT

Todd Mobley, PE



Executive Summary

1. The proposed Oregon Port of Willamette intermodal facility intends to construct a truck to rail transfer facility and railroad spur to be used predominantly to transport agricultural products from the Willamette Valley to northern seaports, such as the Port of Portland and the Port of Tacoma. The proposed site will convert approximately 200 acres from an agricultural use to the intermodal facility.
2. Le Brun Road NE will be realigned to the north of the existing connection to Butteville Road NE, by approximately 1,100 feet. The existing Le Brun Road NE alignment will be vacated with an easement to PGE and other applicable utility companies. This will maintain access to the existing landowners fronting the existing alignment.
3. The reasonable worst-case scenario trip generation potential of the project site is 44 morning and evening peak hour trips (40 truck trip ends and 4 passenger vehicle trip ends), and increase by 460 average weekday trips (400 trucks and 60 passenger vehicles).
4. Significant crash rates that exceed the ODOT 90th percentile crash rates were identified at 1 study intersection (Butteville Road NE & Parr Road NE). Safety countermeasures are recommended to offset the potential impact of additional project traffic and reduce the overall crash rate at the intersection. Install "STOP AHEAD" pavement markings along the stop-controlled leg of intersection and install yellow flashing beacons as advanced warning on the existing W2-2 signs along Butteville Road NE.
5. The preliminary traffic signal analysis determined that signal warrants are not projected to be met at the applicable study intersections under the Buildout Year 2022 conditions.
6. Left-turn lane warrants were not met for any of the study area intersections under all scenarios during the morning and evening peak hours, with the exception of Butteville Road NE & Parr Road NE. This intersection meets the left-turn lane warrant for the southbound left turn movement under all evening peak hour scenarios. Thus, a left-turn lane is warranted under existing conditions. However, it should be noted that the proposed project does not anticipate adding any left-turning traffic at this intersection. Project related traffic will only be traveling northbound or southbound through the intersection. Therefore, the project does not add to the existing deficiency and would not be responsible for full or partial implementation of a left-turn lane.
7. Despite not being warranted, the project intends to construct a northbound left-turn lane at Intersection #1 Butteville Road NE & Future Le Brun Rd NE to increase safety of trucks and workers entering and exiting the project site, as well as other roadway users.
8. As shown, all study area intersections are calculated to operate acceptably within the relevant jurisdictional standards under all analysis scenarios.
9. No significant increases in queuing were identified as a result of the proposed project.
10. Specific attention was raised by Marion County engineering staff for the southbound right turn movement at intersection #10. Old Portland Road (OR 99E) & Brooklake Road NE. The existing turn lane length is insufficient to sustain the queue length with and without the addition of project traffic. No substantive change in queuing was identified with the addition of project traffic; therefore, no mitigation pertaining to queuing is recommended to be addressed by the proposed project.

Project Description

Introduction

The proposed Oregon Port of Willamette intermodal facility intends to construct a truck to rail transfer facility and railroad spur to be used predominantly to transport agricultural products from the Willamette Valley to northern seaports, such as the Port of Portland and the Port of Tacoma. The proposed site will convert approximately 200 acres from an agricultural use to the intermodal facility. The site is located south of Le Brun Road NE, west of the Burlington Northern Santa Fe Railway, and north and east of other agricultural uses. Access to the site will be provided solely via a realigned Le Brun Road NE to Butteville Road NE.

Le Brun Road NE will be realigned to the north of the existing connection to Butteville Road NE, by approximately 1,100 feet. The existing Le Brun Road NE alignment will be vacated with an easement to PGE and other existing utility companies. This will maintain access to the existing landowners fronting the existing alignment.

The purpose of this study is to assess the potential traffic impacts of the proposed site in accordance with the Marion County TIA requirements. *"A Transportation Impact Analysis may be required for... proposals that would generate a high percentage of truck traffic (more than 5% of site traffic)"* Based on the size of the nature of the proposed project, a high percentage of the potential trip generation will be semi-truck traffic, thus a TIA is required.

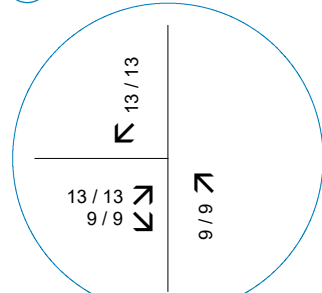
Based on conversations with transportation engineering staff at Marion County and ODOT Region 2, the report includes safety and capacity analyses at 9 intersections:

1. Butteville Road NE & Future Le Brun Rd NE (Realignment)
2. Newberg Highway (OR 219) & Butteville Road NE (South)
3. Newberg Highway (OR 219) & Butteville Road NE (North)
4. Newberg Highway (OR 219) & Woodland Avenue
5. Newberg Highway (OR 219) & I-5 SB Ramps
6. Newberg Highway (OR 219) & I-5 NB Ramps
7. Butteville Road NE & Parr Road NE
8. Ivy Avenue & 3rd Street
9. Checkerboard Road NE/3rd Street & Douglas Ave NE

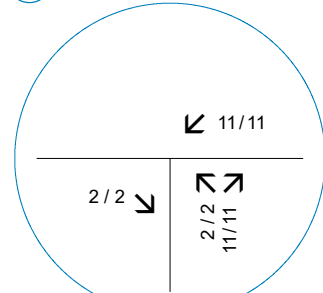
In addition, the need for extending the southbound right-turn lane for the southbound approach at Brooklake Road NE & OR 99E was also analyzed.

This report will identify the potential increase in traffic and will include an analysis of intersection operation for existing conditions as well as the 2022 opening day traffic conditions, both with and without the addition of potential site trips associated with the proposed project. Correspondence with the project team has identified that the site intends to be fully operational in January 2022, with construction beginning in late summer/early fall 2021. A safety analysis will also be conducted that provides a detailed examination of crash history at the study

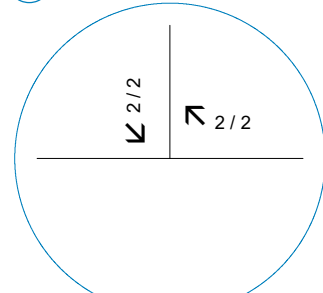
1 Butteville Road NE & Le Brun Road NE



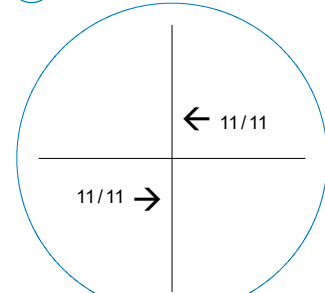
2 Butteville Road NE & OR 219



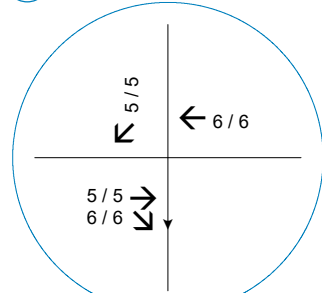
3 OR 219 & Butteville Road NE



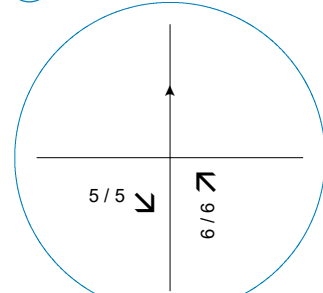
4 OR 219 & Woodland Avenue



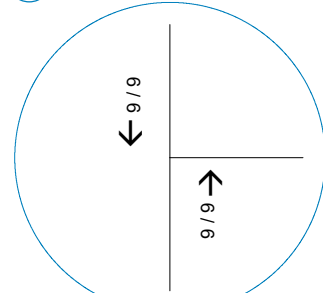
5 OR 219/OR 214/219 & I-5 SB Ramps



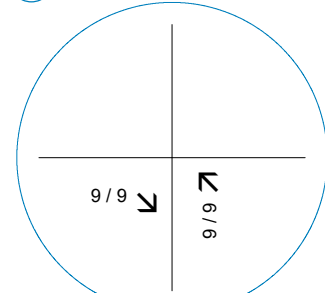
6 I-5 NB Ramps & OR 214/219/OR 214



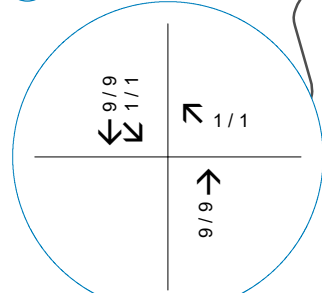
7 Butteville Road NE & Parr Road NE



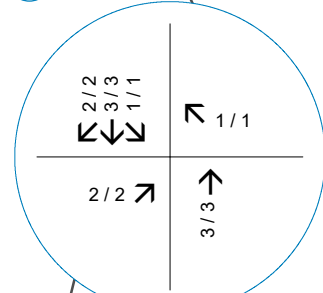
8 3rd Street NE & Ivy Avenue



9 3rd Street NE & Douglas Avenue NE



10 OR 99E & Brooklake Road NE

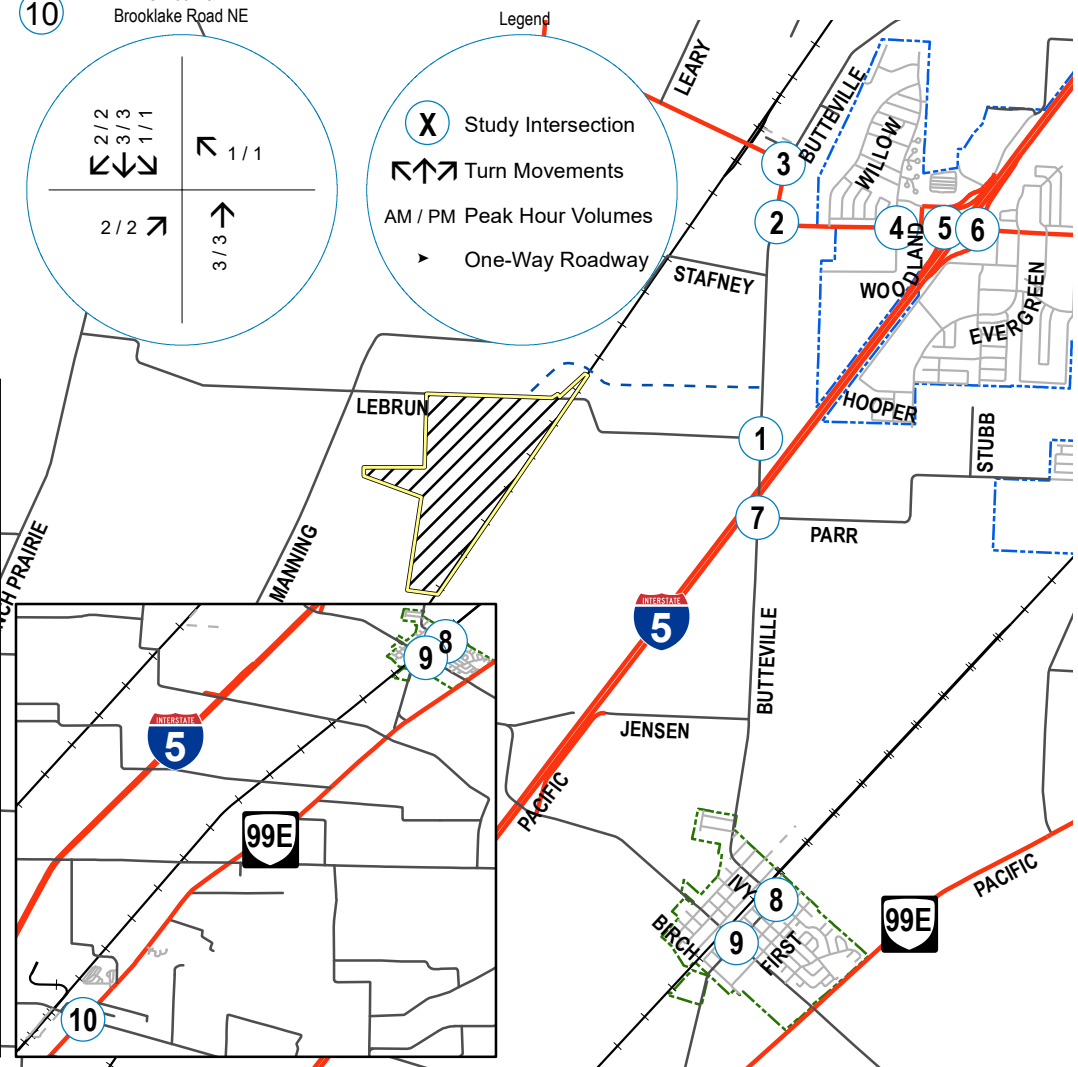


Legend

- X Study Intersection
- ↔↔↔ Turn Movements
- AM / PM Peak Hour Volumes
- ▶ One-Way Roadway

Legend

- ▨ Project Site
- # Study Intersection
- - - Le Brun Road NE Realignment
- ODOT Road
- County Road
- Municipal Road
- - - Private Road
- Existing Railroad Line
- ▭ City of Gervais
- ▭ City of Woodburn



Memorandum

To: Dan Handel, AICP, Planner, City of Woodburn
Dago Garcia, PE, City Engineer, City of Woodburn

Copy: Roseann Johnson, Lennar NW, LLC

From: Jennifer Danziger, PE,

Date: April 13, 2022

Subject: 8708 Parr Road – Kalugin – Proposed TIA Scoping

This memorandum provides a proposed scope of work and analysis methodology for the transportation impact analysis (TIA) for the proposed 188-unit residential development (94 detached and 94 attached homes). The site is located on tax lot 052W130001001 (listed as 38.45 acres) which will be annexed into Woodburn, Oregon.

Project Description

The site is located south and east of Parr Road at 8708 Parr Road. A vicinity map is shown in Figure 1 with the subject site outlined in red. A site plan is attached to this memorandum.

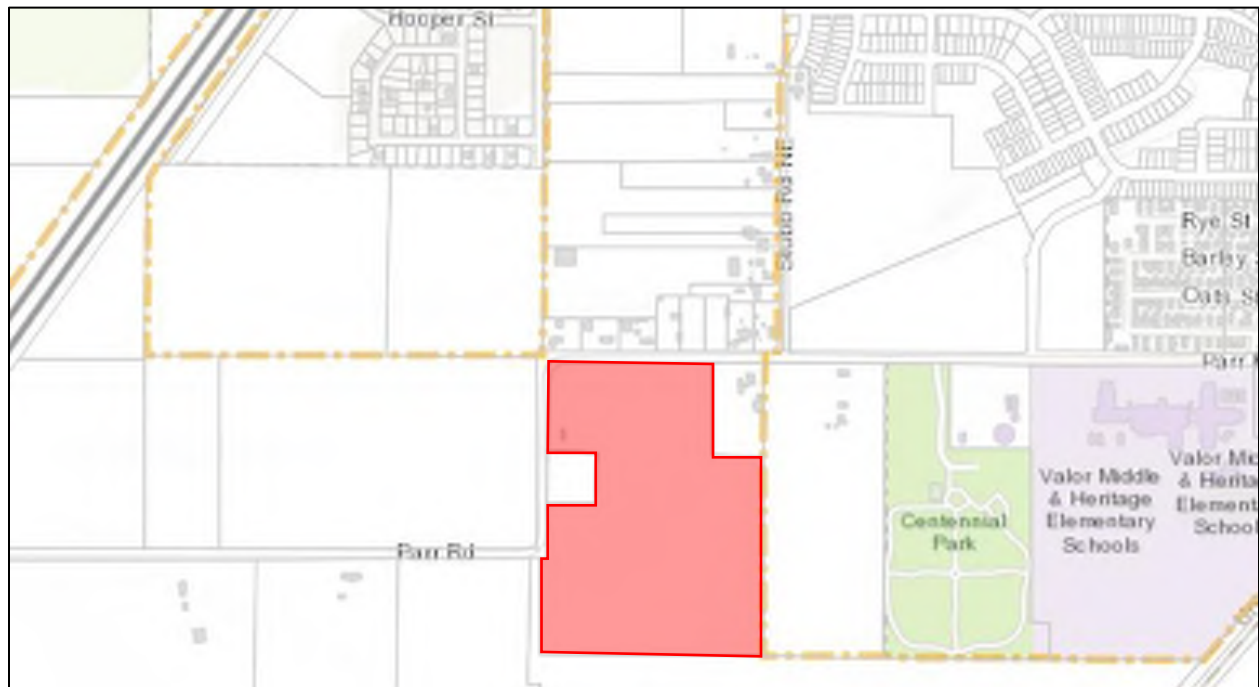


Figure 1: Vicinity Map (Marion County GIS)

Trip Generation

To estimate the number of trips that could be generated by the proposed development, trip rates from the *Trip Generation Manual*¹ were used. Data from the land use code 210, *Single-Family Detached Housing*, and land use code 215, *Single-Family Attached Housing*, were used to estimate the existing site's trip generation based on the number of dwelling units. The resulting trip generation estimates are summarized in Table 1. Detailed trip generation calculations are attached.

Table 1: Trip Generation

ITE Code	Intensity	Morning Peak Hour			Evening Peak Hour			Weekday Trips
		In	Out	Total	In	Out	Total	
210 - Single-Family Detached Housing	94 DU	17	49	66	55	33	88	886
215 - Single-Family Attached Housing	94 DU	14	32	46	31	23	54	676
Total	188 DU	31	81	112	86	56	142	1562

The trip generation calculations show that the proposed development is projected to generate 112 morning peak hour, 142 evening peak hour, and 1,562 average weekday trips.

The criteria for when a traffic impact analysis will be required are outlined in the Woodburn Development Ordinance Section 3.04.05:

3.04.05 Traffic Impact Analysis A. A Traffic Impact Analysis (TIA) may be required by the Director prior to the approval of a City access permit when the Director estimates a development proposal may generate either 100 or more additional, peak hour trips, or 1,000 or more additional daily trips, within ten years of a development application.

With the estimated trip generation, the proposal will fall above the threshold requirement for a TIA.

Trip Distribution

The trip distribution from the site is expected to be largely similar to the distribution for the Smith Creek Development with 45 percent traveling to/from the north, 30 percent traveling to/from the south, 20 percent traveling to/from the east, and 5 percent traveling to/from the west. However, given the location of the site south of Parr Road NE, the travel routes are anticipated to be slightly different.

The anticipated distribution of site traffic is assumed to be:

- 35 percent to/from the west on Parr Road NE
 - 5 percent to/from the south on Butteville Road
 - 15 percent to/from the north on I-5 via Butteville Road & OR 219
 - 10 percent to/from the south on I-5 via Butteville Road & OR 219
 - 5 percent to/from destinations west of I-5 via Butteville Road

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.



- 20 percent to/from the east on Parr Road NE
 - 5 percent to/from the north on S Settlemier Avenue
 - 15 percent to/from the north on S Front Street
- 50 percent to/from the north on Stubb Road SE
 - 25 percent to/from the north on I-5
 - 15 percent to/from the south on I-5
 - 5 percent to/from local areas

The distribution and routes listed above is based on currently approved projects, including the Smith Creek Development, which will upgrade Stubb Road and connect it as an Access Street with Harvard Drive.

The City of Woodburn Transportation System Plan (TSP) identifies the extension of Evergreen Road as a Minor Arterial from its current terminus to Parr Road. A project currently under design review (DR22-02) would construct this extension. If this project is approved, the distribution of traffic is expected to largely shift from Stubb Road to Evergreen Road. Please confirm the status of this project and the network assumptions we should be using for this study.

Proposed Study Intersections

Based on the anticipated trip distribution and approved transportation network improvements, we are proposing to study the following eight intersections:

1. Parr Road/Front Avenue at Settlemier Avenue/Boones Ferry Road
2. Parr Road at Stubb Road
3. Parr Road at Butteville Road
4. Butteville Road at OR 219 (with future roundabout)
5. Harvard Drive at Evergreen Road
6. Evergreen Road at OR 214
7. Site Access (Street A) at Parr Road
8. Site Access (Street H) at Parr Road

No intersections internal to the Smith Creek Development are proposed for analysis. The project is under construction and the TIA for the development did not estimate internal volumes.

Existing Traffic Volumes

We propose to collect new counts or utilize traffic counts that have been collected within the last 12 months. While the Covid19 pandemic had depressed volumes statewide, recent studies of traffic volumes have shown that most volumes have returned to normalized conditions. Therefore, no adjustments to the count data are proposed.

For intersections located on state highways, we propose to seasonally adjust the through traffic volumes based on the commuter trend in ODOT's Seasonal Trend Table.



APPENDIX G
**SIGNAL
INFORMATION**

Timing Sheet

TSSU ID **3021** Intersection **OR214** @ **Woodland**

Unit
Startup Parameters, Phase Configuration,
Security, Sequence, Initialization

MCE Sequence*	1	Ring #1	1,2,a,8,4,b	Enabled	Enable		
Free Sequence	1	Ring #2	6,5,a,b				
Startup Flash	0	First All Red**	6	Start Yellow	0.0	Exit Mode Enabled	Enable
Red Revert	5.0	Auto Ped Clear	Enable	Grn Flash Freq	60	Yel Flash Freq	60
Backup Time	600	*Manual Control Enable		**Start Clear Hold			

Phase	Description	Ring	Concurrent Ph.	Startup	Startup Min	No Serve Phase
1		1	6	Phase Not On	0	
2		1	6,5	Green Walk	0	
3		0		Phase Not On	0	
4		1		Phase Not On	0	
5		2	2	Phase Not On	0	
6		2	1,2	Green Walk	0	
7		0		Phase Not On	0	
8		1		Phase Not On	0	

Parameter	Phase Timing (Phase Plan 1)							
	1	2	3	4	5	6	7	8
Movement								
Walk	0	8	0	10	0	9	0	8
Ped Clear	0	29	0	28	0	27	0	27
Minimum Green	5	8	0	6	5	8	0	6
Minimum Green 2	0	0	0	0	0	0	0	0
Passage	2.5	4.2	0.0	2.5	2.5	4.2	0.0	2.5
Max 1	20	45	0	45	20	45	0	30
Max 2	20	45	0	75	20	45	0	25
Max 3	0	0	0	0	0	0	0	0
Yellow	3.5	4.0	3.0	3.5	3.5	4.0	3.0	3.5
Red Clearance	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5
Add Red Clearance	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial (Sec Per Act)	0.0	1.4	0.0	0.0	0.0	1.4	0.0	0.0
Max Initial	5	17	0	5	5	17	0	5
Time Before Reduce	5	10	0	10	5	10	0	10
Cars Before Reduce	0	0	0	0	0	0	0	0
Time To Reduce	5	10	0	10	5	10	0	5
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	1.0	2.2	0.0	1.0	1.0	2.2	0.0	1.0
Dynamic Max Limit	0	0	0	65	0	0	0	0
Dynamic Max Step	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0
Alt Ped Clear								
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Options								
Parameter	Per Phase Functions (Phase Plan 1)							
	1	2	3	4	5	6	7	8
Phases Enabled	X	X		X	X	X		X
Auto Flash Entry				X				
Auto Flash Exit		X				X		
Non Actuated #1								
Non Actuated #2								
Non Lock Detector Memory*	X	X		X	X	X		X

*AKA: Yellow Lock - When disabled the call is locked at the beginning of yellow interval. When enabled the call locking is dependent on the detector options

Min Vehicle Recall		X				X		
Max Vehicle Recall								
Ped Recall								
Soft Vehicle Recall								
Dual Entry								
Simultaneous Gap Disable								
Guaranteed Passage								
Actuated Rest In Walk								
Conditional Service Enable								
Add Initial								
Ped Clear During Yellow								
Ped Clear During Red								
Condition Reservice								
Yellow Min Override								
No Startup Veh Call								
Advanced Warning Flasher								
No Ped Startup Call								
Ped Clear Overlap Trail Grn								
Flash Exit Veh Call								
Flah Exit Ped Call								
Min Green #2 Enabled								
Max Green #2 Enabled								
Max Green #3 Enabled								
Ped Timing #2 Enabled								
Ped Clear During Pre-Clear								
Ped NA+Mode								
Red Rest								
Serve Every Other Even								
Serve Every Other Odd								
Ped Recycle								

Detectors							
Global Detector Settings Vehicle							
No Activity	0	Max Presence	30	Erratic Count	0	Failed Recall	Max Recall

Global Detector Settings: Pedestrian					
No Activity	0	Max Presence	0	Erratic Count	0

Volume Occupancy Data Collection	
Data Collection (Seconds)	Number of Periods 15

Vehicle Detector Parameters														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
Loop 22	1	1	0	0	0	1.5	0.0			0	0	0	0	None
Loop 1	2	2	0	0	0	1.0	0.0			0	0	0	0	None
Loop 2	3	2	0	0	0	1.0	0.0			0	0	0	0	None
Loop 3,4	4	2	0	0	0	0.0	0.0			0	0	0	0	None
Bike Loop 6	5	2	0	0	0	3.0	0.0			0	0	0	0	None
Loop 5	6	0	0	0	0	0.0	0.0			0	0	0	0	None
	7	3	0	0	0	0.0	0.0			0	0	0	0	None
Loop 10	8	4	0	0	0	1.5	0.0			0	0	0	0	None
Loop 11	9	4	0	0	0	1.5	0.0			0	0	0	0	None
Loop 12,13	10	4	0	0	0	0.0	0.0			0	0	0	0	None
Loop 14,15	11	4	0	0	0	0.0	0.0			0	0	0	0	None
	12	4	0	0	0	0.0	0.0			0	0	0	0	None
Loop 23,24	13	1	0	0	0	0.0	0.0			0	0	0	0	None
	14	3	0	0	0	0.0	0.0			0	0	0	0	None
Loop 7	15	5	0	0	0	0.0	0.0			0	0	0	0	None
Loop 16	16	6	0	0	0	1.0	0.0			0	0	0	0	None
Loop 17	17	6	0	0	0	1.0	0.0			0	0	0	0	None
Loop 18,19	18	6	0	0	0	0.0	0.0			0	0	0	0	None
Bike Loop 21	19	6	0	0	0	3.0	0.0			0	0	0	0	None
Loop 20	20	0	0	0	0	0.0	0.0			0	0	0	0	None
	21	7	0	0	0	0.0	0.0			0	0	0	0	None
Loop 25	22	8	0	0	0	1.5	5.0			0	0	0	0	None
Loop 26	23	8	0	0	0	1.5	0.0			0	0	0	0	None
Loop 28,29	24	8	0	0	0	0.0	10.0			0	0	0	0	None
Loop 30,31	25	8	0	0	0	0.0	5.0			0	0	0	0	None
Loop 27	26	8	0	0	0	0.0	10.0			0	0	0	0	None
Loop 8,9	27	5	0	0	0	0.0	0.0			0	0	0	0	None
	28	7	0	0	0	0.0	0.0			0	0	0	0	None
	29	0	0	0	0	0.0	0.0			0	0	0	0	None
	30	0	0	0	0	0.0	0.0			0	0	0	0	None
	31	0	0	0	0	0.0	0.0			0	0	0	0	None
	32	0	0	0	0	0.0	0.0			0	0	0	0	None
	33	0	0	0	0	0.0	0.0			0	0	0	0	None
	34	0	0	0	0	0.0	0.0			0	0	0	0	None
	35	0	0	0	0	0.0	0.0			0	0	0	0	None
	36	0	0	0	0	0.0	0.0			0	0	0	0	None
	37	0	0	0	0	0.0	0.0			0	0	0	0	None
	38	0	0	0	0	0.0	0.0			0	0	0	0	None
	39	0	0	0	0	0.0	0.0			0	0	0	0	None
	40	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Failure Parameters and Other Options																				
Description	Detector Number																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Volume Detector	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Occupancy	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Extend	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	
Added Initial		X	X	X												X	X	X		
Queue																				
Terminate																				
Call	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	

Description	Detector Number																			
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Volume Detector	X	X	X	X	X	X	X	X	X	X	X	X								
Occupancy	X	X	X	X	X	X	X	X	X	X	X	X								
Extend		X	X	X	X	X	X	X												
Added Initial																				
Queue																				
Terminate																				
Call	X	X	X	X	X	X	X	X												

Pedestrian Detector Options and Failure Parameters								
Det	Call Phase	Call Overlap	Add. Call Ph	Walk 2 Time	Ped Clear 2 Time	No Activity	Max Presence	Erratic Count
1	0	0		0	0	0	0	0
2	0	0		0	0	0	0	0
3	0	0		0	0	0	0	0
4	0	0		0	0	0	0	0
5	0	0		0	0	0	0	0
6	0	0		0	0	0	0	0
7	0	0		0	0	0	0	0
8	0	0		0	0	0	0	0

Overlap Parameters

First 8 Overlaps Should Be Reserved for FYA

Overlaps	1(A)	2(B)	3(C)	4(D)	5(E)	6(F)	7(G)	8(H)	9(I)	10(J)	11(K)	12(L)	13(M)
Description									OLA EBRT	OLB WBRT			
Overlap Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Enabled	Enabled	Disabled	Disabled	Disabled
Phases Included									2,8	4,6			
Overlap Type	Normal	Normal	Off	Off	Off	Off	Off	Off	Normal	Normal	Off	Off	Off
Modifier Phases													
Modifier Overlaps													
Inhibit Negative Ph.													
Negative Veh Ph.													
Negative Ped Ph.									2	6			
Neg.Ped Overlaps													
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Alt Walk Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clear Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Green Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt Rate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call													
Recall													
Disable Veh Reservice													
No Hold On TrailExit													
Ped Recycle													
Disable Yellow Prot													
Disable Bridging													
LRT Prepare To Go													
Call For Service													
Allow Trail Green Bridge													
FYA During Red Clear													

Coordination Data

Coordination Patterns, Mode, and Transition Parameters

Operational Mode	Automatic	Coordination Mode	Auto Permissive	Max Mode	Per Pattern
Correction Mode	Shortway (Auto)	Force Mode	Per Pattern		
Max Cycle Limit %	30	Min Cycle Limit %	30	Max Dwell	0
Trans. Cover Peds	Pattern				

Sequence Parameters					
Sequence	Ring	Sequence Data	Sequence	Ring	Sequence Data
1	1	1,2,a,8,4,b	1	2	6,5,a,b
2	1		2	2	
3	1		3	2	
4	1		4	2	
5	1		5	2	

Pattern Parameters									
Plan	Coord Plan	Cycle Length	Offset Time	Seq Number	Reference	Coordination Mode	Force Off	Max Mode	Trans Cover Peds
1	Thanksgiving	100	90	1	Grn	Auto	Fixed	Inh	Phase
2	Christmas	100	75	1	Grn	Auto	Fixed	Inh	Phase
3		0	0	0	Yel	Auto	Fixed	Inh	Phase
4		0	0	0	Yel	Auto	Fixed	Inh	Phase
5		0	0	0	Yel	Auto	Fixed	Inh	Phase
6		0	0	0	Yel	Auto	Fixed	Inh	Phase
7		0	0	0	Yel	Auto	Fixed	Inh	Phase
8		0	0	0	Yel	Auto	Fixed	Inh	Phase
9		0	0	0	Yel	Auto	Fixed	Inh	Phase
10		0	0	0	Yel	Auto	Fixed	Inh	Phase
11		0	0	1	Grn	Auto	Fixed	Max1	Phase
12		0	0	0	Yel	Auto	Fixed	Inh	Phase
13		0	0	0	Yel	Auto	Fixed	Inh	Phase
14		0	0	0	Yel	Auto	Fixed	Inh	Phase
15		0	0	0	Yel	Auto	Fixed	Inh	Phase
16		0	0	0	Yel	Auto	Fixed	Inh	Phase
17		0	0	0	Yel	Auto	Fixed	Inh	Phase
18		0	0	0	Yel	Auto	Fixed	Inh	Phase
19		0	0	0	Yel	Auto	Fixed	Inh	Phase
20		0	0	0	Yel	Auto	Fixed	Inh	Phase

Ring Plan	Ring #1		Ring #2		Ring Plan #	Pattern																	
	Offset	Early Coord Gap Out	Offset	Early Coord Gap Out		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0																		
3	0	0	0	0	0																		
4	0	0	0	0	0																		
5	0	0	0	0	0																		
6	0	0	0	0	0																		

Coordination Splits

Thanksgiving

	1	2	3	4	5	6	7	8
Description								
Time	15	25	0	45	15	25	0	15
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph				X				
Ref Point				X				
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Christmas

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Coordination Splits (cont.)

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Coordination Splits (cont.)

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description								
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Time of Day Data					
Day Program				Schedule Program	
Event	Day Prog	Action	Hour	Min	Description
1	1	21	0	0	
2	1		0	0	
3	1		0	0	
4	1		0	0	
5	1		0	0	
6	1		0	0	
7	1		0	0	
8	1		0	0	
9	1		0	0	
10	1		0	0	
11	2	1	10	0	Coordination
12	2	21	18	0	Free
13	2		0	0	
14	2		0	0	
15	2		0	0	
16	2		0	0	
17	2		0	0	
18	2		0	0	
19	2		0	0	
20	2		0	0	
21	3		0	0	
22	3		0	0	
23	3		0	0	
24	3		0	0	
25	3		0	0	
26	3		0	0	
27	3		0	0	
28	3		0	0	
29	3		0	0	
30	3		0	0	
31	4		0	0	
32	4		0	0	
33	4		0	0	
34	4		0	0	
35	4		0	0	
36	4		0	0	
37	4		0	0	
38	4		0	0	
39	4		0	0	
40	4		0	0	
41	5		0	0	
42	5		0	0	
43	5		0	0	
44	5		0	0	
45	5		0	0	
46	5		0	0	
47	5		0	0	
48	5		0	0	
49	5		0	0	
50	5		0	0	

Time of Day Data Cont.																						
Day Program						Schedule Program																
Event	Day Prog	Action	Hour	Min	Description	Schedule	Day Plan															
51	6		0	0		Schedule 6	Day Plan 6															
52	6		0	0		Description																
53	6		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
54	6		0	0		Weekday	S	M	T	W	T	F	S									
55	6		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
56	6		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
57	6		0	0																		
58	6		0	0																		
59	6		0	0																		
60	6		0	0																		
61	7		0	0		Schedule 7	Day Plan 7															
62	7		0	0		Description																
63	7		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
64	7		0	0		Weekday	S	M	T	W	T	F	S									
65	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
66	7		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
67	7		0	0																		
68	7		0	0																		
69	7		0	0																		
70	7		0	0																		
71	8		0	0		Schedule 8	Day Plan 8															
72	8		0	0		Description																
73	8		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
74	8		0	0		Weekday	S	M	T	W	T	F	S									
75	8		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
76	8		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
77	8		0	0																		
78	8		0	0																		
79	8		0	0																		
80	8		0	0																		
81	9		0	0		Schedule 9	Day Plan 9															
82	9		0	0		Description																
83	9		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
84	9		0	0		Weekday	S	M	T	W	T	F	S									
85	9		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
86	9		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
87	9		0	0																		
88	9		0	0																		
89	9		0	0																		
90	9		0	0																		
91	10		0	0		Schedule 10	Day Plan 10															
92	10		0	0		Description																
93	10		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
94	10		0	0		Weekday	S	M	T	W	T	F	S									
95	10		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
96	10		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
97	10		0	0																		
98	10		0	0																		
99	10		0	0																		
100	10		0	0																		

Preemption Data										
Sequence Parameters										
	Sequence									
Parameters	1	2	3	4	5	6	7	8	9	10
Enabled	<i>Enabled</i>	<i>Enabled</i>	<i>Enabled</i>	<i>Enabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>
Description	<i>EVA</i>	<i>EVB</i>	<i>EVC</i>	<i>EVD</i>						
Preemption Type	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>
Dwell Veh Ph	<i>2,5</i>	<i>4</i>	<i>1,6</i>	<i>8</i>						
Dwell Ped Ph										
Dwell Overlap	<i>9</i>		<i>10</i>							
Exit Phases										
Exit Type	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>
Exit Max Mode	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>
Track Phases										
Track Overlaps										
Cycling Veh Ph										
Cycling Ped Ph										
Cycling Overlap										
Non Lock Mem	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>						
Not Override Flash	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>						
Not override Next Preempt	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>						
Min Green	<i>8</i>	<i>6</i>	<i>8</i>	<i>6</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Yellow Change	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>
Red Clear	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>
Min Walk	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min Ped Clear	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>
Link	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Delay	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min Duration	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min Presence	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
Max Presence	<i>180</i>	<i>180</i>	<i>180</i>	<i>180</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Dwell Green	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max Exit Green	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Exit Ped Clear	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>	<i>255</i>
Exit Yellow	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>
Exit Red Clear	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>	<i>25.5</i>
Dwell Exit time	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>

Serial Ports

Port	Description	Function	Address	Baud	Bits	Stop	Parity	Flow	CTS	RTS
1	Port 2/C21S	<i>None</i>	<i>1</i>	<i>9600</i>	<i>8</i>	<i>1</i>	<i>None</i>	<i>None</i>	<i>0</i>	<i>0</i>
2	Aux_P3/C22S	<i>None</i>	<i>1</i>	<i>9600</i>	<i>8</i>	<i>1</i>	<i>None</i>	<i>None</i>	<i>0</i>	<i>0</i>
3	SDLC Port 1	<i>None</i>	<i>1</i>	<i>9600</i>	<i>8</i>	<i>1</i>	<i>None</i>	<i>None</i>	<i>0</i>	<i>0</i>
4	Com A/C50S	<i>None</i>	<i>1</i>	<i>9600</i>	<i>8</i>	<i>1</i>	<i>None</i>	<i>None</i>	<i>0</i>	<i>0</i>
5	FIO	<i>None</i>	<i>1</i>	<i>9600</i>	<i>8</i>	<i>1</i>	<i>None</i>	<i>None</i>	<i>0</i>	<i>0</i>
6	DISPLAY/C60M	<i>None</i>	<i>1</i>	<i>9600</i>	<i>8</i>	<i>1</i>	<i>None</i>	<i>None</i>	<i>0</i>	<i>0</i>
7	SP7	<i>None</i>	<i>1</i>	<i>9600</i>	<i>8</i>	<i>1</i>	<i>None</i>	<i>None</i>	<i>0</i>	<i>0</i>
8	SP8/Com B	<i>None</i>	<i>1</i>	<i>9600</i>	<i>8</i>	<i>1</i>	<i>None</i>	<i>None</i>	<i>0</i>	<i>0</i>

Advanced IO Configuration						
Channel Configuration						
Channel	Control Type	Ctrl Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	<i>Phs Veh</i>	1		X	X	1
2	<i>Phs Veh</i>	2		X		2
3	<i>Phs Veh</i>	3		X		3
4	<i>Phs Veh</i>	4		X	X	4
5	<i>Phs Veh</i>	5		X	X	5
6	<i>Phs Veh</i>	6		X		6
7	<i>Phs Veh</i>	7		X		7
8	<i>Phs Veh</i>	8		X	X	8
9	<i>Olp</i>	9		X		9
10	<i>Olp</i>	10		X		10
11	<i>Olp</i>	11		X		11
12	<i>Olp</i>	12		X		12
13	<i>Phs Ped</i>	2				13
14	<i>Phs Ped</i>	4				14
15	<i>Phs Ped</i>	6				15
16	<i>Phs Ped</i>	8				16
17	<i>Olp</i>	17				17
18	<i>Olp</i>	18				18

Cabinet Configuration

	IO Module	1	Type	ODOT 332	
	ITS Cabinet Port 1	No	33X Input Leading Edge	5	Enable TS2 Stop Time
	ITS Cabinet Port C13S	No	33X input Trailing Edge	5	Disable TS2 Cabinet Alarm
	Disable TS2 Startup Call		Use Raw MMU Channel Status		Disable TS2 Fault Flash

Input Points (Module 1)							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-39	<i>Veh Det Call</i>	2	25	C11-10	<i>Not Active</i>	0
2	C1-40	<i>Veh Det Call</i>	16	26	C11-11	<i>Not Active</i>	0
3	C1-41	<i>Veh Det Call</i>	8	27	C11-12	<i>Not Active</i>	0
4	C1-42	<i>Veh Det Call</i>	22	28	C11-13	<i>Not Active</i>	0
5	C1-43	<i>Veh Det Call</i>	3	29	C1-63	<i>Veh Det Call</i>	4
6	C1-44	<i>Veh Det Call</i>	17	30	C1-64	<i>Veh Det Call</i>	18
7	C1-45	<i>Veh Det Call</i>	9	31	C1-65	<i>Veh Det Call</i>	10
8	C1-46	<i>Veh Det Call</i>	23	32	C1-66	<i>Veh Det Call</i>	24
9	C1-47	<i>Veh Det Call</i>	6	33	C1-67	<i>Ped Det Call</i>	2
10	C1-48	<i>Veh Det Call</i>	20	34	C1-68	<i>Ped Det Call</i>	6
11	C1-49	<i>Veh Det Call</i>	12	35	C1-69	<i>Ped Det Call</i>	4
12	C1-50	<i>Veh Det Call</i>	26	36	C1-70	<i>Ped Det Call</i>	8
13	C1-51	<i>Preempt Input</i>	6	37	C1-71	<i>Preempt Input</i>	1
14	C1-52	<i>Preempt Input</i>	5	38	C1-72	<i>Preempt Input</i>	2
15	C1-53	<i>Man Ctrl Enable</i>	1	39	C1-73	<i>Preempt Input</i>	3
16	C1-54	<i>Not Active</i>	0	40	C1-74	<i>Preempt Input</i>	4
17	C1-55	<i>Veh Det Call</i>	15	41	C1-75	<i>Not Active</i>	0
18	C1-56	<i>Veh Det Call</i>	1	42	C1-76	<i>Veh Det Call</i>	5
19	C1-57	<i>Veh Det Call</i>	21	43	C1-77	<i>Veh Det Call</i>	19
20	C1-58	<i>Veh Det Call</i>	7	44	C1-78	<i>Veh Det Call</i>	11
21	C1-59	<i>Veh Det Call</i>	27	45	C1-79	<i>Veh Det Call</i>	25
22	C1-60	<i>Veh Det Call</i>	13	46	C1-80	<i>Interval Adv</i>	1
23	C1-61	<i>Veh Det Call</i>	28	47	C1-81	<i>Flash Sense</i>	1
24	C1-62	<i>Veh Det Call</i>	14	48	C1-82	<i>Unit Stop Time</i>	1

Input Points (Module 1) Cont.							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
49	C11-15	Not Active	0	57	C11-23	Not Active	0
50	C11-16	Not Active	0	58	C11-24	Not Active	0
51	C11-17	Not Active	0	59	C11-25	Not Active	0
52	C11-18	Not Active	0	60	C11-26	Not Active	0
53	C11-19	Not Active	0	61	C11-27	Not Active	0
54	C11-20	Not Active	0	62	C11-28	Not Active	0
55	C11-21	Not Active	0	63	C11-29	Not Active	0
56	C11-22	Not Active	0	64	C11-30	Not Active	0

Output Points (Module 1)							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-2	Ch Red DWalk	14	33	C1-35	TimingPlanA	1
2	C1-3	Chl Green Walk	14	34	C1-36	TimingPlanB	1
3	C1-4	Ch Red DWalk	4	35	C1-37	TimingPlanC	1
4	C1-5	Ch Yel Ped Clear	4	36	C1-38	TimingPlanD	1
5	C1-6	Chl Green Walk	4	37	C1-100	Not Active	20
6	C1-7	Ch Red DWalk	3	38	C1-101	Not Active	17
7	C1-8	Ch Yel Ped Clear	3	39	C1-102	Auto Flash	1
8	C1-9	Chl Green Walk	3	40	C1-103	Watchdog	1
9	C1-10	Ch Red DWalk	13	41	C1-83	Ch Red DWalk	20
10	C1-11	Chl Green Walk	13	42	C1-84	Chl Green Walk	20
11	C1-12	Ch Red DWalk	2	43	C1-85	Ch Red DWalk	12
12	C1-13	Ch Yel Ped Clear	2	44	C1-86	Ch Yel Ped Clear	12
13	C1-15	Chl Green Walk	2	45	C1-87	Chl Green Walk	12
14	C1-16	Ch Red DWalk	1	46	C1-88	Ch Red DWalk	11
15	C1-17	Ch Yel Ped Clear	1	47	C1-89	Ch Yel Ped Clear	11
16	C1-18	Chl Green Walk	1	48	C1-90	Chl Green Walk	11
17	C1-19	Ch Red DWalk	16	49	C1-91	Ch Red DWalk	17
18	C1-20	Chl Green Walk	16	50	C1-93	Chl Green Walk	17
19	C1-21	Ch Red DWalk	8	51	C1-94	Ch Red DWalk	10
20	C1-22	Ch Yel Ped Clear	8	52	C1-95	Ch Yel Ped Clear	10
21	C1-23	Chl Green Walk	8	53	C1-96	Chl Green Walk	10
22	C1-24	Ch Red DWalk	7	54	C1-97	Ch Red DWalk	9
23	C1-25	Ch Yel Ped Clear	7	55	C1-98	Ch Yel Ped Clear	9
24	C1-26	Chl Green Walk	7	56	C1-99	Chl Green Walk	9
25	C1-27	Ch Red DWalk	15	57	C11-1	Not Active	0
26	C1-28	Chl Green Walk	15	58	C11-2	Not Active	0
27	C1-29	Ch Red DWalk	6	59	C11-3	Not Active	0
28	C1-30	Ch Yel Ped Clear	6	60	C11-4	Not Active	0
29	C1-31	Chl Green Walk	6	61	C11-5	Not Active	0
30	C1-32	Ch Red DWalk	5	62	C11-6	Not Active	0
31	C1-33	Ch Yel Ped Clear	5	63	C11-7	Not Active	0
32	C1-34	Chl Green Walk	5	64	C11-8	Not Active	0

Vehicle and Pedestrian Phase Intervals									
Interval	Vehicle/Ped	Description	Red	Yellow	Green	Don't Walk	Clearance	Walk	Type
1	Vehicle	Not Active	On	Off	Off	-	-	-	Red
2	Vehicle	Delay Green	On	Off	Off	-	-	-	Red
3	Vehicle	Pre Green	Off	Off	On	-	-	-	Green
4	Vehicle	Min Green	Off	Off	On	-	-	-	Green
5	Vehicle	Green Extension	Off	Off	On	-	-	-	Green
6	Vehicle	Green Dwell	Off	Off	On	-	-	-	Green
7	Vehicle	Pre Clear	Off	Off	On	-	-	-	Green
8	Vehicle	Yellow Change	Off	On	Off	-	-	-	Yellow
9	Vehicle	Red Clear	On	Off	Off	-	-	-	Red
10	Vehicle	Red Dwell	On	Off	Off	-	-	-	Red
11	Vehicle	Barrier Hold	On	Off	Off	-	-	-	Red
1	Ped	Not Active	-	-	-	On	Off	Off	Dont Walk
2	Ped	Delay Ped	-	-	-	On	Off	Off	Dont Walk
3	Ped	Walk	-	-	-	Off	Off	On	Walk
4	Ped	Walk Dwell	-	-	-	Off	Off	On	Walk
5	Ped	Flash Don't Walk	-	-	-	Flash	On	Off	Ped Clear
6	Ped	Don't Walk	-	-	-	On	Off	Off	Dont Walk

User Program Configuration						
Program Information						
Program #	1	Description	Stop Time	Enabled	Enabled	
Statement	Result	Index	Delay	Ext	Description	
1	Unit Stop Time	1	0.0	0.0		
	Parameter A	Index				
	Aux Switch State	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
2	None	0	0.0	0.0		
	Parameter A	Index				
	Number	2				
	Parameter B	Index				
	Prev Line	0				
Statement	Result	Index	Delay	Ext	Description	
3	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
4	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
5	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
6	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
7	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
8	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				

Program #	2	Description	Stop Time Beep	Enabled	Enabled	
1	Statement	Result	Index	Delay	Ext	Description
		Global Var	100	0.0	0.0	
		Parameter A	Index			
		Glob Var	100			
		Parameter B	Index			
	Number	1				
2	Statement	Result	Index	Delay	Ext	Description
		None	0	0.0	0.0	
		Parameter A	Index			
		Prev Line	0			
		Parameter B	Index			
	Number	10				
3	Statement	Result	Index	Delay	Ext	Description
		None	0	0.0	0.0	
		Parameter A	Index			
		Prev Line	0			
		Parameter B	Index			
	Number	15				
4	Statement	Result	Index	Delay	Ext	Description
		Global Var	101	0.0	0.0	
		Parameter A	Index			
		Prev Line	0			
		Parameter B	Index			
	Number	0				
5	Statement	Result	Index	Delay	Ext	Description
		None	0	0.0	0.0	
		Parameter A	Index			
		Glob Var	101			
		Parameter B	Index			
	None	0				
6	Statement	Result	Index	Delay	Ext	Description
		None	0	0.0	0.0	
		Parameter A	Index			
		None	0			
		Parameter B	Index			
	None	0				
7	Statement	Result	Index	Delay	Ext	Description
		None	0	0.0	0.0	
		Parameter A	Index			
		None	0			
		Parameter B	Index			
	None	0				
8	Statement	Result	Index	Delay	Ext	Description
		None	0	0.0	0.0	
		Parameter A	Index			
		None	0			
		Parameter B	Index			
	None	0				

Program #	3	Description	Enabled	Enabled	
Statement	Result	Index	Delay	Ext	Description
1	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
2	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
3	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
4	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
5	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
6	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
7	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
8	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				

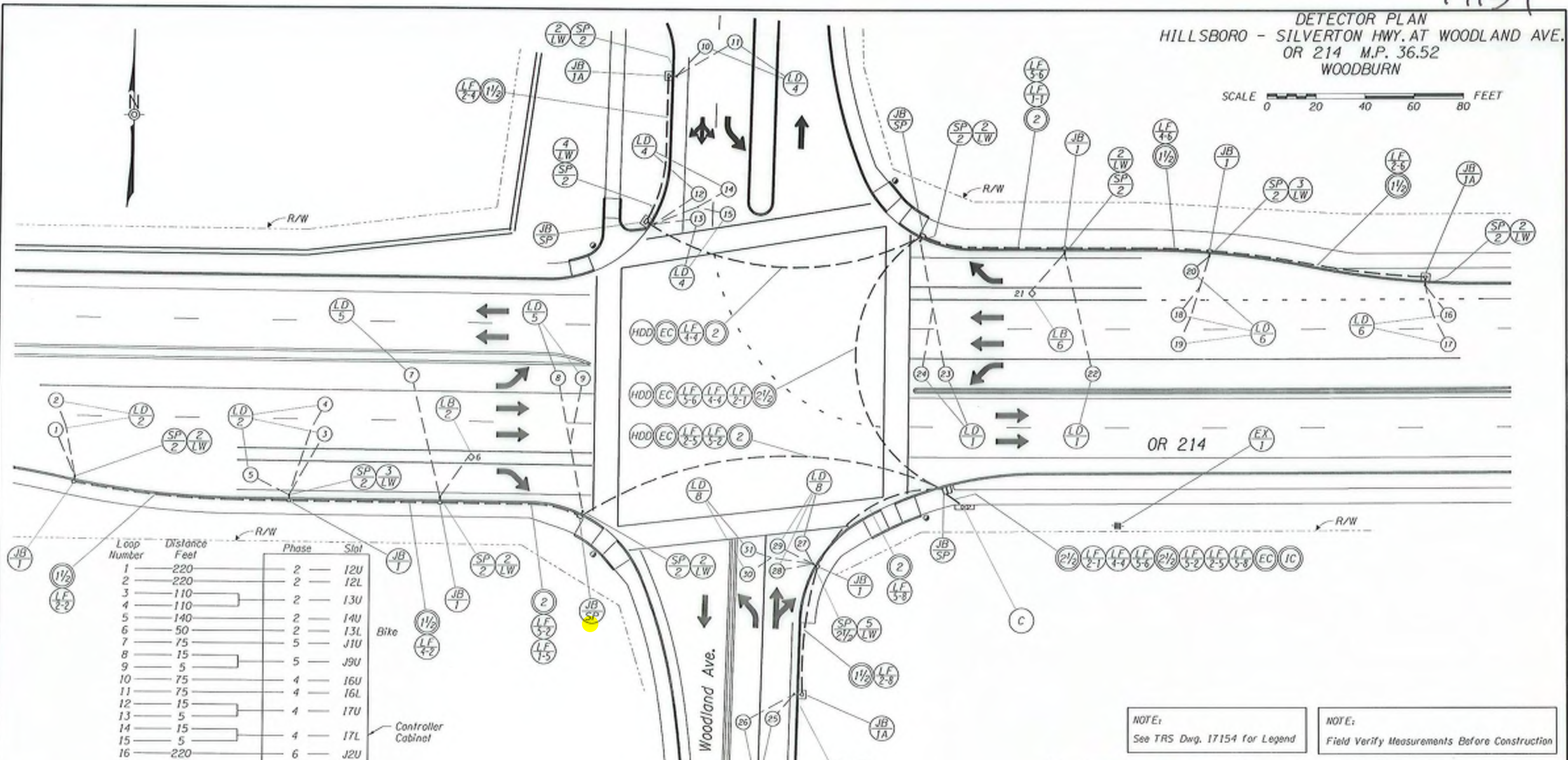
Program #	4	Description	Enabled	Enabled
1	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
2	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
3	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
4	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
5	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
6	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
7	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
8	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		

Program #	5	Description	Enabled	Enabled		
1	Statement	Result	Index	Delay	Ext	Description
	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
None		0				
2	Statement	Result	Index	Delay	Ext	Description
	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
None		0				
3	Statement	Result	Index	Delay	Ext	Description
	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
None		0				
4	Statement	Result	Index	Delay	Ext	Description
	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
None		0				
5	Statement	Result	Index	Delay	Ext	Description
	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
None		0				
6	Statement	Result	Index	Delay	Ext	Description
	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
None		0				
7	Statement	Result	Index	Delay	Ext	Description
	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
None		0				
8	Statement	Result	Index	Delay	Ext	Description
	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
None		0				

17157

DETECTOR PLAN
 HILLSBORO - SILVERTON HWY. AT WOODLAND AVE.
 OR 214 M.P. 36.52
 WOODBURN

SCALE 0 20 40 60 80 FEET



Loop Number	Distance Feet	Phase	Slot
1	220	2	12U
2	220	2	12L
3	110	2	13U
4	110	2	13L
5	140	2	14U
6	50	2	13L
7	75	5	J1U
8	15	5	J9U
9	5	5	J9U
10	75	4	16U
11	75	4	16L
12	15	4	17U
13	5	4	17U
14	15	4	17L
15	5	4	17L
16	220	6	J2U
17	220	6	J2L
18	110	6	J3U
19	110	6	J3U
20	115	6	J4U
21	50	6	J3L
22	75	1	J1U
23	15	1	J9U
24	5	1	J9U
25	75	8	J6U
26	75	8	J6L
27	5	8	J8U
28	15	8	J7U
29	5	8	J7U
30	15	8	J7L
31	5	8	J7L

LOOP DETECTOR WIRING DIAGRAM
 "Distance" is from Stop Line to center of loop in feet

NOTE:
See TRS Dwg. 17154 for Legend

NOTE:
Field Verify Measurements Before Construction

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER
 45556PE
Dani C. Nelson
 OREGON
 JULY 9, 2001
 DANI C. NELSON

EXPIRES: December 31, 2014

OREGON DEPARTMENT OF TRANSPORTATION
 TRAFFIC ENGINEERING OPERATIONS SECTION

REGION 2

I-5 AT HILLSBORO - SILVERTON HWY.
 INTERCHGE. (WOODBURN) DEVELOPMENT
 HILLSBORO - SILVERTON HIGHWAY
 MARION COUNTY

DESIGNED BY: D. Nelson
 REVIEWED BY: S. Cramer
 DRAWN BY: D. Nelson
 FC: 140 MP: 36.52

DETECTOR PLAN

1500 © 03021 T.R.S. OREG. NO. 17157

Detectors					
Global Detector Settings Vehicle					
No Activity	0	Max Presence	15	Erratic Count	35
		Failed Recall	None		

Global Detector Settings: Pedestrian					
No Activity	0	Max Presence	5	Erratic Count	60

Volume Occupancy Data Collection			
Data Collection (Seconds)		Number of Periods	15

Vehicle Detector Parameters														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	1	0	0	0	0	0.0	0.0			0	0	0	0	None
Loop1	2	2	0	0	0	0.0	0.0			0	0	0	30	None
Loop2	3	2	0	0	0	0.0	0.0			0	0	0	30	None
Loop3Bike	4	2	0	0	0	0.0	0.0			0	0	0	0	None
Loop4Ramp	5	2	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Ph2 Ext For OL Ped	6	2	0	0	0	0.0	0.0			0	0	0	0	None
	7	0	0	0	0	0.0	0.0			0	0	0	0	None
Loop9	8	4	0	0	0	0.0	0.0			0	0	0	30	None
Loop10	9	4	0	0	0	0.0	0.0			0	0	0	30	None
Loops15-16	10	4	0	0	0	0.0	0.0			0	0	0	12	None
Loops11-12	11	4	0	0	0	0.0	0.0			0	0	0	12	None
Loops13-14	12	4	0	0	0	0.0	0.0			0	0	0	12	None
	13	0	0	0	0	0.0	0.0			0	0	0	0	None
	14	0	0	0	0	0.0	0.0			0	0	0	0	None
Dummy Testing Detector	15	5	9	0	0	0.0	0.0			0	0	0	0	None
RadC Ph6	16	6	0	0	0	0.0	0.0			0	30	255	0	Max Recall
RadC Ph6	17	6	0	0	0	0.0	0.0			0	30	255	0	Max Recall
Loop19Bike	18	6	0	0	0	0.0	0.0			0	0	0	0	None
Loop20Ramp	19	6	0	0	0	0.0	0.0			0	0	0	0	None
	20	0	0	0	0	0.0	0.0			0	0	0	0	None
Loop21	21	5	9	0	0	0.0	0.0			0	0	0	12	None
Loop5	22	5	9	0	0	0.0	0.0			0	0	0	12	None
Loop6	23	5	9	0	0	0.0	0.0			0	0	0	12	None
Loops7-8	24	5	9	0	0	0.0	0.0			0	0	0	12	None
	25	0	0	0	0	0.0	0.0			0	0	0	0	None
	26	0	0	0	0	0.0	0.0			0	0	0	0	None
	27	0	0	0	0	0.0	0.0			0	0	0	0	None
Loops22-23	28	4	0	0	0	0.0	0.0			0	0	0	12	None
	29	0	0	0	0	0.0	0.0			0	0	0	0	None
	30	0	0	0	0	0.0	0.0			0	0	0	0	None
	31	0	0	0	0	0.0	0.0			0	0	0	0	None
	32	0	0	0	0	0.0	0.0			0	0	0	0	None
	33	0	0	0	0	0.0	0.0			0	0	0	0	None
	34	0	0	0	0	0.0	0.0			0	0	0	0	None
	35	0	0	0	0	0.0	0.0			0	0	0	0	None
	36	0	0	0	0	0.0	0.0			0	0	0	0	None
	37	0	0	0	0	0.0	0.0			0	0	0	0	None
	38	0	0	0	0	0.0	0.0			0	0	0	0	None
	39	0	0	0	0	0.0	0.0			0	0	0	0	None
	40	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Parameters (Continued)

Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	41	0	0	0	0	0.0	0.0			0	0	0	0	None
	42	0	0	0	0	0.0	0.0			0	0	0	0	None
	43	0	0	0	0	0.0	0.0			0	0	0	0	None
	44	0	0	0	0	0.0	0.0			0	0	0	0	None
	45	0	0	0	0	0.0	0.0			0	0	0	0	None
	46	0	0	0	0	0.0	0.0			0	0	0	0	None
	47	0	0	0	0	0.0	0.0			0	0	0	0	None
	48	0	0	0	0	0.0	0.0			0	0	0	0	None
	49	0	0	0	0	0.0	0.0			0	0	0	0	None
	50	0	0	0	0	0.0	0.0			0	0	0	0	None
	51	0	0	0	0	0.0	0.0			0	0	0	0	None
	52	0	0	0	0	0.0	0.0			0	0	0	0	None
	53	0	0	0	0	0.0	0.0			0	0	0	0	None
	54	0	0	0	0	0.0	0.0			0	0	0	0	None
	55	0	0	0	0	0.0	0.0			0	0	0	0	None
	56	0	0	0	0	0.0	0.0			0	0	0	0	None
	57	0	0	0	0	0.0	0.0			0	0	0	0	None
	58	0	0	0	0	0.0	0.0			0	0	0	0	None
	59	0	0	0	0	0.0	0.0			0	0	0	0	None
	60	0	0	0	0	0.0	0.0			0	0	0	0	None
	61	0	0	0	0	0.0	0.0			0	0	0	0	None
	62	0	0	0	0	0.0	0.0			0	0	0	0	None
	63	0	0	0	0	0.0	0.0			0	0	0	0	None
	64	0	0	0	0	0.0	0.0			0	0	0	0	None
	65	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop1	66	2	0	0	0	3.0	0.0			0	0	0	0	None
(Dummy)Loop2	67	2	0	0	0	3.0	0.0			0	0	0	0	None
(Dummy)Loop3Bike	68	2	0	0	0	5.0	0.0			0	0	0	0	None
(Dummy)Loop4Ramp	69	2	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Ph2 Ext For OL	70	2	0	0	0	0.0	0.0			0	0	0	0	None
	71	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop9	72	4	0	0	0	2.0	0.0			0	0	0	0	None
(Dummy)Loop10	73	4	0	0	0	2.0	0.0			0	0	0	0	None
(Dummy)Loops15-16	74	4	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loops11-12	75	4	0	0	0	2.0	0.0			0	0	0	0	None
(Dummy)Loops13-14	76	4	0	0	0	0.0	0.0			0	0	0	0	None
	77	0	0	0	0	0.0	0.0			0	0	0	0	None
	78	0	0	0	0	0.0	0.0			0	0	0	0	None
	79	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)RadC Ph6	80	6	0	0	0	0.0	0.0			0	30	255	0	None
(Dummy)RadC Ph6	81	6	0	0	0	0.0	0.0			0	30	255	0	None
(Dummy)Loop19Bike	82	6	0	0	0	5.0	0.0			0	0	0	0	None
(Dummy)Loop20Ramp	83	6	0	0	0	0.0	0.0			0	0	0	0	None
	84	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop21	85	5	9	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop5	86	5	9	0	0	2.0	0.0			0	0	0	0	None
(Dummy)Loop6	87	5	9	0	0	2.0	0.0			0	0	0	0	None
(Dummy)Loops7-8	88	5	9	0	0	0.0	5.0			0	0	0	0	None
	89	0	0	0	0	0.0	0.0			0	0	0	0	None
	90	0	0	0	0	0.0	0.0			0	0	0	0	None
	91	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loops22-23	92	4	0	0	0	0.0	0.0			0	0	0	0	None
	93	0	0	0	0	0.0	0.0			0	0	0	0	None
	94	0	0	0	0	0.0	0.0			0	0	0	0	None
	95	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Parameters (Continued)														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	96	0	0	0	0	0.0	0.0			0	0	0	0	None
	97	0	0	0	0	0.0	0.0			0	0	0	0	None
	98	0	0	0	0	0.0	0.0			0	0	0	0	None
	99	0	0	0	0	0.0	0.0			0	0	0	0	None
	100	0	0	0	0	0.0	0.0			0	0	0	0	None
	101	0	0	0	0	0.0	0.0			0	0	0	0	None
	102	0	0	0	0	0.0	0.0			0	0	0	0	None
	103	0	0	0	0	0.0	0.0			0	0	0	0	None
	104	0	0	0	0	0.0	0.0			0	0	0	0	None
	105	0	0	0	0	0.0	0.0			0	0	0	0	None
	106	0	0	0	0	0.0	0.0			0	0	0	0	None
	107	0	0	0	0	0.0	0.0			0	0	0	0	None
	108	0	0	0	0	0.0	0.0			0	0	0	0	None
	109	0	0	0	0	0.0	0.0			0	0	0	0	None
	110	0	0	0	0	0.0	0.0			0	0	0	0	None
	111	0	0	0	0	0.0	0.0			0	0	0	0	None
	112	0	0	0	0	0.0	0.0			0	0	0	0	None
	113	0	0	0	0	0.0	0.0			0	0	0	0	None
	114	0	0	0	0	0.0	0.0			0	0	0	0	None
	115	0	0	0	0	0.0	0.0			0	0	0	0	None
	116	0	0	0	0	0.0	0.0			0	0	0	0	None
	117	0	0	0	0	0.0	0.0			0	0	0	0	None
	118	0	0	0	0	0.0	0.0			0	0	0	0	None
	119	0	0	0	0	0.0	0.0			0	0	0	0	None
	120	0	0	0	0	0.0	0.0			0	0	0	0	None
	121	0	0	0	0	0.0	0.0			0	0	0	0	None
	122	0	0	0	0	0.0	0.0			0	0	0	0	None
	123	0	0	0	0	0.0	0.0			0	0	0	0	None
	124	0	0	0	0	0.0	0.0			0	0	0	0	None
	125	0	0	0	0	0.0	0.0			0	0	0	0	None
	126	0	0	0	0	0.0	0.0			0	0	0	0	None
	127	0	0	0	0	0.0	0.0			0	0	0	0	None
	128	0	0	0	0	0.0	0.0			0	0	0	0	None

Pedestrian Detector Options and Failure Parameters								
Det	Call Phase	Call Overlap	Add. Call Ph	Walk 2 Time	Ped Clear 2 Time	No Activity	Max Presence	Erratic Count
1	0	0		0	0	0	0	0
2	0	0		0	0	0	0	0
3	0	0		0	0	0	0	0
4	0	0		0	0	0	0	0
5	0	0		0	0	0	0	0
6	0	0		0	0	0	0	0
7	0	0		0	0	0	0	0
8	0	0		0	0	0	0	0

Overlap Parameters													
First 8 Overlaps Should Be Reserved for FYA													
Overlaps	1(A)	2(B)	3(C)	4(D)	5(E)	6(F)	7(G)	8(H)	9(I)	10(J)	11(K)	12(L)	13(M)
Description									Ph4 Right Turn Not Ped A	Ped A to cross OLA			
Overlap Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Enabled	Enabled	Disabled	Disabled	Disabled
Phases Included									4,5	4,6			
Overlap Type	Off	Off	Off	Off	Off	Off	Off	Off	Normal	Normal Ped	Off	Off	Off
Modifier Phases									5	4			
Modifier Overlaps													
Inhibit Negative Ph.													
Negative Veh Ph.													
Negative Ped Ph.													
Neg.Ped Overlaps									10				
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time	0	0	0	0	0	0	0	0	0	7	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	8	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Alt Walk Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clear Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Green Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt Rate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call									X	X			
Recall													
Disable Veh Reservice													
No Hold On TrailExit													
Ped Recycle										X			
Disable Yellow Prot													
Disable Bridging													
LRT Prepare To Go													
Call For Service													
Allow Trail Green Bridge													
FYA During Red Clear													

Time of Day Data

Day Program						Schedule Program																
Event	Day Prog	Action	Hour	Min	Description																	
1	1	21	0	0	Free Max 1	Schedule	1	Day Plan	1													
2	1	1	5	30	Coord Plan 1	Description	Mon-Fri															
3	1	21	8	30	Free Max 1	Month	J	F	M	A	M	J	J	A	S	O	N	D				
4	1	1	11	0	Coord Plan 1		X	X	X	X	X	X	X	X	X	X	X	X				
5	1	21	19	0	Free Max 1	Weekday	S	M	T	W	T	F	S									
6	1		0	0			X	X	X	X	X											
7	1		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
8	1		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	1		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
10	1		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	2	21	0	0	Free Max 1	Schedule	2	Day Plan	2													
12	2	1	9	0	Coord Plan 1	Description	Sat-Sun															
13	2	21	19	0	Free Max 1	Month	J	F	M	A	M	J	J	A	S	O	N	D				
14	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	2		0	0		Weekday	S	M	T	W	T	F	S									
16	2		0	0			X															
17	2		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
18	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	2		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
20	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21	3		0	0		Schedule	3	Day Plan	2													
22	3		0	0		Description	New Year 1															
23	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
24	3		0	0			X															
25	3		0	0		Weekday	S	M	T	W	T	F	S									
26	3		0	0			X	X	X	X	X	X										
27	3		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
28	3		0	0			X															
29	3		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
30	3		0	0																		
31	4		0	0		Schedule	4	Day Plan	2													
32	4		0	0		Description	New Year 2															
33	4		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
34	4		0	0			X															
35	4		0	0		Weekday	S	M	T	W	T	F	S									
36	4		0	0			X															
37	4		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
38	4		0	0			X															
39	4		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
40	4		0	0																		
41	5	21	0	0	Free Max 1	Schedule	5	Day Plan	2													
42	5	1	5	30	Coord Plan 1	Description	Memorial Day															
43	5	21	8	0	Free Max 1	Month	J	F	M	A	M	J	J	A	S	O	N	D				
44	5	1	10	0	Coord Plan 1							X										
45	5	21	19	0	Free Max 1	Weekday	S	M	T	W	T	F	S									
46	5		0	0			X															
47	5		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
48	5		0	0																		
49	5		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
50	5		0	0												X	X	X	X	X	X	X

Time of Day Data Cont.

Day Program						Schedule Program																	
Event	Day Prog	Action	Hour	Min	Description																		
51	6	21	0	0	Free Max 1	Schedule	6	Day Plan	2														
52	6	1	9	0	Coord Plan 1	Description	July 4th 1																
53	6	21	19	0	Free Max 1	Month	J	F	M	A	M	J	J	A	S	O	N	D					
54	6		0	0									X										
55	6		0	0		Weekday	S	M	T	W	T	F	S										
56	6		0	0				X	X	X	X	X											
57	6		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
58	6		0	0						X													
59	6		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
60	6		0	0																			
61	7		0	0		Schedule	7	Day Plan	2														
62	7		0	0		Description	July 4th 2																
63	7		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D					
64	7		0	0									X										
65	7		0	0		Weekday	S	M	T	W	T	F	S										
66	7		0	0				X															
67	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
68	7		0	0						X													
69	7		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
70	7		0	0																			
71	8		0	0		Schedule	8	Day Plan	2														
72	8		0	0		Description	Labor Day																
73	8		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D					
74	8		0	0											X								
75	8		0	0		Weekday	S	M	T	W	T	F	S										
76	8		0	0				X															
77	8		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
78	8		0	0			X	X	X	X	X	X	X										
79	8		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
80	8		0	0																			
81	9		0	0		Schedule	9	Day Plan	5														
82	9		0	0		Description	Thanksgiving																
83	9		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D					
84	9		0	0													X						
85	9		0	0		Weekday	S	M	T	W	T	F	S										
86	9		0	0						X													
87	9		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
88	9		0	0																			
89	9		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
90	9		0	0										X	X	X	X	X	X				
91	10		0	0		Schedule	10	Day Plan	6														
92	10		0	0		Description	Black Fri-Sat																
93	10		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D					
94	10		0	0														X					
95	10		0	0		Weekday	S	M	T	W	T	F	S										
96	10		0	0						X	X												
97	10		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
98	10		0	0																			
99	10		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
100	10		0	0														X	X	X	X	X	

Preemption Data										
Sequence Parameters										
Parameters	Sequence									
	1	2	3	4	5	6	7	8	9	10
Enabled	<i>Enabled</i>	<i>Enabled</i>	<i>Enabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>
Description	<i>EB - EVA</i>	<i>SB - EVB</i>	<i>WB - EVC</i>							
Preemption Type	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>	<i>Emergency Veh</i>
Dwell Veh Ph	2,5	4	6							
Dwell Ped Ph										
Dwell Overlap	9	9								
Exit Phases	2,6	4	2,6							
Exit Type	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>	<i>Exit Phases</i>
Exit Max Mode	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>	<i>Disabled</i>
Track Phases										
Track Overlaps										
Cycling Veh Ph										
Cycling Ped Ph										
Cycling Overlap										
Non Lock Mem	X	X	X							
Not Override Flash	X	X	X							
Not override Next Preempt	X	X	X							
Min Green	3	3	3	0	0	0	0	0	0	0
Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Min Walk	0	0	0	0	0	0	0	0	0	0
Min Ped Clear	255	255	255	255	255	255	255	255	255	255
Link	0	0	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0	0	0
Min Presence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Presence	180	180	180	0	0	0	0	0	0	0
Dwell Green	3	3	3	0	0	0	0	0	0	0
Max Exit Green	0	0	0	0	0	0	0	0	0	0
Exit Ped Clear	255	255	255	255	255	255	255	255	255	255
Exit Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Exit time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Serial Ports

Port	Description	Function	Address	Baud	Bits	Stop	Parity	Flow	CTS	RTS
1	Port 2/C21S	None	1	9600	8	1	None	None	0	0
2	Aux_P3/C22S	None	1	9600	8	1	None	None	0	0
3	SDLC Port 1	None	1	9600	8	1	None	None	0	0
4	Com A/C50S	None	1	9600	8	1	None	None	0	0
5	FIO	None	1	9600	8	1	None	None	0	0
6	DISPLAY/C60M	None	1	9600	8	1	None	None	0	0
7	SP7	None	1	9600	8	1	None	None	0	0
8	SP8/Com B	None	1	9600	8	1	None	None	0	0

Advanced IO Configuration						
Channel Configuration						
Channel	Control Type	Ctrl Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	<i>Phs Veh</i>	1		X		1
2	<i>Phs Veh</i>	2		X	X	2
3	<i>Phs Veh</i>	3		X		3
4	<i>Phs Veh</i>	4		X	X	4
5	<i>Phs Veh</i>	5		X		5
6	<i>Phs Veh</i>	6		X	X	6
7	<i>Phs Veh</i>	7		X		7
8	<i>Phs Veh</i>	8		X	X	8
9	<i>Olp</i>	9		X		9
10	<i>None</i>	0		X		10
11	<i>None</i>	11		X		11
12	<i>None</i>	12		X		12
13	<i>Phs Ped</i>	2				13
14	<i>Phs Ped</i>	4				14
15	<i>Phs Ped</i>	6				15
16	<i>Olp</i>	10				16
17	<i>None</i>	0				0
18	<i>None</i>	0				0

Cabinet Configuration

	IO Module	1	Type	ODOT 332		
	ITS Cabinet Port 1	No	33X Input Leading Edge	5	Enable TS2 Stop Time	
	ITS Cabinet Port C13S	No	33X input Trailing Edge	5	Disable TS2 Cabinet Alarm	
	Disable TS2 Startup Call		Use Raw MMU Channel Status		Disable TS2 Fault Flash	

Input Points (Module 1)

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-39	<i>Veh Det Call</i>	2	25	C11-10	<i>Not Active</i>	0
2	C1-40	<i>Veh Det Call</i>	16	26	C11-11	<i>Not Active</i>	0
3	C1-41	<i>Veh Det Call</i>	8	27	C11-12	<i>Not Active</i>	0
4	C1-42	<i>Veh Det Call</i>	22	28	C11-13	<i>Not Active</i>	0
5	C1-43	<i>Veh Det Call</i>	3	29	C1-63	<i>Veh Det Call</i>	4
6	C1-44	<i>Veh Det Call</i>	17	30	C1-64	<i>Veh Det Call</i>	18
7	C1-45	<i>Veh Det Call</i>	9	31	C1-65	<i>Veh Det Call</i>	10
8	C1-46	<i>Veh Det Call</i>	23	32	C1-66	<i>Veh Det Call</i>	24
9	C1-47	<i>Veh Det Call</i>	6	33	C1-67	<i>Ped Det Call</i>	2
10	C1-48	<i>Veh Det Call</i>	20	34	C1-68	<i>Ped Det Call</i>	6
11	C1-49	<i>Veh Det Call</i>	12	35	C1-69	<i>Ped Det Call</i>	4
12	C1-50	<i>Veh Det Call</i>	26	36	C1-70	<i>Ped Det Call</i>	8
13	C1-51	<i>Not Active</i>	0	37	C1-71	<i>Pre High Pri Low</i>	1
14	C1-52	<i>Not Active</i>	0	38	C1-72	<i>Pre High Pri Low</i>	2
15	C1-53	<i>Man Ctrl Enable</i>	1	39	C1-73	<i>Pre High Pri Low</i>	3
16	C1-54	<i>Not Active</i>	0	40	C1-74	<i>Pre High Pri Low</i>	4
17	C1-55	<i>Veh Det Call</i>	15	41	C1-75	<i>Not Active</i>	0
18	C1-56	<i>Veh Det Call</i>	1	42	C1-76	<i>Veh Det Call</i>	5
19	C1-57	<i>Veh Det Call</i>	21	43	C1-77	<i>Veh Det Call</i>	19
20	C1-58	<i>Veh Det Call</i>	7	44	C1-78	<i>Veh Det Call</i>	11
21	C1-59	<i>Veh Det Call</i>	27	45	C1-79	<i>Veh Det Call</i>	25
22	C1-60	<i>Veh Det Call</i>	13	46	C1-80	<i>Interval Adv</i>	1
23	C1-61	<i>Veh Det Call</i>	28	47	C1-81	<i>Flash Sense</i>	1
24	C1-62	<i>Veh Det Call</i>	14	48	C1-82	<i>Unit Stop Time</i>	1

Input Points (Module 1) Cont.

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
49	C11-15	Not Active	0	57	C11-23	Not Active	0
50	C11-16	Not Active	0	58	C11-24	Not Active	0
51	C11-17	Not Active	0	59	C11-25	Not Active	0
52	C11-18	Not Active	0	60	C11-26	Not Active	0
53	C11-19	Not Active	0	61	C11-27	Not Active	0
54	C11-20	Not Active	0	62	C11-28	Not Active	0
55	C11-21	Not Active	0	63	C11-29	Not Active	0
56	C11-22	Not Active	0	64	C11-30	Not Active	0

Output Points (Module 1)

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-2	Ch Red DWalk	14	33	C1-35	TimingPlanA	1
2	C1-3	Chl Green Walk	14	34	C1-36	TimingPlanB	1
3	C1-4	Ch Red DWalk	4	35	C1-37	TimingPlanC	1
4	C1-5	Ch Yel Ped Clear	4	36	C1-38	TimingPlanD	1
5	C1-6	Chl Green Walk	4	37	C1-100	Ch Yel Ped Clear	18
6	C1-7	Ch Red DWalk	3	38	C1-101	Aux Function On	1
7	C1-8	Ch Yel Ped Clear	3	39	C1-102	Auto Flash	1
8	C1-9	Chl Green Walk	3	40	C1-103	Watchdog	1
9	C1-10	Ch Red DWalk	13	41	C1-83	Ch Red DWalk	18
10	C1-11	Chl Green Walk	13	42	C1-84	Chl Green Walk	18
11	C1-12	Ch Red DWalk	2	43	C1-85	Ch Red DWalk	12
12	C1-13	Ch Yel Ped Clear	2	44	C1-86	Ch Yel Ped Clear	12
13	C1-15	Chl Green Walk	2	45	C1-87	Chl Green Walk	12
14	C1-16	Ch Red DWalk	1	46	C1-88	Aux Function On	1
15	C1-17	Ch Yel Ped Clear	1	47	C1-89	Ch Yel Ped Clear	11
16	C1-18	Chl Green Walk	1	48	C1-90	Chl Green Walk	11
17	C1-19	Ch Red DWalk	16	49	C1-91	Ch Red DWalk	17
18	C1-20	Chl Green Walk	16	50	C1-93	Chl Green Walk	17
19	C1-21	Ch Red DWalk	8	51	C1-94	Ch Red DWalk	10
20	C1-22	Ch Yel Ped Clear	8	52	C1-95	Ch Yel Ped Clear	10
21	C1-23	Chl Green Walk	8	53	C1-96	Chl Green Walk	10
22	C1-24	Ch Red DWalk	7	54	C1-97	Ch Red DWalk	9
23	C1-25	Ch Yel Ped Clear	7	55	C1-98	Ch Yel Ped Clear	9
24	C1-26	Chl Green Walk	7	56	C1-99	Chl Green Walk	9
25	C1-27	Ch Red DWalk	15	57	C11-1	Not Active	0
26	C1-28	Chl Green Walk	15	58	C11-2	Not Active	0
27	C1-29	Ch Red DWalk	6	59	C11-3	Not Active	0
28	C1-30	Ch Yel Ped Clear	6	60	C11-4	Not Active	0
29	C1-31	Chl Green Walk	6	61	C11-5	Not Active	0
30	C1-32	Ch Red DWalk	0	62	C11-6	Not Active	0
31	C1-33	Ch Yel Ped Clear	0	63	C11-7	Not Active	0
32	C1-34	Chl Green Walk	0	64	C11-8	Not Active	0

Vehicle and Pedestrian Phase Intervals

Interval	Vehicle/Ped	Description	Red	Yellow	Green	Don't Walk	Clearance	Walk	Type
1	<i>Vehicle</i>	<i>Not Active</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
2	<i>Vehicle</i>	<i>Delay Green</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
3	<i>Vehicle</i>	<i>Pre Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
4	<i>Vehicle</i>	<i>Min Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
5	<i>Vehicle</i>	<i>Green Extension</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
6	<i>Vehicle</i>	<i>Green Dwell</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
7	<i>Vehicle</i>	<i>Pre Clear</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
8	<i>Vehicle</i>	<i>Yellow Change</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	-	-	-	<i>Yellow</i>
9	<i>Vehicle</i>	<i>Red Clear</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
10	<i>Vehicle</i>	<i>Red Dwell</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
11	<i>Vehicle</i>	<i>Barrier Hold</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
1	<i>Ped</i>	<i>Not Active</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
2	<i>Ped</i>	<i>Delay Ped</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
3	<i>Ped</i>	<i>Walk</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
4	<i>Ped</i>	<i>Walk Dwell</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
5	<i>Ped</i>	<i>Flash Don't Walk</i>	-	-	-	<i>Flash</i>	<i>On</i>	<i>Off</i>	<i>Ped Clear</i>
6	<i>Ped</i>	<i>Don't Walk</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>

User Program Configuration						
Program Information						
Program #	1	Description	unit stop time and Ped Service Bug Fix	Enabled	Enabled	
Statement	Result	Index	Delay	Ext	Description	
1	Unit Stop Time	1	0.0	0.0		
	Parameter A	Index				
	Aux Switch State	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
2	None	0	0.0	0.0		
	Parameter A	Index				
	Number	2				
	Parameter B	Index				
	Prev Line	0				
Statement	Result	Index	Delay	Ext	Description	
3	None	0	0.0	0.0		
	Parameter A	Index				
	Number	3				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
4	None	0	0.0	0.0		
	Parameter A	Index				
	Number	4				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
5	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
6	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
7	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				
Statement	Result	Index	Delay	Ext	Description	
8	None	0	0.0	0.0		
	Parameter A	Index				
	None	0				
	Parameter B	Index				
	None	0				

Program #	2	Description	stop time beep	Enabled	Enabled
1	Global Var	Index	0.0	0.0	
	Parameter A	Index			
	Glob Var	Index			
	Parameter B	Index			
	Number	1			
2	None	Index	0.0	0.0	
	Parameter A	Index			
	Prev Line	Index			
	Parameter B	Index			
	Number	10			
3	None	Index	0.0	0.0	
	Parameter A	Index			
	Prev Line	Index			
	Parameter B	Index			
	Number	15			
4	Global Var	Index	0.0	0.0	
	Parameter A	Index			
	Prev Line	Index			
	Parameter B	Index			
	Number	0			
5	None	Index	0.0	0.0	
	Parameter A	Index			
	Glob Var	Index			
	Parameter B	Index			
	None	0			
6	None	Index	0.0	0.0	
	Parameter A	Index			
	None	Index			
	Parameter B	Index			
	None	0			
7	None	Index	0.0	0.0	
	Parameter A	Index			
	None	Index			
	Parameter B	Index			
	None	0			
8	None	Index	0.0	0.0	
	Parameter A	Index			
	None	Index			
	Parameter B	Index			
	None	0			

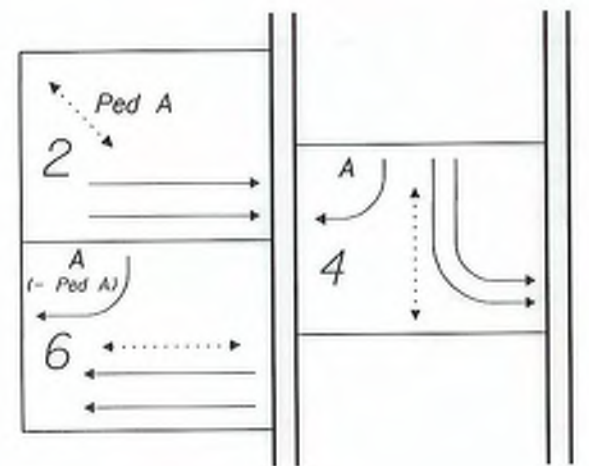
Program #	3	Description	Dummy Detector Jumpers	Enabled	Enabled
Statement	Result	Index	Delay	Ext	Description
1	Veh Det Call	65	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	1			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
2	Veh Det Call	66	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	2			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
3	Veh Det Call	67	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	3			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
4	Veh Det Call	68	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	4			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
5	Veh Det Call	69	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	5			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
6	Veh Det Call	70	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	6			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
7	Veh Det Call	71	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	7			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
8	Veh Det Call	72	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	8			
	Parameter B	Index			
	None	0			

Program #	4	Description	PTR Sign during Ped Overlap	Enabled	Enabled
Statement	Result	Index	Delay	Ext	Description
1	Aux Function	1	0.0	0.0	
	Parameter A	Index			
	Ovl Grn	10			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
2	Aux Function	1	0.0	0.0	
	Parameter A	Index			
	Ovl Yel	10			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
3	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
4	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
5	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
6	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
7	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
8	Local Var	1	0.0	0.0	
	Parameter A	Index			
	Veh Det	9			
	Parameter B	Index			
	Veh Det	8			

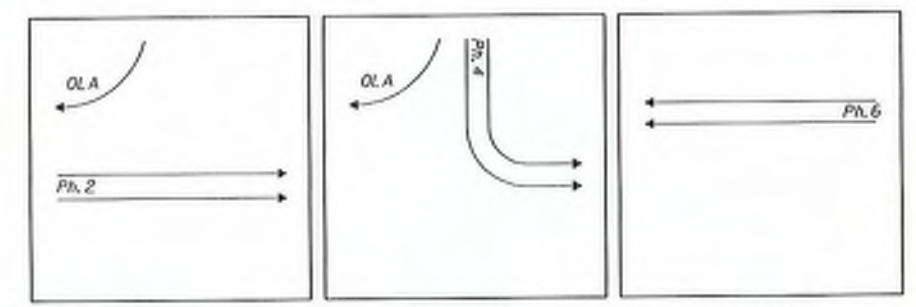
Program #	5	Description	Enabled	Disabled	
Statement	Result	Index	Delay	Ext	Description
1	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
2	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
3	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
4	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
5	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
6	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
7	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
8	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				

17159

SIGNAL PLAN
HILLSBORO - SILVERTON HWY. AT I-5 SB RAMPS
OR 214 M.P. 36.72
WOODBURN



NORMAL PHASE ROTATION



CHANNEL A PHASE 2 & 5
OLA = 4+5

CHANNEL B PHASE 4

CHANNEL C PHASE 6

FIRE PREEMPTION OPERATION

NOTE:
See TRS Dwg. 17154 for Legend

NOTE:
Field Verify Measurements Before Construction

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER
45556PE
Dani C. Nelson
OREGON
JULY 9, 2001
DANI C. NELSON

EXPIRES: December 31, 2014

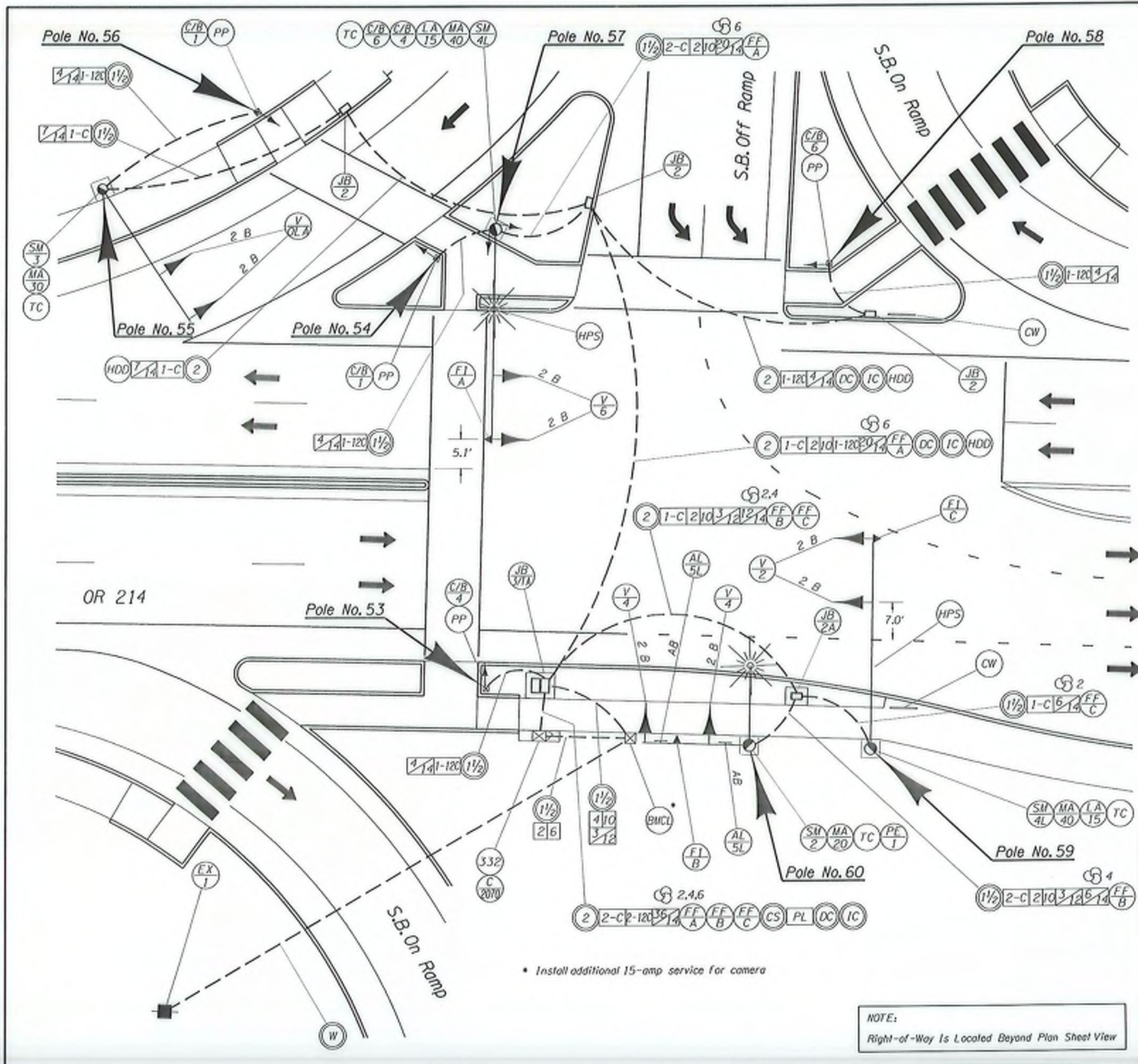
OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING OPERATIONS SECTION

REGION 2
I-5 AT HILLSBORO - SILVERTON HWY.
INTERCHGE. (WOODBURN) DEVELOPMENT
HILLSBORO - SILVERTON HIGHWAY
MARION COUNTY

DESIGNED BY: D. Nelson
REVIEWED BY: S. Cramer
DRAWN BY: D. Nelson
FC: 140 MP: 36.72

SIGNAL PLAN

ISSU D. 03026 TRS. DWG. NO. 17159



* Install additional 15-amp service for camera

NOTE:
Right-of-Way Is Located Beyond Plan Sheet View

17160

DETECTOR PLAN
HILLSBORO - SILVERTON HWY. AT I-5 SB RAMPS
OR 214 M.P. 36.72
WOODBURN

SCALE 0 20 40 60 80 FEET

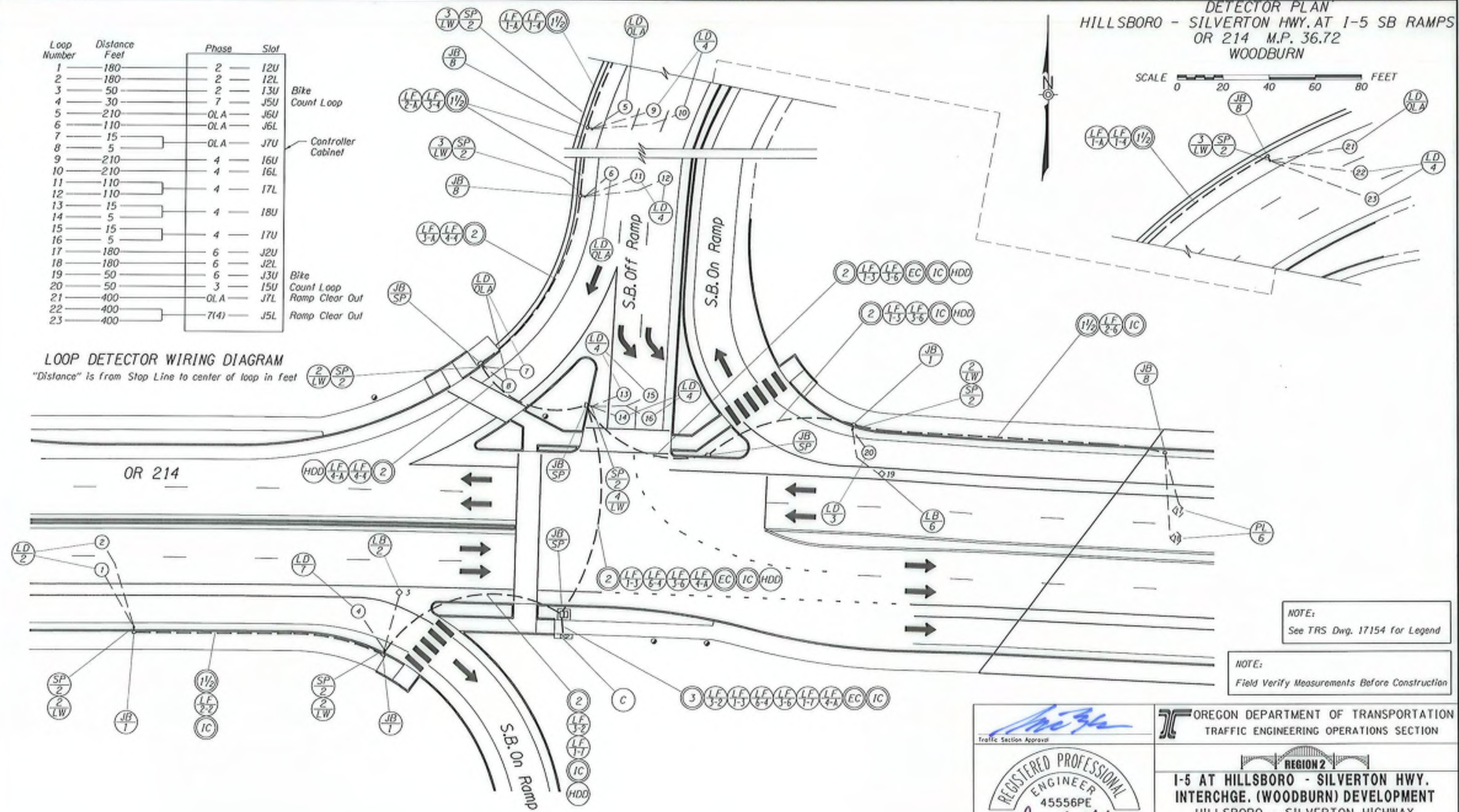
Loop Number	Distance Feet	Phase	Slot
1	180	2	12U
2	180	2	12L
3	50	2	13U
4	30	7	J5U
5	210	OLA	J6U
6	110	OLA	J6L
7	15	OLA	J7U
8	5	OLA	J7L
9	210	4	16U
10	210	4	16L
11	110	4	17L
12	110	4	17U
13	15	4	18U
14	5	4	17U
15	15	4	17U
16	5	4	17U
17	180	6	J2U
18	180	6	J2L
19	50	6	J3U
20	50	3	15U
21	400	OLA	J7L
22	400	OLA	J7L
23	400	7(4)	J5L

Bike Count Loop
Controller Cabinet

Bike Count Loop
Ramp Clear Out
Ramp Clear Out

LOOP DETECTOR WIRING DIAGRAM

"Distance" is from Stop Line to center of loop in feet



NOTE:
See TRS Dwg. 17154 for Legend

NOTE:
Field Verify Measurements Before Construction

NOTE:
Right-of-Way Is Located Beyond Plan Sheet View

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER
45556PE
Jani C. Nelson
OREGON
JULY 9, 2001
DANI C. NELSON

EXPIRES: December 31, 2014

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING OPERATIONS SECTION

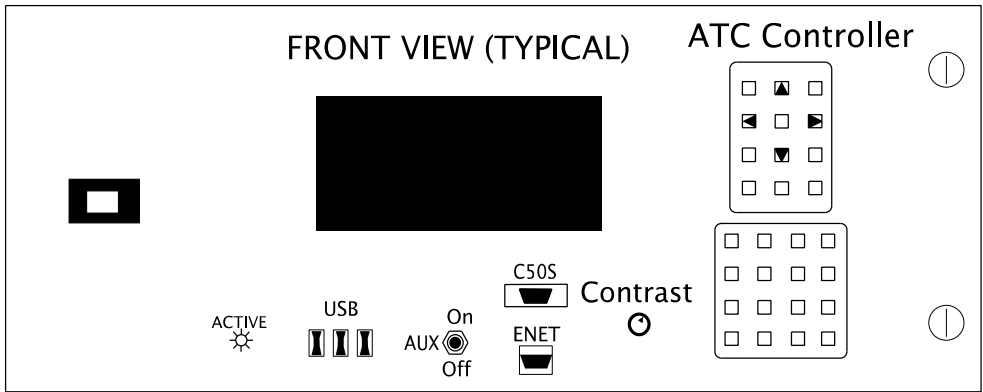
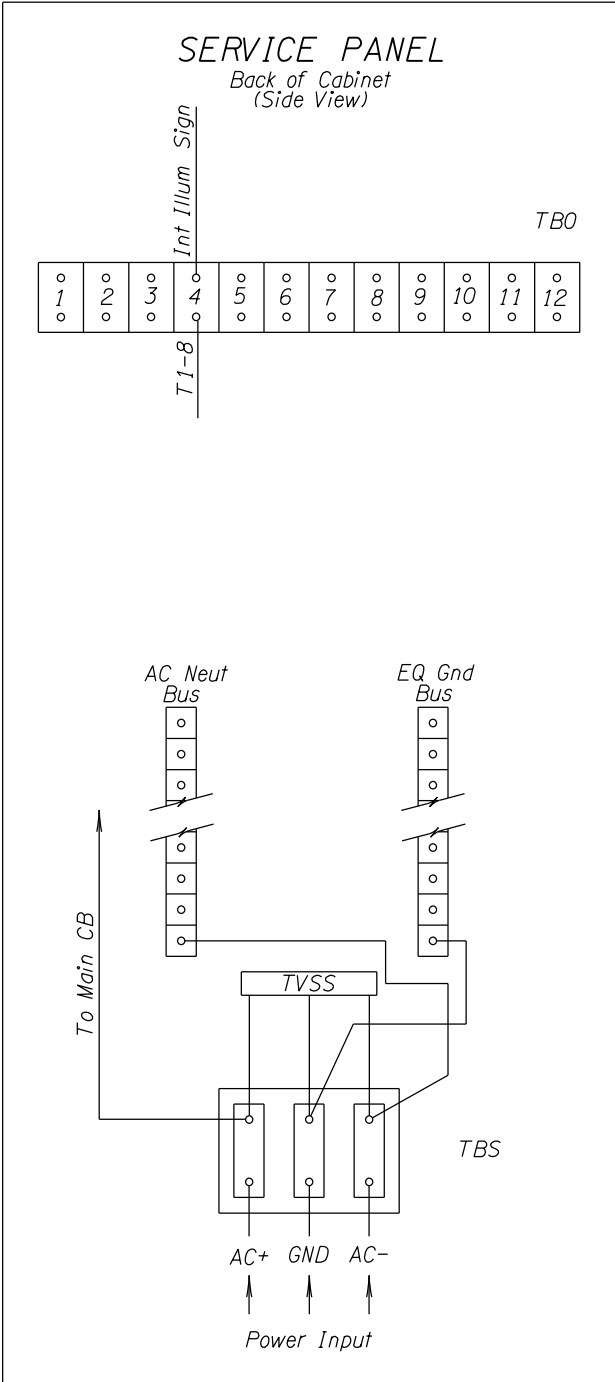
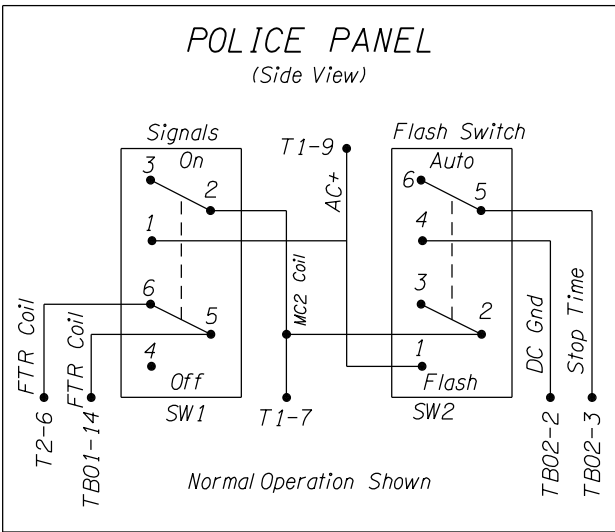
REGION 2

I-5 AT HILLSBORO - SILVERTON HWY.
INTERCHGE. (WOODBURN) DEVELOPMENT
HILLSBORO - SILVERTON HIGHWAY
MARION COUNTY

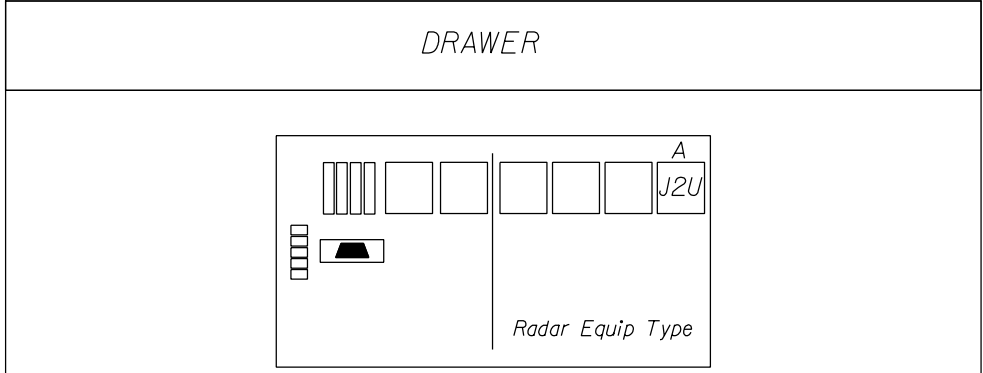
DESIGNED BY: D. Nelson
REVIEWED BY: S. Cromer
DRAWN BY: D. Nelson
FC: 140 MP: 36.72

DETECTOR PLAN

ISSU: 03026 TRS. Dwg. NO. 17160



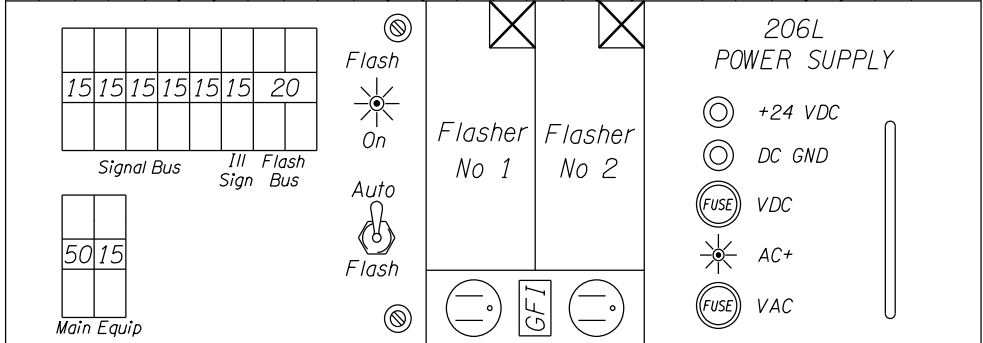
Model ATC Controller



1	2	3	4	5	6	7	8	9	10	11	12	13	14
	222	222			222	222	222				242	242	
	MT1 C1-56	C1-39 MT2 C1-43	C1-63 MT4 C1-76	MT6 C1-47	MT7 C1-58	C1-41 MT8 C1-45	C1-65 MT10 C1-78	MT12 C1-49	C1-60 MT13 C1-62		2 Ped C1-67 C1-69 4 Ped	6 Ped C1-68 C1-70 A Ped	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	112	222		222	222	222		222			762	762	
	MT15 C1-55	C1-40 MT16 C1-44	C1-64 MT18 C1-77	MT20 C1-48	MT21 C1-57	C1-42 MT22 C1-46	C1-66 MT24 C1-79	MT26 C1-50	C1-59 MT27 C1-61		C1-54 C1-75	EVA C1-71 C1-73 EVC	EVB C1-72 C1-74 EVD

Channel 1
Input File "I"
Channel 2

Channel 1
Input File "J"
Channel 2



Power Distribution Assembly #2

FTR-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Ph	Ph 2	Ped	Ph	Ph 4	Ped 4								
FTR-2	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	SC1	SC1	SC1	SC2	SC2	SC2								
FTR-3	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Ph	Ph 6	Ped 6	Ph	Ph	Ped A								
FTR-4	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	SC3	SC3	SC3	SC4	SC4	SC4								

Output File

Conflict Monitor

FTR-5	FTR-6	A1	A2	A3	A4	A5	A6
		OLA		PTR			
		SC5	SC5	SC5	SC5	SC5	SC5

Auxiliary Output File (Typical)

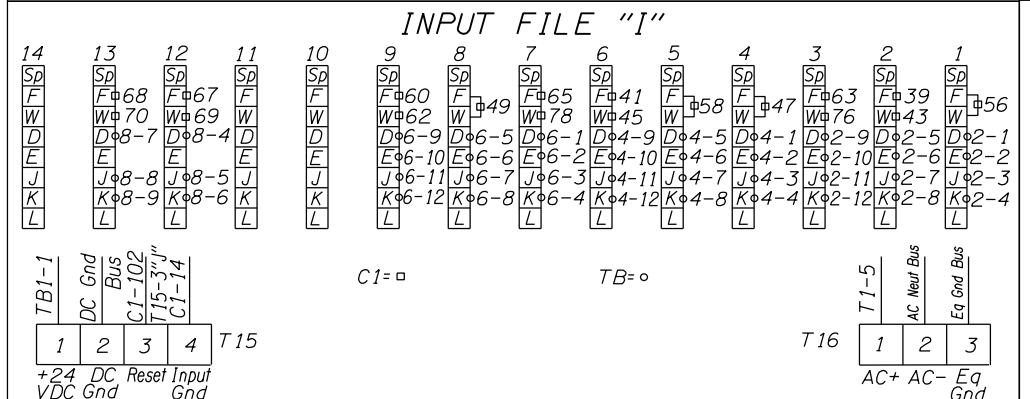
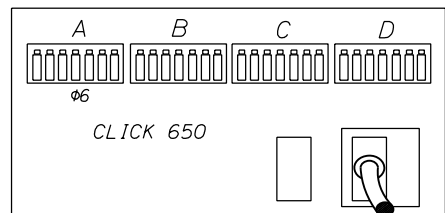
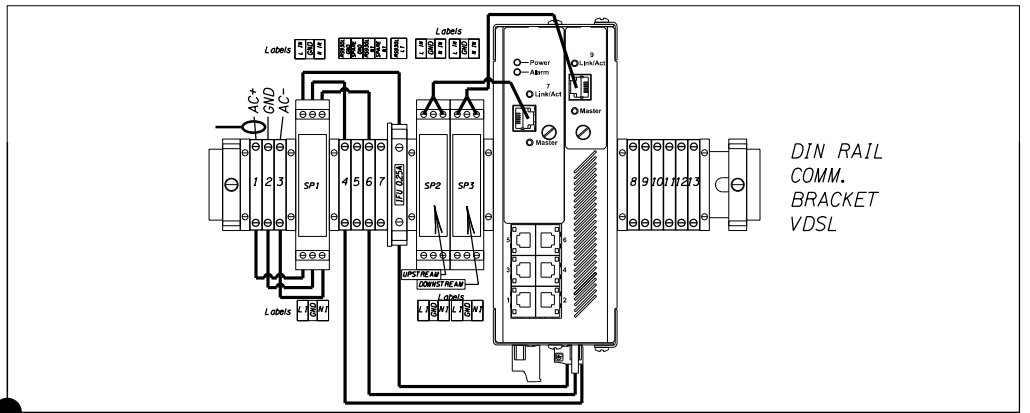
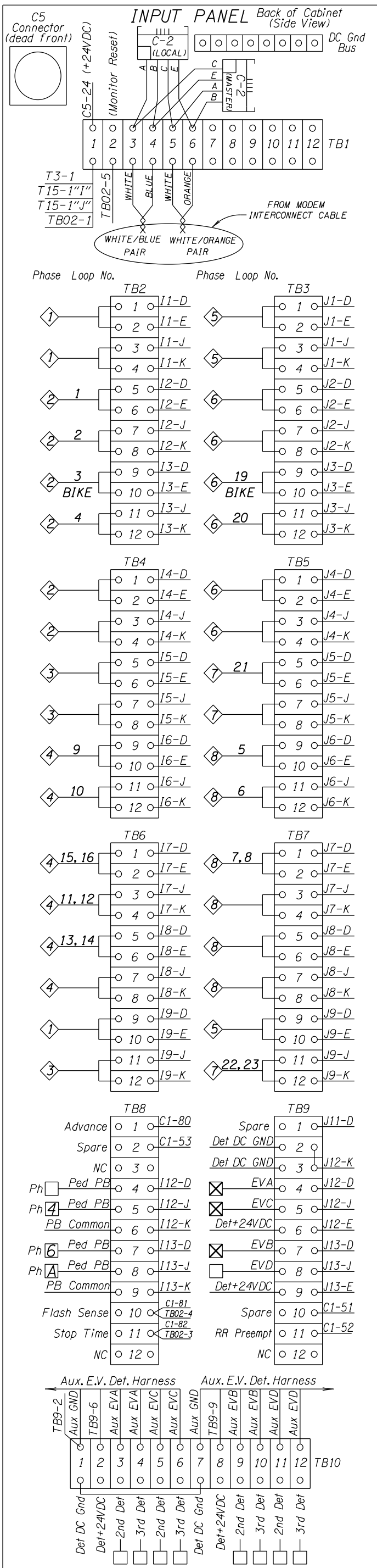
SC=Signal Circuit

REV. NO.	DATE	INITIAL	REMARKS
1	12/18	JS	UPDATED PER TSSU
2	01/19	JS	UPDATED PER R2
3	07/20	JS	ADDED DIODE CARD
4	06/21	JS	UPDATE PER R2

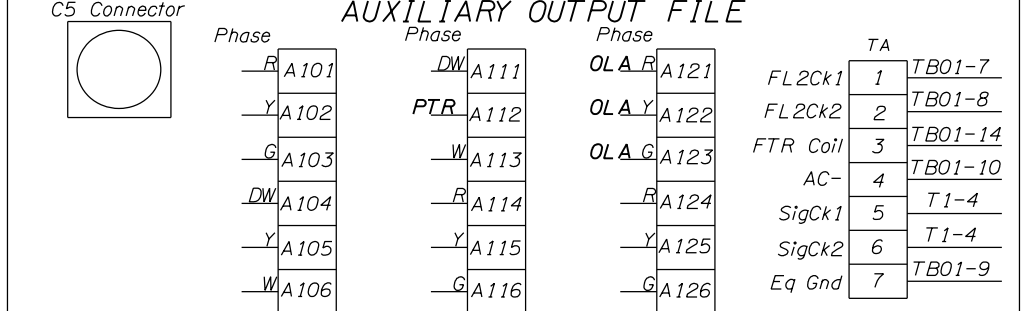
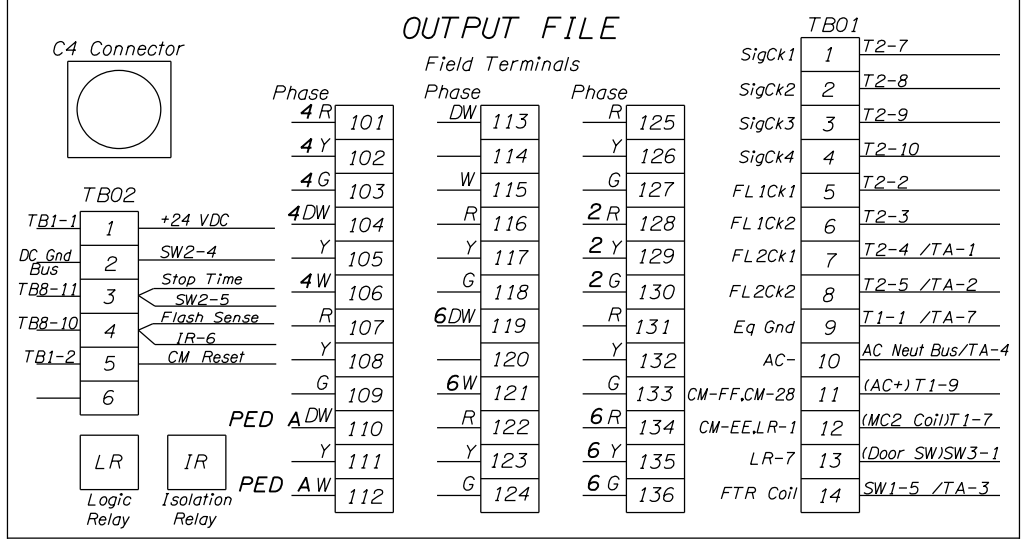
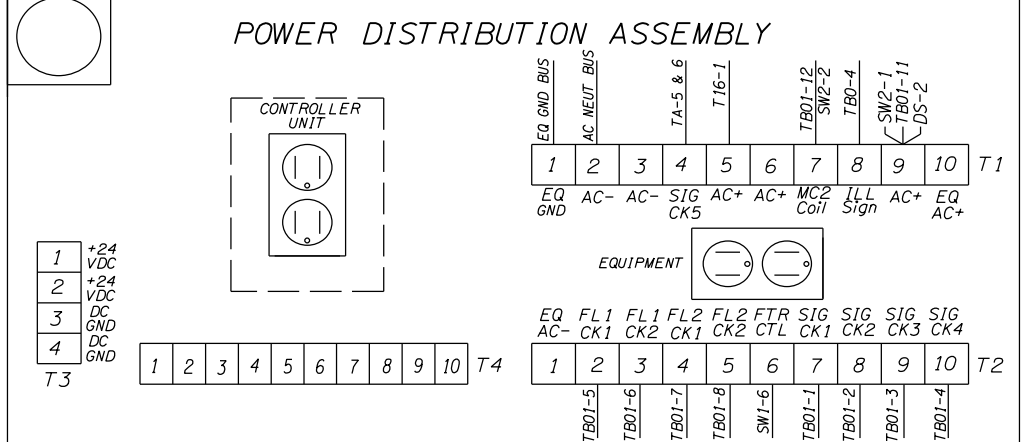
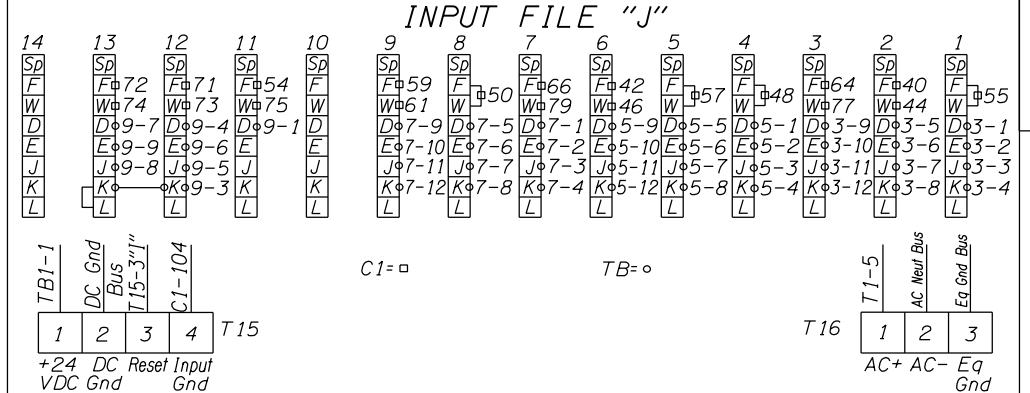
INTERSECTION: HILLSBORO-SILVERTON HWY @ I-5 SB RAMPS WOODBURN
 HWY*: 140 M.P.*:36.72 TSSU ID*:03026

OREGON DEPARTMENT OF TRANSPORTATION
 TRAFFIC - ROADWAY SECTION
332 CABINET WIRING DIAGRAM
 REV 03/18/15

SHEET 1



FIBER HUB



INTERSECTION: HILLSBORO-SILVERTON HWY @ I-5 SB RAMPS WOODBURN

HWY*: 140 M.P.*:36.72 TSSU ID#:03026

PROGRAM PIN ASSIGNMENTS

Program Assigned Functions	C1 Connector		C4 Connector				Field Term.
	Pin	Termination	Pin	Switch Pack			
				In	Position	Out	
DC Gnd	1	DC Gnd Bus	-	-	-	-	-
Ø4 D.WALK	2	C4-1	1	6	6-DW	3	104
Ø4 WALK	3	C4-2	2	10	6-W	7	106
Ø4 RED	4	C4-3	3	6	5-R	3	101
Ø4 YELLOW	5	C4-4	4	8	5-Y	5	102
Ø4 GREEN	6	C4-5	5	10	5-G	7	103
Ø3 RED	7	C4-6	6	6	4-R	3	116
Ø3 YELLOW	8	C4-7	7	8	4-Y	5	117
Ø3 GREEN	9	C4-8	8	10	4-G	7	118
Ø2 D.WALK	10	C4-9	9	6	3-DW	3	113
Ø2 WALK	11	C4-10	10	10	3-W	7	115
Ø2 RED	12	C4-11	11	6	2-R	3	128
Ø2 YELLOW	13	C4-12	12	8	2-Y	5	129
Input Gnd	14		-	-	-	-	-
Ø2 GREEN	15	C4-13	13	10	2-G	7	130
Ø1 RED	16	C4-14	14	6	1-R	3	125
Ø1 YELLOW	17	C4-15	15	8	1-Y	5	126
Ø1 GREEN	18	C4-16	16	10	1-G	7	127
Ø8 D.WALK	19	C4-17	17	6	12-DW	3	110
Ø8 WALK	20	C4-18	18	10	12-W	7	112
Ø8 RED	21	C4-19	19	6	11-R	3	107
Ø8 YELLOW	22	C4-20	20	8	11-Y	5	108
Ø8 GREEN	23	C4-21	21	10	11-G	7	109
Ø7 RED	24	C4-22	22	6	10-R	3	122
Ø7 YELLOW	25	C4-23	23	8	10-Y	5	123
Ø7 GREEN	26	C4-24	24	10	10-G	7	124
Ø6 D.WALK	27	C4-25	25	6	9-DW	3	119
Ø6 WALK	28	C4-26	26	10	9-W	7	121
Ø6 RED	29	C4-27	27	6	8-R	3	134
Ø6 YELLOW	30	C4-28	28	8	8-Y	5	135
Ø6 GREEN	31	C4-29	29	10	8-G	7	136
Ø5 RED	32	C4-30	30	6	7-R	3	131
Ø5 YELLOW	33	C4-31	31	8	7-Y	5	132
Ø5 GREEN	34	C4-32	32	10	7-G	7	133
(A) TOD/DOW	35	C4-33	33	8	3-Y	5	114
(B) TOD/DOW	36	C4-34	34	8	9-Y	5	120
(C) TOD/DOW	37	C4-35	35	8	6-Y	5	105
(D) TOD/DOW	38	C4-36	36	8	12-Y	5	111

Program Assigned Functions	C1 Connector		Input Files		
	Pin	Termination	Terminals		Field Terminals
			Out	In	
Ø2 DET,E&C	39	I2-1	F	D&E	TB2-5&6
Ø6 DET,E&C	40	J2-1	F	D&E	TB3-5&6
Ø4 DET,E&C	41	I6-1	F	D&E	TB4-9&10
Ø8 DET,E&C	42	J6-1	F	D&E	TB5-9&10
Ø2 DET,E&C	43	I2-2	W	J&K	TB2-7&8
Ø6 DET,E&C	44	J2-2	W	J&K	TB3-7&8
Ø4 DET,E&C	45	I6-2	W	J&K	TB4-11&12
Ø8 DET,E&C	46	J6-2	W	J&K	TB5-11&12
Ø2 DET,C	47	I4-1&2	F&W	DE&JK	TB4-1,2&3,4
Ø6 DET,C	48	J4-1&2	F&W	DE&JK	TB5-1,2&3,4
Ø4 DET,C	49	I8-1&2	F&W	DE&JK	TB6-5,6&7,8
Ø8 DET,C	50	J8-1&2	F&W	DE&JK	TB7-5,6&7,8
PED INHIBIT	51	-	-	-	TB9-10
RR Preempt	52	-	-	-	TB9-11
ADV ENABLE	53	-	-	-	TB8-2
NOT ASSIGN	54	J11-1	F	D	TB9-1
Ø5 DET,E&C	55	J1-1&2	F&W	DE&JK	TB3-1,2&3,4
Ø1 DET,E&C	56	I1-1&2	F&W	DE&JK	TB2-1,2&3,4
Ø7 DET,E&C	57	J5-1&2	F&W	DE&JK	TB5-5,6&7,8
Ø3 DET,E&C	58	I5-1&2	F&W	DE&JK	TB4-5,6&7,8
Ø5 DET,E&C	59	J9-1	F	D&E	TB7-9&10
Ø1 DET,E&C	60	I9-1	F	D&E	TB6-9&10
Ø7 DET,E&C	61	J9-2	W	J&K	TB7-11&12
Ø3 DET,E&C	62	I9-2	W	J&K	TB6-11&12
Ø2 DET,E&C	63	I3-1	F	D&E	TB2-9&10
Ø6 DET,E&C	64	J3-1	F	D&E	TB3-9&10
Ø4 DET,E&C	65	I7-1	F	D&E	TB6-1&2
Ø8 DET,E&C	66	J7-1	F	D&E	TB7-1&2
Ph 2 Ped	67	I12-1	F	D	TB8-4
Ph 6 Ped	68	I13-1	F	D	TB8-7
Ph 4 Ped	69	I12-2	W	J	TB8-5
Ph 8 Ped	70	I13-2	W	J	TB8-8
EVA	71	J12-1	F	D	TB9-4
EVB	72	J13-1	F	D	TB9-7
EVC	73	J12-2	W	J	TB9-5
EVD	74	J13-2	W	J	TB9-8
NOT ASSIGN	75	J11-2	W	J	-
Ø2 DET,E	76	I3-2	W	J&K	TB2-11&12
Ø6 DET,E	77	J3-2	W	J&K	TB3-11&12
Ø4 DET,E	78	I7-2	W	J&K	TB6-3&4
Ø8 DET,E	79	J7-2	W	J&K	TB7-3&4
Advance	80	-	-	-	TB8-1
Flash Sense	81	-	-	-	TB8-10
Stop Time	82	-	-	-	TB8-11

Program Assigned Functions	C1 Connector		C5 Connector				Field Term.
	Pin	Termination	Pin	Switch Pack			
				In	Position	Out	
Ø3 D.WALK	83	C5-1	1	6	A6-DW	3	A104
Ø3 WALK	84	C5-2	2	10	A6-W	7	A106
OLD RED	85	C5-3	3	6	A5-R	3	A101
OLD YELLOW	86	C5-4	4	8	A5-Y	5	A102
OLD GREEN	87	C5-5	5	10	A5-G	7	A103
OLC RED	88	C5-6	6	6	A4-R	3	A114
OLC YELLOW	89	C5-7	7	8	A4-Y	5	A115
OLC GREEN	90	C5-8	8	10	A4-G	7	A116
Ø1 D.WALK	91	C5-9	9	6	A3-DW	3	A111
DC Gnd	92	DC Gnd Bus	-	-	-	-	-
Ø1 WALK	93	C5-10	10	10	A3-W	7	A113
OLB RED	94	C5-11	11	6	A2-R	3	A124
OLB YELLOW	95	C5-12	12	8	A2-Y	5	A125
OLB GREEN	96	C5-13	13	10	A2-G	7	A126
OLA RED	97	C5-14	14	6	A1-R	3	A121
OLA YELLOW	98	C5-15	15	8	A1-Y	5	A122
OLA GREEN	99	C5-16	16	10	A1-G	7	A123
NOT ASSIGN	100	C5-17	17	8	A6-Y	5	A105
NOT ASSIGN	101	C5-18	18	8	A3-Y	5	A112

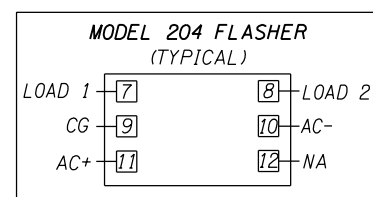
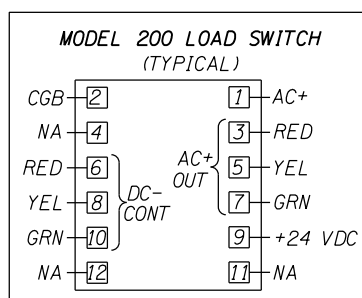
FLASH OUT	102	T15-3"1"			
Watchdog	103	C4-37	Monitor-Pin 22		
Input Gnd	104	T15-4"J"			
			19	-	NC
			20	-	NC
			21	-	NC
			22	-	NC
			23	-	NC
			24	TB1-1	All 9 +24VDC

CONFLICT MONITOR UNIT

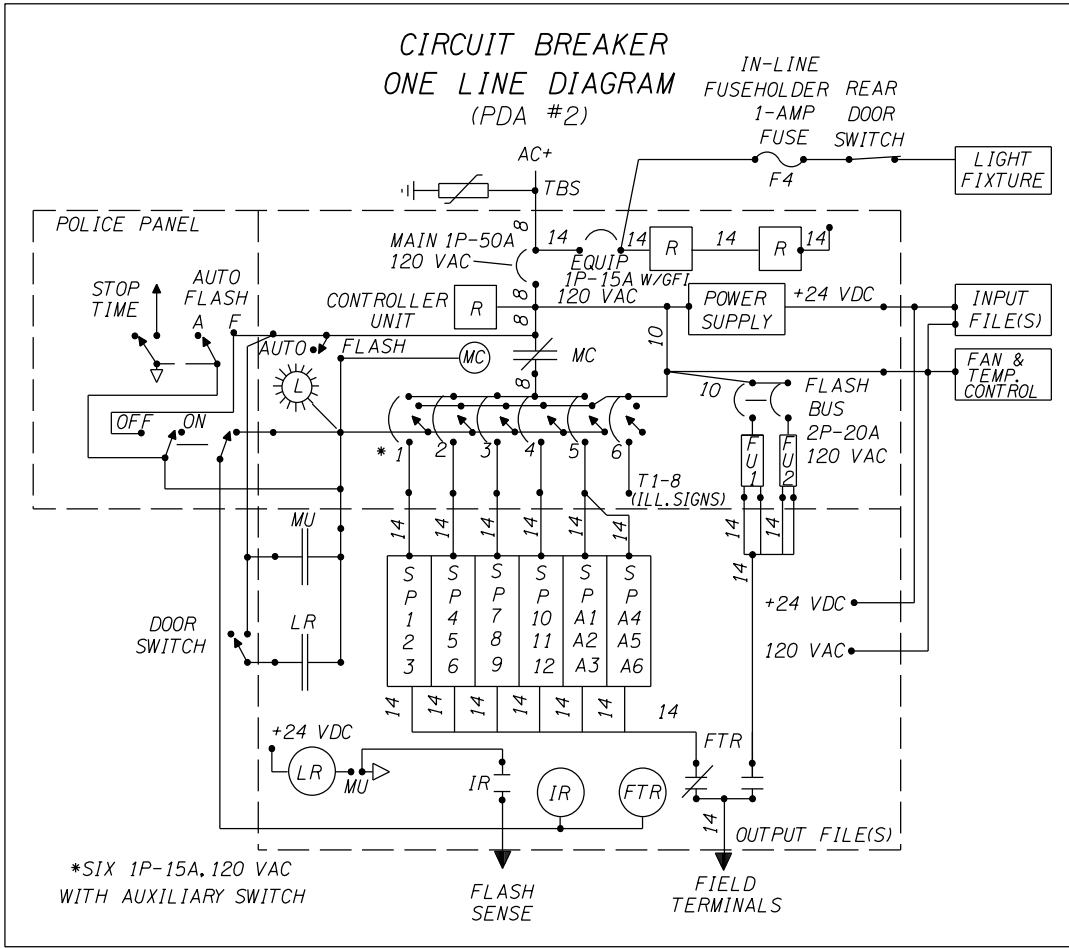
Connector Pin Assignments

Term	Function	Pin			Pin	Function	Term
130	SP2-G	1	CHANNEL ASSIGNMENTS (NON-TYPICAL)		A	SP2-Y	129
115	SP3-W	2			B	SP8-G	136
135	SP8-Y	3			C	SP9-W	121
103	SP5-G	4			D	SP5-Y	102
106	SP6-W	5			E	SP11-G	109
108	SP-11Y	6	Ch	PH	F	SP12-W	112
133	SP7-G	7	1	1	H	SP7-Y	132
114	SP3-Y (FLTYA)	8	2	2	J	SP1-G	127
126	SP1-Y	9	3	3	K	SP9-Y (FLTYA)	120
124	SP10-G	10	4	4	L	SP10-Y	123
105	SP6-Y (FLTYA)	11	5	5	M	SP4-G	118
117	SP4-Y	12	6	6	N	SP12-Y (FLTYA)	111
A123	ASP1-G	13	7	7	P	NC	-
-	NC	14	8	8	R	ASP2-G	A126
-	T&B	15	9	OLA	S	ASP4-G	A116
-	T&B	16	10	OLB	T	NC	-
-	NC	17	11	OLC	U	T&B	-
-	T&B	18	12	OLD	V	ASP5-G	A103
-	NC	19	13 2PED		W	NC	-
TB01-9	EQ Gnd	20			X	NC	-
TB01-10	AC-	21	14 4PED		Y	DC Gnd	TB02-2
C4-37	Watch Dog	22			Z	Ext. Reset	TB02-5
TB02-1	+24VDC	23	15 6PED		AA	T&B	-
LRCoIL	Interlock	24			BB	Stop Time	TB02-3
TB02-2	Interlock	25	16 PED A		CC	NC	-
-	NC	26			DD	NC	-
-	NC	27			EE	Clapper	TB01-12
TB01-11	Norm. Closed	28			FF	AC+	TB01-11

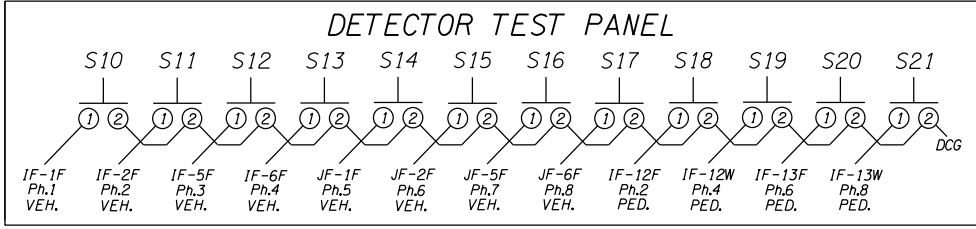
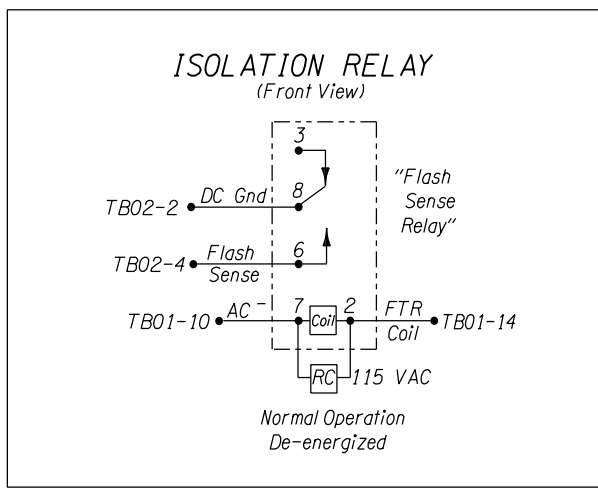
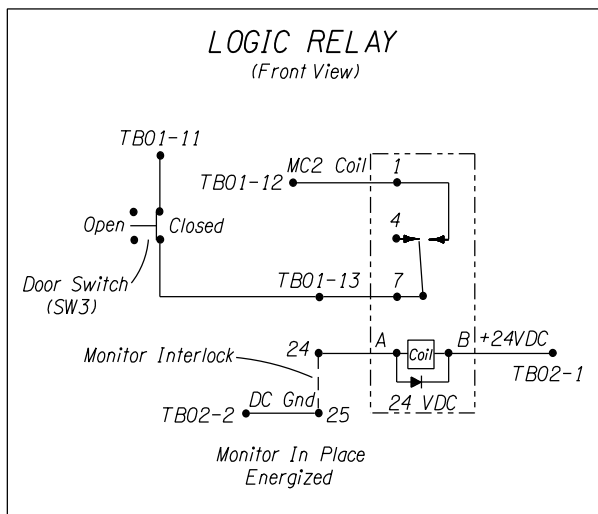
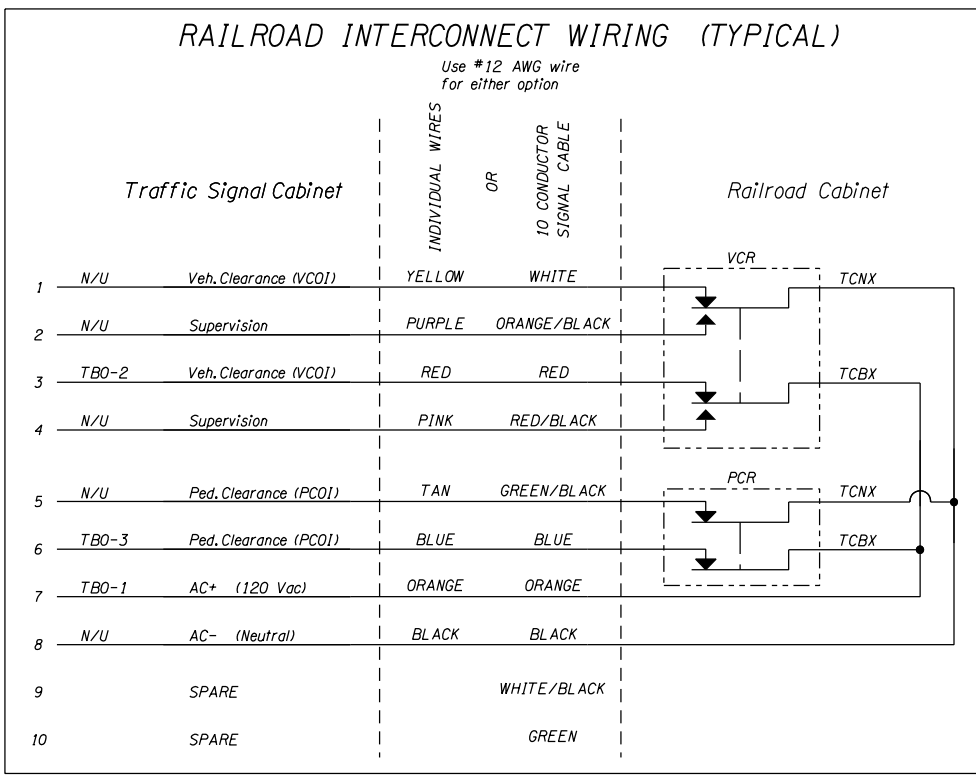
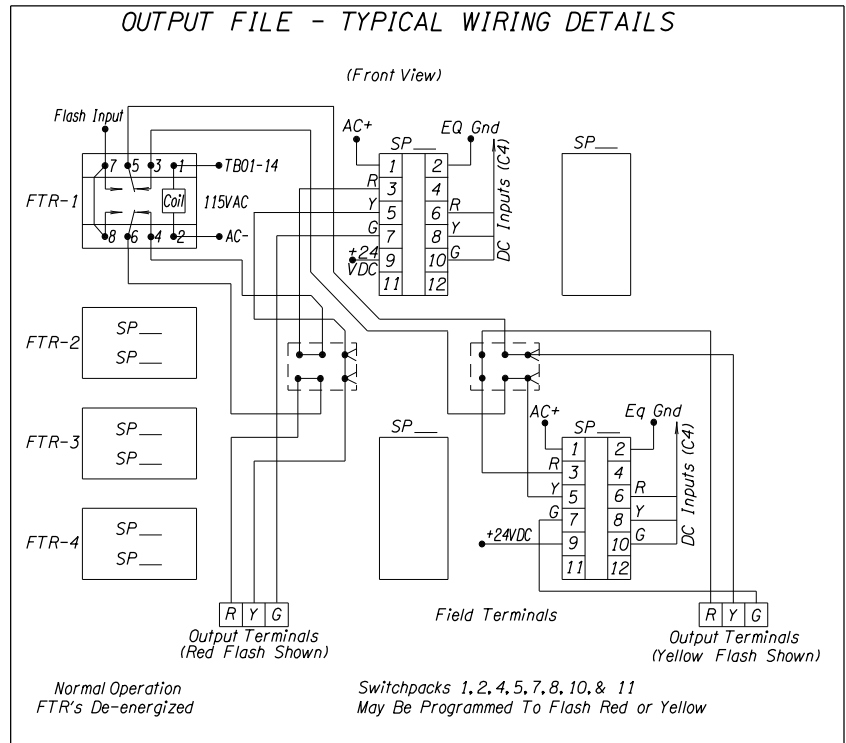
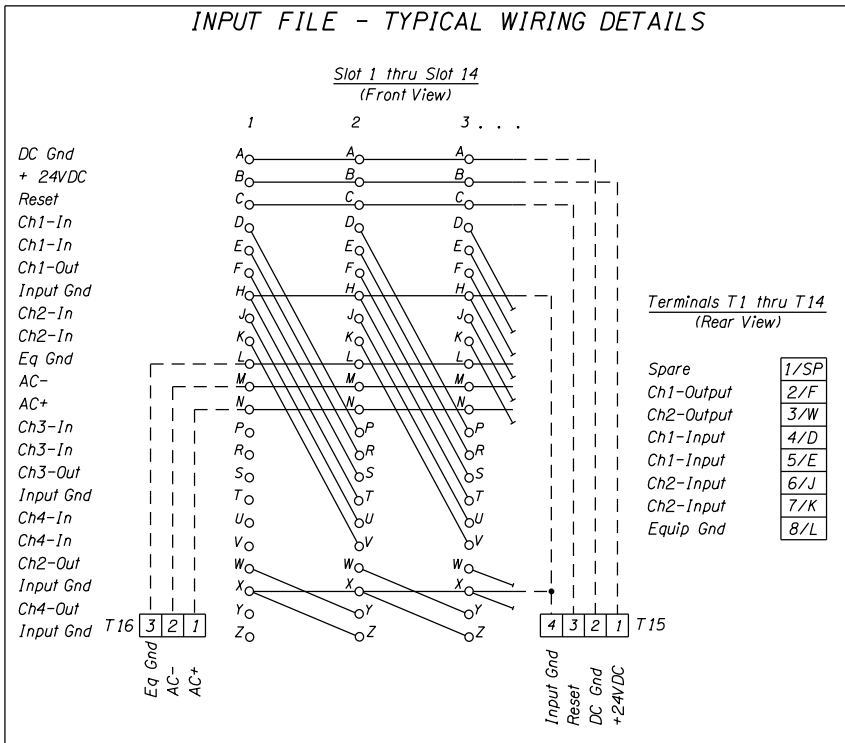
T&B = Tied and Bundled



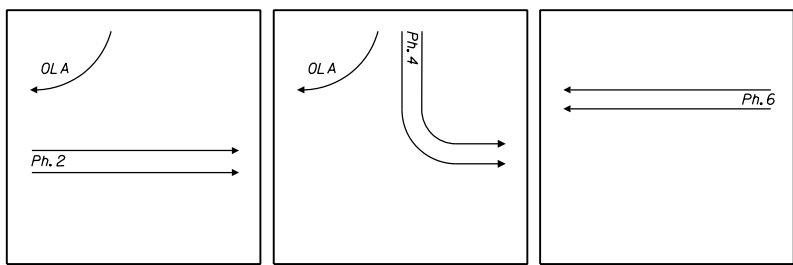
INTERSECTION: HILLSBORO-SILVERTON HWY @
I-5 SB RAMPS
WOODBURN
HWY*: 140 M.P.*:36.72 TSSU ID*:03026



- SURGE PROTECTORS
 - TBS TERMINAL BLOCK-SERVICE
 - EQUIPMENT GROUND
 - PDA POWER DISTRIBUTION ASSEMBLY
 - WIRE SIZE, IF NOT INDICATED SHALL BE # 14 AWG
 - CIRCUIT BREAKER
 - DUPLEX RECEPTACLE
 - W/GFI WITH GROUND FAULT INTERRUPTER
 - RELAY CONTACT, NORMALLY CLOSED
 - RELAY CONTACT, NORMALLY OPEN
 - MC MERCURY CONTACTOR
 - RELAY COIL - * RELAY NAME
 - DC GROUND
 - FUI FLASHER UNIT ONE
 - FR FLASH RELAY
 - WDT WATCHDOG TIMER
 - FTR FLASH TRANSFER RELAY
 - PDA FLASH ON DISPLAY LAMP
 - DR SW DOOR SWITCH, SHOWN WITH DOOR OPEN
 - CB-1 SIGNAL CIRCUIT BREAKER 1 (SECONDARY)
 - TR TRANSFER RELAY
 - IR ISOLATION RELAY
 - LR LOGIC RELAY
- IF1-14D INPUT FILE "I", TERM BLOCK "14", POSITION "D"



INTERSECTION: HILLSBORO-SILVERTON HWY @
I-5 SB RAMPS
WOODBURN
HWY*: 140 M.P.*:36.72 TSSU ID*:03026

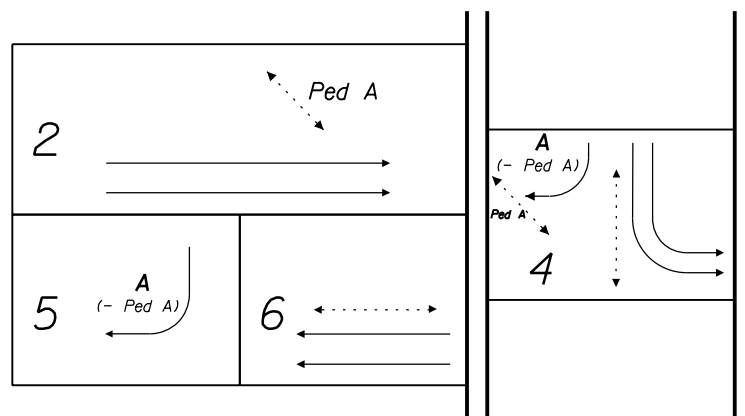


CHANNEL A
PHASE 2 & 5
OLA = 4+5

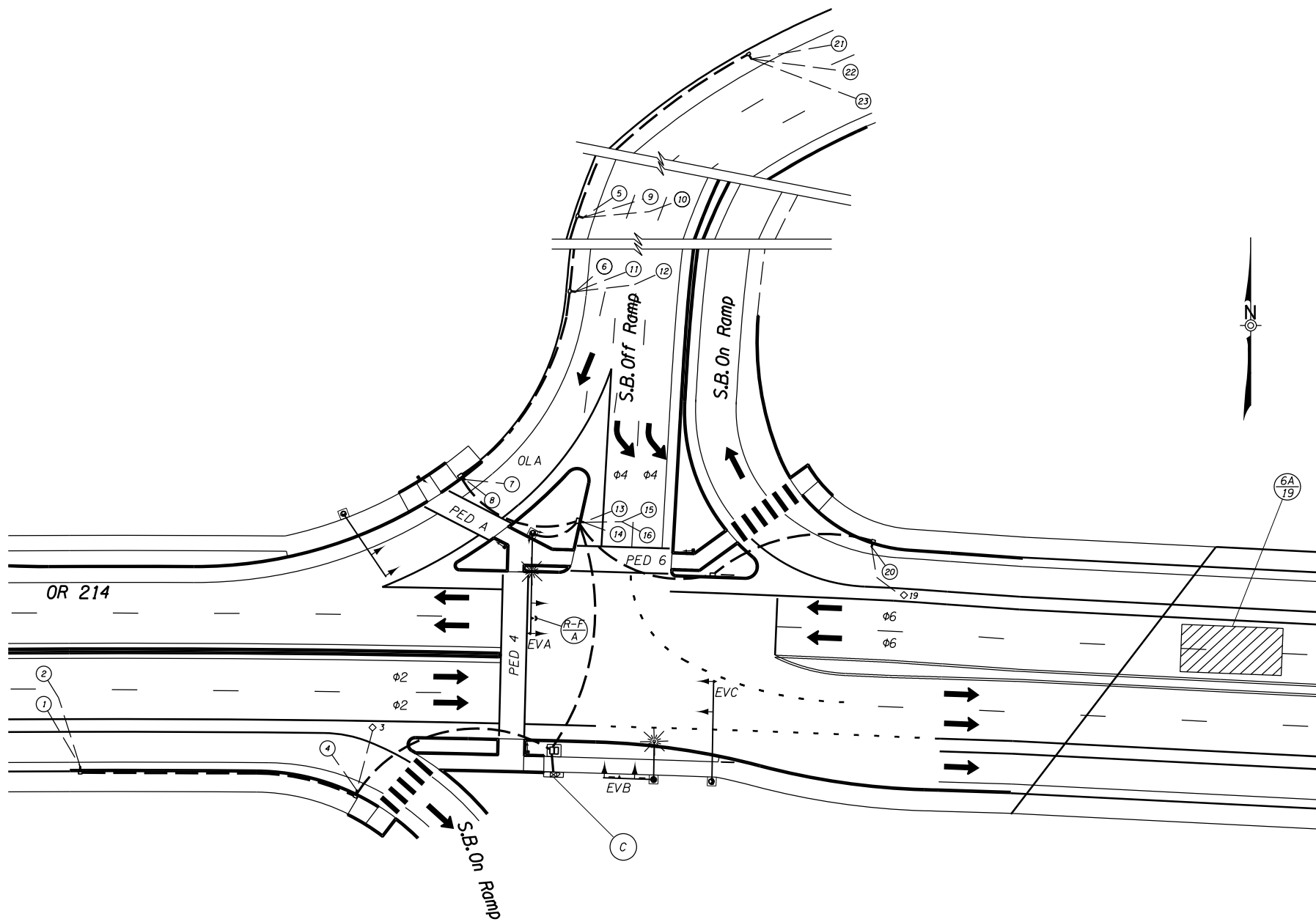
CHANNEL B
PHASE 4

CHANNEL C
PHASE 6

FIRE PREEMPTION OPERATION



NORMAL PHASE ROTATION



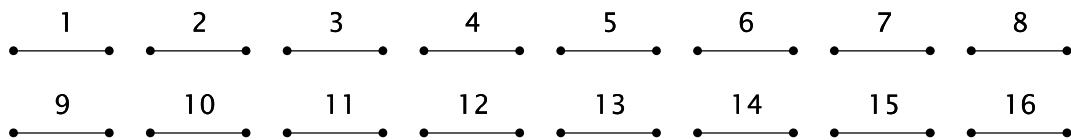
INTERSECTION: HILLSBORO-SILVERTON HWY @
I-5 SB RAMPS
WOODBURN
HWY*: 140 M.P.*:36.72 TSSU ID*:03026

CONFLICT MONITOR DIODE CARD

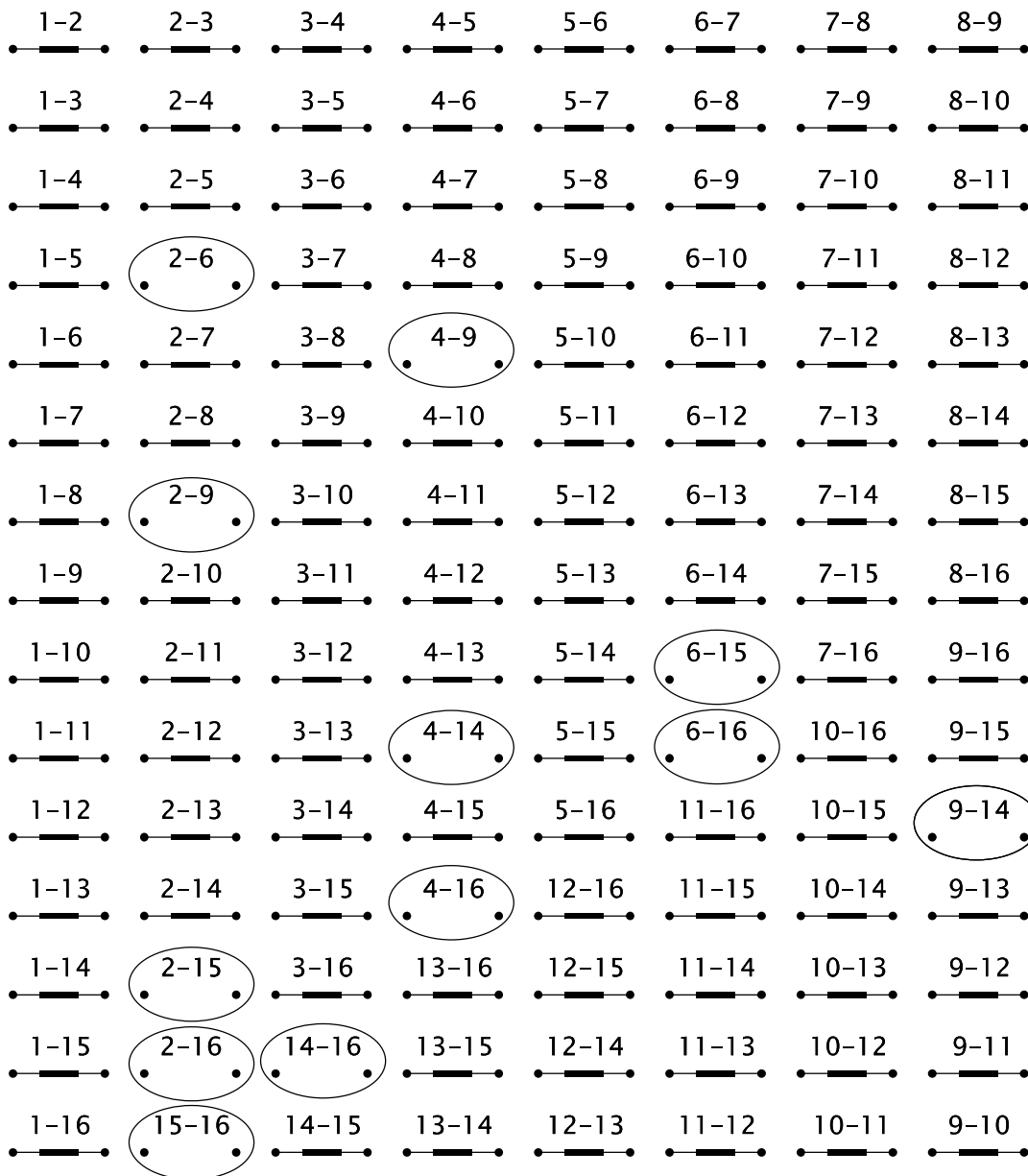
CHANNEL ASSIGNMENT

Ch.1	NU	Ch.5	NU	Ch.9	OLA	Ch.13	Ped 2
Ch.2	Ph 2	Ch.6	Ph 6	Ch.10	NU	Ch.14	Ped 4
Ch.3	NU	Ch.7	NU	Ch.11	NU	Ch.15	NU
Ch.4	Ph 4	Ch.8	NU	Ch.12	NU	Ch.16	Ped A

YELLOW INHIBIT JUMPERS



DIODES - Diode Removed Makes Movement Allowable (Diode IN4148)



INTERSECTION: *HILLSBORO-SILVERTON HWY @ I-5 SB RAMPS*
WOODBURN
 HWY*: *140* M.P.*:*36.72* TSSU ID*:*03026*

Detectors					
Global Detector Settings Vehicle					
No Activity	0	Max Presence	10	Erratic Count	35
		Failed Recall	None		

Global Detector Settings: Pedestrian					
No Activity	0	Max Presence	5	Erratic Count	60

Volume Occupancy Data Collection			
Data Collection (Seconds)		Number of Periods	15

Vehicle Detector Parameters														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	1	0	0	0	0	0.0	0.0			0	0	0	0	None
RadA Ph2 Advance1	2	2	0	0	0	0.0	0.0			0	20	255	0	Max Recall
RadA Ph2 Advance2?	3	2	0	0	0	0.0	0.0			0	20	255	0	Max Recall
Loop 3 Bike	4	2	0	0	0	0.0	0.0			0	0	0	0	None
	5	0	0	0	0	0.0	0.0			0	0	0	0	None
	6	0	0	0	0	0.0	0.0			0	0	0	0	None
Loop 8 NB OnRamp Count Only	6	0	0	0	0	0.0	0.0			0	0	0	0	None
Loop 15, 16	8	8	0	0	0	0.0	0.0			0	0	0	12	None
Loop 17, 18	9	8	0	0	0	0.0	0.0			0	0	0	12	None
Loop 19, 20	10	8	0	0	0	0.0	0.0			0	0	0	12	None
Loop 21, 22, 23	11	8	0	0	0	0.0	0.0			0	0	0	0	None
	12	0	0	0	0	0.0	0.0			0	0	0	0	None
	13	0	0	0	0	0.0	0.0			0	0	0	0	None
	14	0	0	0	0	0.0	0.0			0	0	0	0	None
	15	0	0	0	0	0.0	0.0			0	0	0	0	None
Loop 5	16	6	0	0	0	0.0	0.0			0	0	0	25	None
Loop 6	17	6	0	0	0	0.0	0.0			0	0	0	25	None
Loop 7 Bike	18	6	0	0	0	0.0	0.0			0	0	0	0	None
	19	0	0	0	0	0.0	0.0			0	0	0	0	None
	20	0	0	0	0	0.0	0.0			0	0	0	0	None
Loop 4 NBOnRamp Count Only	20	0	0	0	0	0.0	0.0			0	0	0	0	None
Loop 9	22	8	0	0	0	0.0	0.0			0	0	0	25	None
Loop 10	23	8	0	0	0	0.0	0.0			0	0	0	25	None
Loop 11	24	8	0	0	0	0.0	0.0			0	0	0	25	None
Loop 12, 13, 14	25	8	0	0	0	0.0	0.0			0	0	0	25	None
	26	0	0	0	0	0.0	0.0			0	0	0	0	None
	27	0	0	0	0	0.0	0.0			0	0	0	0	None
	28	0	0	0	0	0.0	0.0			0	0	0	0	None
	29	0	0	0	0	0.0	0.0			0	0	0	0	None
	30	0	0	0	0	0.0	0.0			0	0	0	0	None
	31	0	0	0	0	0.0	0.0			0	0	0	0	None
	32	0	0	0	0	0.0	0.0			0	0	0	0	None
	33	0	0	0	0	0.0	0.0			0	0	0	0	None
	34	0	0	0	0	0.0	0.0			0	0	0	0	None
	35	0	0	0	0	0.0	0.0			0	0	0	0	None
	36	0	0	0	0	0.0	0.0			0	0	0	0	None
	37	0	0	0	0	0.0	0.0			0	0	0	0	None
	38	0	0	0	0	0.0	0.0			0	0	0	0	None
	39	0	0	0	0	0.0	0.0			0	0	0	0	None
	40	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Parameters (Continued)

Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	41	0	0	0	0	0.0	0.0			0	0	0	0	None
	42	0	0	0	0	0.0	0.0			0	0	0	0	None
	43	0	0	0	0	0.0	0.0			0	0	0	0	None
	44	0	0	0	0	0.0	0.0			0	0	0	0	None
	45	0	0	0	0	0.0	0.0			0	0	0	0	None
	46	0	0	0	0	0.0	0.0			0	0	0	0	None
	47	0	0	0	0	0.0	0.0			0	0	0	0	None
	48	0	0	0	0	0.0	0.0			0	0	0	0	None
	49	0	0	0	0	0.0	0.0			0	0	0	0	None
	50	0	0	0	0	0.0	0.0			0	0	0	0	None
	51	0	0	0	0	0.0	0.0			0	0	0	0	None
	52	0	0	0	0	0.0	0.0			0	0	0	0	None
	53	0	0	0	0	0.0	0.0			0	0	0	0	None
	54	0	0	0	0	0.0	0.0			0	0	0	0	None
	55	0	0	0	0	0.0	0.0			0	0	0	0	None
	56	0	0	0	0	0.0	0.0			0	0	0	0	None
	57	0	0	0	0	0.0	0.0			0	0	0	0	None
	58	0	0	0	0	0.0	0.0			0	0	0	0	None
	59	0	0	0	0	0.0	0.0			0	0	0	0	None
	60	0	0	0	0	0.0	0.0			0	0	0	0	None
	61	0	0	0	0	0.0	0.0			0	0	0	0	None
	62	0	0	0	0	0.0	0.0			0	0	0	0	None
	63	0	0	0	0	0.0	0.0			0	0	0	0	None
	64	0	0	0	0	0.0	0.0			0	0	0	0	None
	65	0	0	0	0	0.0	0.0			0	0	0	0	None
	66	0	0	0	0	0.0	0.0			0	0	0	0	None
	67	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 3 Bike	68	2	0	0	0	3.0	0.0			0	0	0	0	None
	69	0	0	0	0	0.0	0.0			0	0	0	0	None
	70	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 8 NB OnRamp Count Only	71	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 15, 16	72	8	0	0	0	0.0	5.0			0	0	0	0	None
(Dummy)Loop 17, 18	73	8	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 19, 20	74	8	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 21, 22, 23, 24	75	8	0	0	0	0.0	0.0			0	0	0	0	None
	76	0	0	0	0	0.0	0.0			0	0	0	0	None
	77	0	0	0	0	0.0	0.0			0	0	0	0	None
	78	0	0	0	0	0.0	0.0			0	0	0	0	None
	79	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 5	80	6	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 6	81	6	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 7 Bike	82	6	0	0	0	3.0	0.0			0	0	0	0	None
	83	0	0	0	0	0.0	0.0			0	0	0	0	None
	84	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 4 NB OnRamp Count Only	85	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 9	86	8	0	0	0	2.0	0.0			0	0	0	0	None
(Dummy)Loop 10	87	8	0	0	0	2.0	0.0			0	0	0	0	None
(Dummy)Loop 11	88	8	0	0	0	2.0	0.0			0	0	0	0	None
(Dummy)Loop 12, 13, 14	89	8	0	0	0	2.0	0.0			0	0	0	0	None
	90	0	0	0	0	0.0	0.0			0	0	0	0	None
	91	0	0	0	0	0.0	0.0			0	0	0	0	None
	92	0	0	0	0	0.0	0.0			0	0	0	0	None
	93	0	0	0	0	0.0	0.0			0	0	0	0	None
	94	0	0	0	0	0.0	0.0			0	0	0	0	None
	95	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Parameters (Continued)

<i>Description</i>	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	96	0	0	0	0	0.0	0.0			0	0	0	0	None
	97	0	0	0	0	0.0	0.0			0	0	0	0	None
	98	0	0	0	0	0.0	0.0			0	0	0	0	None
	99	0	0	0	0	0.0	0.0			0	0	0	0	None
	100	0	0	0	0	0.0	0.0			0	0	0	0	None
	101	0	0	0	0	0.0	0.0			0	0	0	0	None
	102	0	0	0	0	0.0	0.0			0	0	0	0	None
	103	0	0	0	0	0.0	0.0			0	0	0	0	None
	104	0	0	0	0	0.0	0.0			0	0	0	0	None
	105	0	0	0	0	0.0	0.0			0	0	0	0	None
	106	0	0	0	0	0.0	0.0			0	0	0	0	None
	107	0	0	0	0	0.0	0.0			0	0	0	0	None
	108	0	0	0	0	0.0	0.0			0	0	0	0	None
	109	0	0	0	0	0.0	0.0			0	0	0	0	None
	110	0	0	0	0	0.0	0.0			0	0	0	0	None
	111	0	0	0	0	0.0	0.0			0	0	0	0	None
	112	0	0	0	0	0.0	0.0			0	0	0	0	None
	113	0	0	0	0	0.0	0.0			0	0	0	0	None
	114	0	0	0	0	0.0	0.0			0	0	0	0	None
	115	0	0	0	0	0.0	0.0			0	0	0	0	None
	116	0	0	0	0	0.0	0.0			0	0	0	0	None
	117	0	0	0	0	0.0	0.0			0	0	0	0	None
	118	0	0	0	0	0.0	0.0			0	0	0	0	None
	119	0	0	0	0	0.0	0.0			0	0	0	0	None
	120	0	0	0	0	0.0	0.0			0	0	0	0	None
	121	0	0	0	0	0.0	0.0			0	0	0	0	None
	122	0	0	0	0	0.0	0.0			0	0	0	0	None
	123	0	0	0	0	0.0	0.0			0	0	0	0	None
	124	0	0	0	0	0.0	0.0			0	0	0	0	None
	125	0	0	0	0	0.0	0.0			0	0	0	0	None
	126	0	0	0	0	0.0	0.0			0	0	0	0	None
	127	0	0	0	0	0.0	0.0			0	0	0	0	None
	128	0	0	0	0	0.0	0.0			0	0	0	0	None

Coordination Data

Coordination Patterns, Mode, and Transition Parameters

Operational Mode	Automatic	Coordination Mode	Auto Permissive	Max Mode	Per Pattern
Correction Mode	Shortway (Auto)	Force Mode	Per Pattern		
Max Cycle Limit %	30	Min Cycle Limit %	20	Max Dwell	0
Trans. Cover Peds	Pattern				

Sequence Parameters

Sequence	Ring	Sequence Data	Sequence	Ring	Sequence Data
1	1	2,a,b	1	2	6,a,8,b
2	1		2	2	
3	1		3	2	
4	1		4	2	
5	1		5	2	

Pattern Parameters

Plan	Coord Plan	Cycle Length	Offset Time	Seq Number	Reference	Coord. Mode	Force Off	Max Mode	Trans Cover Peds
1	AM Peak	100	90	1	Yel	Auto	Float	Inh	Phase
2		0	0	1	Yel	Auto	Fixed	Inh	Phase
3		0	0	1	Yel	Auto	Fixed	Inh	Phase
4		0	0	0	Yel	Auto	Fixed	Inh	Phase
5		0	0	0	Yel	Auto	Fixed	Inh	Phase
6		0	0	0	Yel	Auto	Fixed	Inh	Phase
7		0	0	0	Yel	Auto	Fixed	Inh	Phase
8		0	0	0	Yel	Auto	Fixed	Inh	Phase
9		0	0	0	Yel	Auto	Fixed	Inh	Phase
10		0	0	0	Yel	Auto	Fixed	Inh	Phase
11		0	0	0	Yel	Auto	Fixed	Inh	Phase
12		0	0	0	Yel	Auto	Fixed	Inh	Phase
13		0	0	0	Yel	Auto	Fixed	Inh	Phase
14		0	0	0	Yel	Auto	Fixed	Inh	Phase
15		0	0	0	Yel	Auto	Fixed	Inh	Phase
16		0	0	0	Yel	Auto	Fixed	Inh	Phase
17		0	0	0	Yel	Auto	Fixed	Inh	Phase
18		0	0	0	Yel	Auto	Fixed	Inh	Phase
19		0	0	0	Yel	Auto	Fixed	Inh	Phase
20		0	0	0	Yel	Auto	Fixed	Inh	Phase

Ring Plan	Ring #1		Ring #2		Ring Plan #	Pattern																	
	Offset	Early Coord Gap Out	Offset	Early Coord Gap Out		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	20	0	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	2																		
3	0	0	0	0	3																		
4	0	0	0	0	4																		
5	0	0	0	0	5																		
6	0	0	0	0	6																		

Coordination Splits

AM Peak

	1	2	3	4	5	6	7	8
Description		EB				WB		NB
Time	0	60	0	0	0	60	0	40
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph		X				X		
Ref Point		X				X		
Cover Ped								X
FO Mode	Flt	Flt	Flt	Flt	Flt	Flt	Flt	Flt
Ph Mode	None	Max Rcl	None	None	None	Max Rcl	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description		EB				WB		NB
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Flt	Flt	Flt	Flt	Flt	Flt	Flt	Flt
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description		EB				WB		NB
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description		EB				WB		NB
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	Fix	Fix	Fix	Fix	Fix	Fix	Fix	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Coordination Splits (cont.)

	1	2	3	4	5	6	7	8
Description		<i>EB</i>				<i>WB</i>		<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description		<i>EB</i>				<i>WB</i>		<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description		<i>EB</i>				<i>WB</i>		<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description		<i>EB</i>				<i>WB</i>		<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Time of Day Data

Day Program						Schedule Program																	
Event	Day Prog	Action	Hour	Min	Description																		
1	1	1	5	30	AM Peak	Schedule	1	Day Plan	1														
2	1	21	8	0	Free	Description	Monday - Friday																
3	1	1	11	0	PM Peak	Month	J	F	M	A	M	J	J	A	S	O	N	D					
4	1	21	19	0	Free		X	X	X	X	X	X	X	X	X	X	X	X	X	X			
5	1		0	0	0	Weekday	S	M	T	W	T	F	S										
6	1		0	0			X	X	X	X	X												
7	1		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
8	1		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
9	1		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
10	1		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	2	1	9	0	Weekend	Schedule	2	Day Plan	2														
12	2	21	19	0	Free	Description	Saturday - Sunday																
13	2		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D					
14	2		0	0			X	X	X	X	X	X	X	X	X	X	X						
15	2		0	0		Weekday	S	M	T	W	T	F	S										
16	2		0	0			X					X											
17	2		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
18	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
19	2		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
20	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	3		0	0		Schedule	3	Day Plan	2														
22	3		0	0		Description	New Years																
23	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D					
24	3		0	0			X														X		
25	3		0	0		Weekday	S	M	T	W	T	F	S										
26	3		0	0			X	X	X	X	X												
27	3		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
28	3		0	0																			
29	3		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
30	3		0	0																			
31	4		0	0		Schedule	4	Day Plan	2														
32	4		0	0		Description	New Years																
33	4		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D					
34	4		0	0			X																
35	4		0	0		Weekday	S	M	T	W	T	F	S										
36	4		0	0			X																
37	4		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
38	4		0	0																			
39	4		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
40	4		0	0																			
41	5		0	0		Schedule	5	Day Plan	2														
42	5		0	0		Description	Memorial Day																
43	5		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D					
44	5		0	0							X												
45	5		0	0		Weekday	S	M	T	W	T	F	S										
46	5		0	0			X																
47	5		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
48	5		0	0																			
49	5		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
50	5		0	0													X	X	X	X	X	X	

Time of Day Data Cont.

Day Program					Schedule Program																				
Event	Day Prog	Action	Hour	Min	Description																				
51	6		0	0		Schedule	6	Day Plan	2																
52	6		0	0		Description	July 4th																		
53	6		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D							
54	6		0	0									X												
55	6		0	0		Weekday	S	M	T	W	T	F	S												
56	6		0	0			X	X	X	X	X														
57	6		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
58	6		0	0																					
59	6		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
60	6		0	0																					
61	7		0	0		Schedule	7	Day Plan	2																
62	7		0	0		Description	July 4th																		
63	7		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D							
64	7		0	0									X												
65	7		0	0		Weekday	S	M	T	W	T	F	S												
66	7		0	0			X																		
67	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
68	7		0	0																					
69	7		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
70	7		0	0																					
71	8		0	0		Schedule	8	Day Plan	2																
72	8		0	0		Description	Labor Day																		
73	8		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D							
74	8		0	0										X											
75	8		0	0		Weekday	S	M	T	W	T	F	S												
76	8		0	0			X																		
77	8		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
78	8		0	0																					
79	8		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
80	8		0	0																					
81	9		0	0		Schedule	9	Day Plan	2																
82	9		0	0		Description	Thanksgiving																		
83	9		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D							
84	9		0	0												X									
85	9		0	0		Weekday	S	M	T	W	T	F	S												
86	9		0	0							X														
87	9		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
88	9		0	0																					
89	9		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
90	9		0	0									X	X	X	X	X	X							
91	10		0	0		Schedule	10	Day Plan	2																
92	10		0	0		Description	Christmas																		
93	10		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D							
94	10		0	0																					
95	10		0	0		Weekday	S	M	T	W	T	F	S												
96	10		0	0			X	X	X	X	X														
97	10		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
98	10		0	0																					
99	10		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
100	10		0	0												X									

Preemption Data

Sequence Parameters

Parameters	Sequence									
	1	2	3	4	5	6	7	8	9	10
Enabled	Enabled	Disabled	Enabled	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Description	EVA		EVC	EVD						
Preemption Type	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh
Dwell Veh Ph	2		6	8						
Dwell Ped Ph										
Dwell Overlap										
Exit Phases	2		6	8						
Exit Type	Exit Phases	Exit Coord	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Track Phases										
Track Overlaps										
Cycling Veh Ph										
Cycling Ped Ph										
Cycling Overlap										
Non Lock Mem	X	X	X	X						
Not Override Flash	X	X	X	X						
Not override Next Preempt	X	X	X	X						
Min Green	255	255	255	255	0	0	0	0	0	0
Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Min Walk	0	0	0	0	0	0	0	0	0	0
Min Ped Clear	255	255	255	255	255	255	255	255	255	255
Link	0	0	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0	0	0
Min Presence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Presence	180	180	180	180	0	0	0	0	0	0
Dwell Green	3	3	3	3	0	0	0	0	0	0
Max Exit Green	0	0	0	0	0	0	0	0	0	0
Exit Ped Clear	255	255	255	255	255	255	255	255	255	255
Exit Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Exit time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Serial Ports

Port	Description	Function	Address	Baud	Bits	Stop	Parity	Flow	CTS	RTS
1	Port 2/C21S	None	1	9600	8	1	None	None	0	0
2	Aux_P3/C22S	None	1	9600	8	1	None	None	0	0
3	SDLC Port 1	None	1	9600	8	1	None	None	0	0
4	Com A/C50S	None	1	9600	8	1	None	None	0	0
5	FIO	None	1	9600	8	1	None	None	0	0
6	DISPLAY/C60M	None	1	9600	8	1	None	None	0	0
7	SP7	None	1	9600	8	1	None	None	0	0
8	SP8/Com B	None	1	9600	8	1	None	None	0	0

Advanced IO Configuration

Channel Configuration						
Channel	Control Type	Ctrl Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	<i>Phs Veh</i>	1		X	X	1
2	<i>Phs Veh</i>	2		X		2
3	<i>Phs Veh</i>	3		X		3
4	<i>Phs Veh</i>	4		X	X	4
5	<i>Phs Veh</i>	5		X	X	5
6	<i>Phs Veh</i>	6		X		6
7	<i>Phs Veh</i>	7		X		7
8	<i>Phs Veh</i>	8		X	X	8
9	<i>Olp</i>	9				9
10	<i>Olp</i>	10				10
11	<i>Olp</i>	11				11
12	<i>Olp</i>	12				12
13	<i>Phs Ped</i>	2				13
14	<i>Phs Ped</i>	4				14
15	<i>Phs Ped</i>	6				15
16	<i>Phs Ped</i>	8				16
17	<i>None</i>	0				17
18	<i>None</i>	0				18

Cabinet Configuration

	IO Module	1	Type	ODOT 332		
ITS Cabinet Port 1	No		33X Input Leading Edge	5	Enable TS2 Stop Time	
ITS Cabinet Port C13S	No		33X input Trailing Edge	5	Disable TS2 Cabinet Alarm	
Disable TS2 Startup Call			Use Raw MMU Channel Status		Disable TS2 Fault Flash	

Input Points (Module 1)

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-39	<i>Veh Det Call</i>	2	25	C11-10	<i>Not Active</i>	0
2	C1-40	<i>Veh Det Call</i>	16	26	C11-11	<i>Not Active</i>	0
3	C1-41	<i>Veh Det Call</i>	8	27	C11-12	<i>Not Active</i>	0
4	C1-42	<i>Veh Det Call</i>	22	28	C11-13	<i>Not Active</i>	0
5	C1-43	<i>Veh Det Call</i>	3	29	C1-63	<i>Veh Det Call</i>	4
6	C1-44	<i>Veh Det Call</i>	17	30	C1-64	<i>Veh Det Call</i>	18
7	C1-45	<i>Veh Det Call</i>	9	31	C1-65	<i>Veh Det Call</i>	10
8	C1-46	<i>Veh Det Call</i>	23	32	C1-66	<i>Veh Det Call</i>	24
9	C1-47	<i>Veh Det Call</i>	6	33	C1-67	<i>Ped Det Call</i>	2
10	C1-48	<i>Veh Det Call</i>	20	34	C1-68	<i>Ped Det Call</i>	6
11	C1-49	<i>Veh Det Call</i>	12	35	C1-69	<i>Ped Det Call</i>	4
12	C1-50	<i>Veh Det Call</i>	26	36	C1-70	<i>Ped Det Call</i>	8
13	C1-51	<i>Not Active</i>	0	37	C1-71	<i>Pre High Pri Low</i>	1
14	C1-52	<i>Preempt Input</i>	1	38	C1-72	<i>Pre High Pri Low</i>	2
15	C1-53	<i>Man Ctrl Enable</i>	1	39	C1-73	<i>Pre High Pri Low</i>	3
16	C1-54	<i>Not Active</i>	0	40	C1-74	<i>Pre High Pri Low</i>	4
17	C1-55	<i>Veh Det Call</i>	15	41	C1-75	<i>Not Active</i>	0
18	C1-56	<i>Veh Det Call</i>	1	42	C1-76	<i>Veh Det Call</i>	5
19	C1-57	<i>Veh Det Call</i>	21	43	C1-77	<i>Veh Det Call</i>	19
20	C1-58	<i>Veh Det Call</i>	7	44	C1-78	<i>Veh Det Call</i>	11
21	C1-59	<i>Veh Det Call</i>	27	45	C1-79	<i>Veh Det Call</i>	25
22	C1-60	<i>Veh Det Call</i>	13	46	C1-80	<i>Interval Adv</i>	1
23	C1-61	<i>Veh Det Call</i>	28	47	C1-81	<i>Flash Sense</i>	1
24	C1-62	<i>Veh Det Call</i>	14	48	C1-82	<i>Unit Stop Time</i>	1

Input Points (Module 1) Cont.

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
49	C11-15	Not Active	0	57	C11-23	Not Active	0
50	C11-16	Not Active	0	58	C11-24	Not Active	0
51	C11-17	Not Active	0	59	C11-25	Not Active	0
52	C11-18	Not Active	0	60	C11-26	Not Active	0
53	C11-19	Not Active	0	61	C11-27	Not Active	0
54	C11-20	Not Active	0	62	C11-28	Not Active	0
55	C11-21	Not Active	0	63	C11-29	Not Active	0
56	C11-22	Not Active	0	64	C11-30	Not Active	0

Output Points (Module 1)

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-2	Ch Red DWalk	14	33	C1-35	Not Active	13
2	C1-3	Chl Green Walk	14	34	C1-36	Not Active	15
3	C1-4	Ch Red DWalk	4	35	C1-37	Not Active	14
4	C1-5	Ch Yel Ped Clear	4	36	C1-38	Not Active	16
5	C1-6	Chl Green Walk	4	37	C1-100	Ch Yel Ped Clear	18
6	C1-7	Ch Red DWalk	3	38	C1-101	Ch Yel Ped Clear	17
7	C1-8	Ch Yel Ped Clear	3	39	C1-102	Auto Flash	1
8	C1-9	Chl Green Walk	3	40	C1-103	Watchdog	1
9	C1-10	Ch Red DWalk	13	41	C1-83	Ch Red DWalk	18
10	C1-11	Chl Green Walk	13	42	C1-84	Chl Green Walk	18
11	C1-12	Ch Red DWalk	2	43	C1-85	Ch Red DWalk	12
12	C1-13	Ch Yel Ped Clear	2	44	C1-86	Ch Yel Ped Clear	12
13	C1-15	Chl Green Walk	2	45	C1-87	Chl Green Walk	12
14	C1-16	Ch Red DWalk	1	46	C1-88	Ch Red DWalk	11
15	C1-17	Ch Yel Ped Clear	1	47	C1-89	Ch Yel Ped Clear	11
16	C1-18	Chl Green Walk	1	48	C1-90	Chl Green Walk	11
17	C1-19	Ch Red DWalk	16	49	C1-91	Ch Red DWalk	17
18	C1-20	Chl Green Walk	16	50	C1-93	Chl Green Walk	17
19	C1-21	Ch Red DWalk	8	51	C1-94	Ch Red DWalk	10
20	C1-22	Ch Yel Ped Clear	8	52	C1-95	Ch Yel Ped Clear	10
21	C1-23	Chl Green Walk	8	53	C1-96	Chl Green Walk	10
22	C1-24	Ch Red DWalk	7	54	C1-97	Ch Red DWalk	9
23	C1-25	Ch Yel Ped Clear	7	55	C1-98	Ch Yel Ped Clear	9
24	C1-26	Chl Green Walk	7	56	C1-99	Chl Green Walk	9
25	C1-27	Ch Red DWalk	15	57	C11-1	Not Active	0
26	C1-28	Chl Green Walk	15	58	C11-2	Not Active	0
27	C1-29	Ch Red DWalk	6	59	C11-3	Not Active	0
28	C1-30	Ch Yel Ped Clear	6	60	C11-4	Not Active	0
29	C1-31	Chl Green Walk	6	61	C11-5	Not Active	0
30	C1-32	Ch Red DWalk	5	62	C11-6	Not Active	0
31	C1-33	Ch Yel Ped Clear	5	63	C11-7	Not Active	0
32	C1-34	Chl Green Walk	5	64	C11-8	Not Active	0

Vehicle and Pedestrian Phase Intervals

Interval	Vehicle/Ped	Description	Red	Yellow	Green	Don't Walk	Clearance	Walk	Type
1	<i>Vehicle</i>	<i>Not Active</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
2	<i>Vehicle</i>	<i>Delay Green</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
3	<i>Vehicle</i>	<i>Pre Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
4	<i>Vehicle</i>	<i>Min Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
5	<i>Vehicle</i>	<i>Green Extension</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
6	<i>Vehicle</i>	<i>Green Dwell</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
7	<i>Vehicle</i>	<i>Pre Clear</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
8	<i>Vehicle</i>	<i>Yellow Change</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	-	-	-	<i>Yellow</i>
9	<i>Vehicle</i>	<i>Red Clear</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
10	<i>Vehicle</i>	<i>Red Dwell</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
11	<i>Vehicle</i>	<i>Barrier Hold</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
1	<i>Ped</i>	<i>Not Active</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
2	<i>Ped</i>	<i>Delay Ped</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
3	<i>Ped</i>	<i>Walk</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
4	<i>Ped</i>	<i>Walk Dwell</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
5	<i>Ped</i>	<i>Flash Don't Walk</i>	-	-	-	<i>Flash</i>	<i>On</i>	<i>Off</i>	<i>Ped Clear</i>
6	<i>Ped</i>	<i>Don't Walk</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>

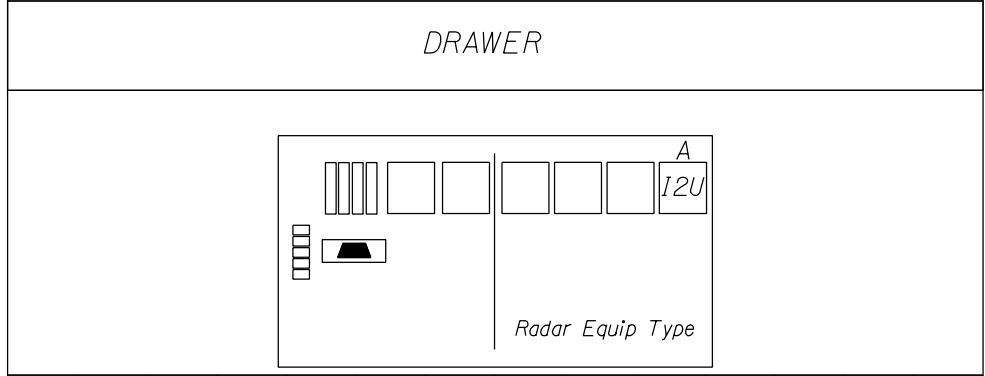
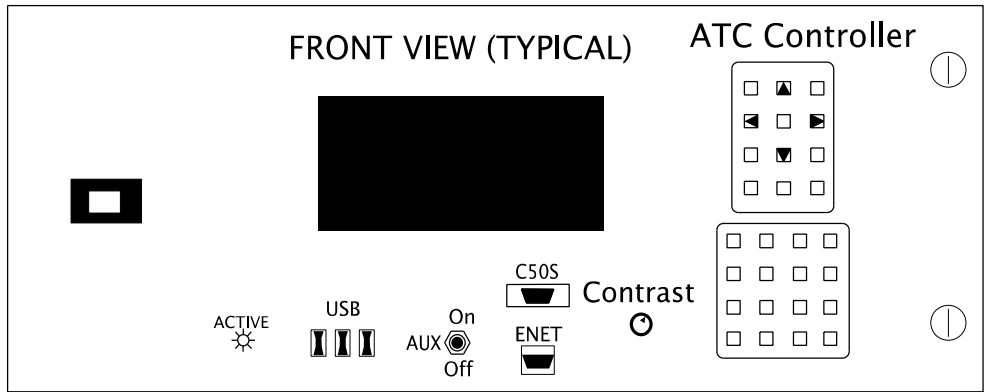
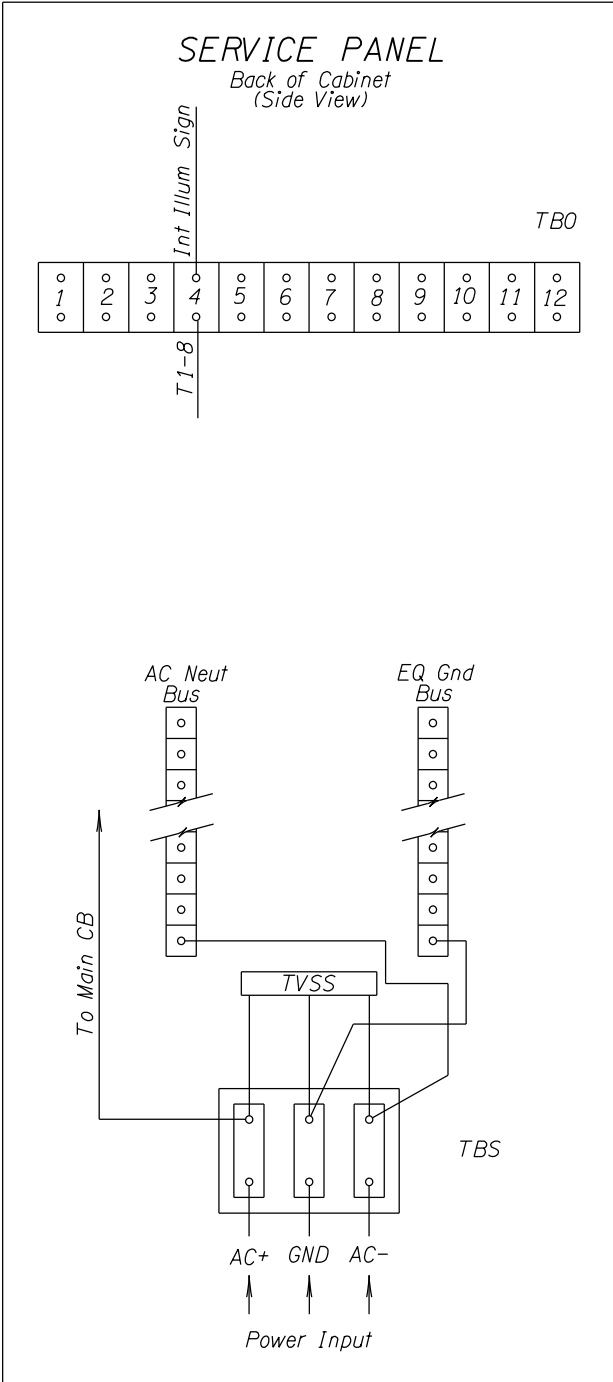
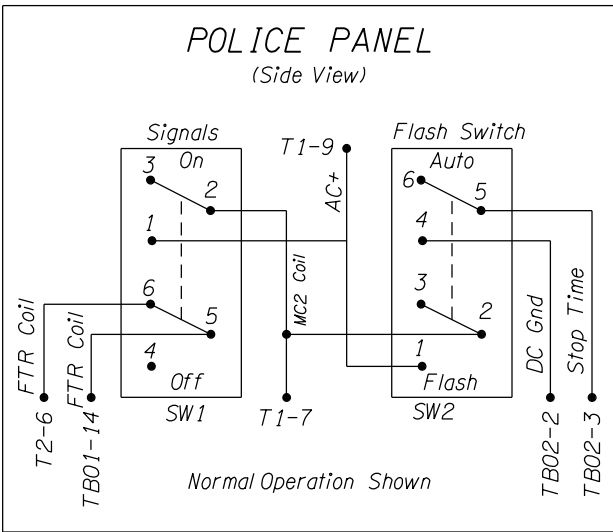
User Program Configuration						
Program Information						
Program #	1	Description	Unit Stop Time	Enabled	Enabled	
Statement	Result		Index	Delay	Ext	Description
1	Unit Stop Time		1	0.0	0.0	
	Parameter A		Index			
	Aux Switch State		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
2	None		0	0.0	0.0	
	Parameter A		Index			
	Number		2			
	Parameter B		Index			
	Prev Line		0			
Statement	Result		Index	Delay	Ext	Description
3	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
4	None		0	0.0	0.0	
	Parameter A		Index			
	Number		3			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
5	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
6	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
7	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
8	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			

Program #	2	Description	Stop Time Beep	Enabled	Enabled
1	<i>Global Var</i>		100	0.0	0.0
	Parameter A		Index		
	<i>Glob Var</i>		100		
	Parameter B		Index		
	<i>Number</i>		1		
2	<i>None</i>		0	0.0	0.0
	Parameter A		Index		
	<i>Prev Line</i>		0		
	Parameter B		Index		
	<i>Number</i>		10		
3	<i>None</i>		0	0.0	0.0
	Parameter A		Index		
	<i>Prev Line</i>		0		
	Parameter B		Index		
	<i>Number</i>		15		
4	<i>Global Var</i>		101	0.0	0.0
	Parameter A		Index		
	<i>Prev Line</i>		0		
	Parameter B		Index		
	<i>Number</i>		0		
5	<i>None</i>		0	0.0	0.0
	Parameter A		Index		
	<i>Glob Var</i>		101		
	Parameter B		Index		
	<i>None</i>		0		
6	<i>None</i>		0	0.0	0.0
	Parameter A		Index		
	<i>None</i>		0		
	Parameter B		Index		
	<i>None</i>		0		
7	<i>None</i>		0	0.0	0.0
	Parameter A		Index		
	<i>None</i>		0		
	Parameter B		Index		
	<i>None</i>		0		
8	<i>None</i>		0	0.0	0.0
	Parameter A		Index		
	<i>None</i>		0		
	Parameter B		Index		
	<i>None</i>		0		

Program #	3	Description	Dummy Detector Jumpers	Enabled	Enabled
Statement	Result	Index	Delay	Ext	Description
1	Veh Det Call	65	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	1			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
2	Veh Det Call	66	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	2			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
3	Veh Det Call	67	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	3			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
4	Veh Det Call	68	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	4			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
5	Veh Det Call	69	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	5			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
6	Veh Det Call	70	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	6			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
7	Veh Det Call	71	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	7			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
8	Veh Det Call	72	0.0	0.0	Dummy Detector Jumper
	Parameter A	Index			
	Veh Det	8			
	Parameter B	Index			
	None	0			

Program #	4	Description	Enabled	Enabled	
1	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
2	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
3	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
4	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
5	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
6	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
7	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			
8	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
	None	0			

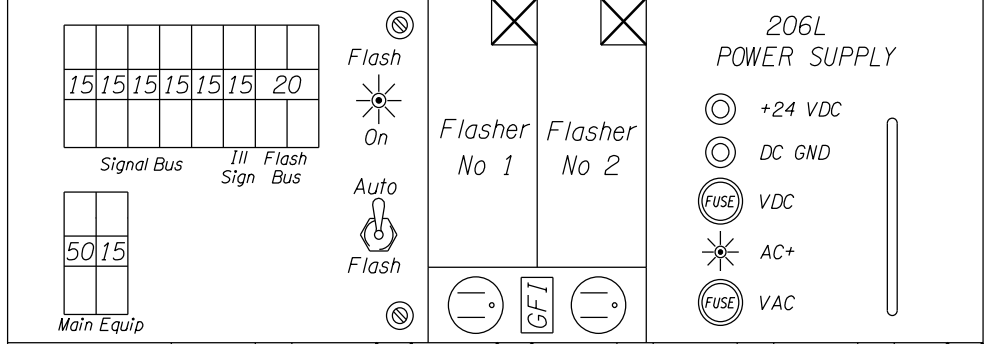
Program #	5	Description	Enabled	Enabled
1	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
2	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
3	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
4	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
5	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
6	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
7	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		
8	None	0	0.0	0.0
	Parameter A	Index		
	None	0		
	Parameter B	Index		
	None	0		



1	2	3	4	5	6	7	8	9	10	11	12	13	14
	112	222		222	222	222					242	242	
MT1 C1-56	C1-39 MT2 MT3 C1-43	C1-63 MT4 MT5 C1-76	MT6 C1-47	MT7 C1-58	C1-41 MT8 MT9 C1-45	C1-65 MT10 MT11 C1-78	MT12 C1-49	C1-60 MT13 MT14 C1-62			2 Ped C1-67 C1-69 4 Ped	6 Ped C1-68 C1-70 8 Ped	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	222	222		222	222	222					762	762	
MT15 C1-55	C1-40 MT16 MT17 C1-44	C1-64 MT18 MT19 C1-77	MT20 C1-48	MT21 C1-57	C1-42 MT22 MT23 C1-46	C1-66 MT24 MT25 C1-79	MT26 C1-50	C1-59 MT27 MT28 C1-61		C1-54 C1-75	EVA C1-71 C1-73 EVC	EVB C1-72 C1-74 EVD	

Channel 1
Input File "I"
Channel 2

Channel 1
Input File "J"
Channel 2



Power Distribution Assembly #2

1	2	3	4	5	6	7	8	9	10	11	12	13	14
FTR-1	Ph	Ph 2	Ped 2	Ph	Ph	Ped							
FTR-2	SC1	SC1	SC1	SC2	SC2	SC2							
FTR-3	Ph	Ph 6	Ped	Ph	Ph 8	Ped 8							
FTR-4	SC3	SC3	SC3	SC4	SC4	SC4							

Output File
Conflict Monitor

1	2	3	4	5	6	7	8	9	10	11	12	13	14
FTR-5	FTR-6	A1	A2	A3	A4	A5	A6						
		NOT USED											
		SC5	SC5	SC5	SC5	SC5	SC5						

Auxiliary Output File (Typical)

SC=Signal Circuit

REV. NO.	DATE	INITIAL	REMARKS
1	06/15	CLL	NEW SIGNAL
2	12/18	JS	UPDATED PER TSSU
3	07/20	JS	ADDED DIODE CARD
4	06/21	JS	UPDATE PER R2

INTERSECTION: HILLSBORO-SILVERTON HWY @ I-5 NB RAMPS WOODBURN

HWY*: 140 M.P.*:36.86 TSSU ID*:03024

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC - ROADWAY SECTION
332 CABINET WIRING DIAGRAM
REV 03/18/15

PROGRAM PIN ASSIGNMENTS

Program Assigned Functions	C1 Connector		C4 Connector				Field Term.
	Pin	Termination	Pin	Switch Pack			
				In	Position	Out	
DC Gnd	1	DC Gnd Bus	-	-	-	-	-
Ø4 D.WALK	2	C4-1	1	6	6-DW	3	104
Ø4 WALK	3	C4-2	2	10	6-W	7	106
Ø4 RED	4	C4-3	3	6	5-R	3	101
Ø4 YELLOW	5	C4-4	4	8	5-Y	5	102
Ø4 GREEN	6	C4-5	5	10	5-G	7	103
Ø3 RED	7	C4-6	6	6	4-R	3	116
Ø3 YELLOW	8	C4-7	7	8	4-Y	5	117
Ø3 GREEN	9	C4-8	8	10	4-G	7	118
Ø2 D.WALK	10	C4-9	9	6	3-DW	3	113
Ø2 WALK	11	C4-10	10	10	3-W	7	115
Ø2 RED	12	C4-11	11	6	2-R	3	128
Ø2 YELLOW	13	C4-12	12	8	2-Y	5	129
Input Gnd	14		-	-	-	-	-
Ø2 GREEN	15	C4-13	13	10	2-G	7	130
Ø1 RED	16	C4-14	14	6	1-R	3	125
Ø1 YELLOW	17	C4-15	15	8	1-Y	5	126
Ø1 GREEN	18	C4-16	16	10	1-G	7	127
Ø8 D.WALK	19	C4-17	17	6	12-DW	3	110
Ø8 WALK	20	C4-18	18	10	12-W	7	112
Ø8 RED	21	C4-19	19	6	11-R	3	107
Ø8 YELLOW	22	C4-20	20	8	11-Y	5	108
Ø8 GREEN	23	C4-21	21	10	11-G	7	109
Ø7 RED	24	C4-22	22	6	10-R	3	122
Ø7 YELLOW	25	C4-23	23	8	10-Y	5	123
Ø7 GREEN	26	C4-24	24	10	10-G	7	124
Ø6 D.WALK	27	C4-25	25	6	9-DW	3	119
Ø6 WALK	28	C4-26	26	10	9-W	7	121
Ø6 RED	29	C4-27	27	6	8-R	3	134
Ø6 YELLOW	30	C4-28	28	8	8-Y	5	135
Ø6 GREEN	31	C4-29	29	10	8-G	7	136
Ø5 RED	32	C4-30	30	6	7-R	3	131
Ø5 YELLOW	33	C4-31	31	8	7-Y	5	132
Ø5 GREEN	34	C4-32	32	10	7-G	7	133
(A) TOD/DOW	35	C4-33	33	8	3-Y	5	114
(B) TOD/DOW	36	C4-34	34	8	9-Y	5	120
(C) TOD/DOW	37	C4-35	35	8	6-Y	5	105
(D) TOD/DOW	38	C4-36	36	8	12-Y	5	111

Program Assigned Functions	C1 Connector		C5 Connector				Field Term.
	Pin	Termination	Pin	Switch Pack			
				In	Position	Out	
Ø3 D.WALK	83	C5-1	1	6	A6-DW	3	A104
Ø3 WALK	84	C5-2	2	10	A6-W	7	A106
OLD RED	85	C5-3	3	6	A5-R	3	A101
OLD YELLOW	86	C5-4	4	8	A5-Y	5	A102
OLD GREEN	87	C5-5	5	10	A5-G	7	A103
OLC RED	88	C5-6	6	6	A4-R	3	A114
OLC YELLOW	89	C5-7	7	8	A4-Y	5	A115
OLC GREEN	90	C5-8	8	10	A4-G	7	A116
Ø1 D.WALK	91	C5-9	9	6	A3-DW	3	A111
DC Gnd	92	DC Gnd Bus	-	-	-	-	-
Ø1 WALK	93	C5-10	10	10	A3-W	7	A113
OLB RED	94	C5-11	11	6	A2-R	3	A124
OLB YELLOW	95	C5-12	12	8	A2-Y	5	A125
OLB GREEN	96	C5-13	13	10	A2-G	7	A126
OLA RED	97	C5-14	14	6	A1-R	3	A121
OLA YELLOW	98	C5-15	15	8	A1-Y	5	A122
OLA GREEN	99	C5-16	16	10	A1-G	7	A123
NOT ASSIGN	100	C5-17	17	8	A6-Y	5	A105
NOT ASSIGN	101	C5-18	18	8	A3-Y	5	A112

FLASH OUT	102	T15-3"1"			
Watchdog	103	C4-37	Monitor-Pin 22		
Input Gnd	104	T15-4"J"			
	19	-	NC	-	-
	20	-	NC	-	-
	21	-	NC	-	-
	22	-	NC	-	-
	23	-	NC	-	-
	24	TB1-1	All	9	+24VDC

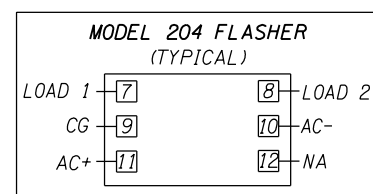
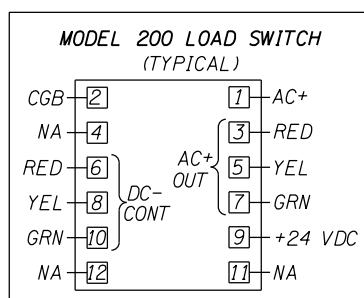
Program Assigned Functions	C1 Connector		Input Files		
	Pin	Termination	Terminals		Field Terminals
			Out	In	
Ø2 DET,E&C	39	I2-1	F	D&E	TB2-5&6
Ø6 DET,E&C	40	J2-1	F	D&E	TB3-5&6
Ø4 DET,E&C	41	I6-1	F	D&E	TB4-9&10
Ø8 DET,E&C	42	J6-1	F	D&E	TB5-9&10
Ø2 DET,E&C	43	I2-2	W	J&K	TB2-7&8
Ø6 DET,E&C	44	J2-2	W	J&K	TB3-7&8
Ø4 DET,E&C	45	I6-2	W	J&K	TB4-11&12
Ø8 DET,E&C	46	J6-2	W	J&K	TB5-11&12
Ø2 DET,C	47	I4-1&2	F&W	DE&JK	TB4-1,2&3,4
Ø6 DET,C	48	J4-1&2	F&W	DE&JK	TB5-1,2&3,4
Ø4 DET,C	49	I8-1&2	F&W	DE&JK	TB6-5,6&7,8
Ø8 DET,C	50	J8-1&2	F&W	DE&JK	TB7-5,6&7,8
PED INHIBIT	51	-	-	-	TB9-10
RR Preempt	52	-	-	-	TB9-11
ADV ENABLE	53	-	-	-	TB8-2
NOT ASSIGN	54	J11-1	F	D	TB9-1
Ø5 DET,E&C	55	J1-1&2	F&W	DE&JK	TB3-1,2&3,4
Ø1 DET,E&C	56	I1-1&2	F&W	DE&JK	TB2-1,2&3,4
Ø7 DET,E&C	57	J5-1&2	F&W	DE&JK	TB5-5,6&7,8
Ø3 DET,E&C	58	I5-1&2	F&W	DE&JK	TB4-5,6&7,8
Ø5 DET,E&C	59	J9-1	F	D&E	TB7-9&10
Ø1 DET,E&C	60	I9-1	F	D&E	TB6-9&10
Ø7 DET,E&C	61	J9-2	W	J&K	TB7-11&12
Ø3 DET,E&C	62	I9-2	W	J&K	TB6-11&12
Ø2 DET,E&C	63	I3-1	F	D&E	TB2-9&10
Ø6 DET,E&C	64	J3-1	F	D&E	TB3-9&10
Ø4 DET,E&C	65	I7-1	F	D&E	TB6-1&2
Ø8 DET,E&C	66	J7-1	F	D&E	TB7-1&2
Ph 2 Ped	67	I12-1	F	D	TB8-4
Ph 6 Ped	68	I13-1	F	D	TB8-7
Ph 4 Ped	69	I12-2	W	J	TB8-5
Ph 8 Ped	70	I13-2	W	J	TB8-8
EVA	71	J12-1	F	D	TB9-4
EVB	72	J13-1	F	D	TB9-7
EVC	73	J12-2	W	J	TB9-5
EVD	74	J13-2	W	J	TB9-8
NOT ASSIGN	75	J11-2	W	J	-
Ø2 DET,E	76	I3-2	W	J&K	TB2-11&12
Ø6 DET,E	77	J3-2	W	J&K	TB3-11&12
Ø4 DET,E	78	I7-2	W	J&K	TB6-3&4
Ø8 DET,E	79	J7-2	W	J&K	TB7-3&4
Advance	80	-	-	-	TB8-1
Flash Sense	81	-	-	-	TB8-10
Stop Time	82	-	-	-	TB8-11

CONFLICT MONITOR UNIT

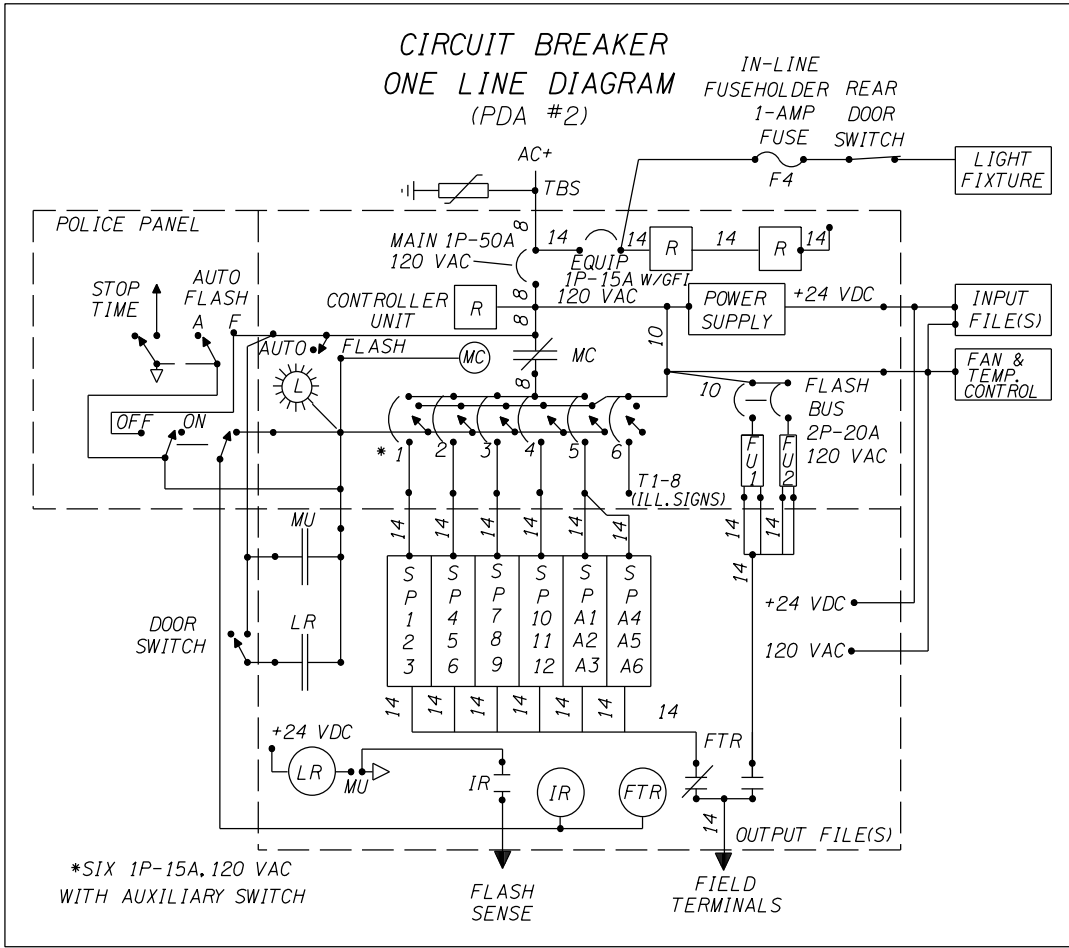
Connector Pin Assignments

Term	Function	Pin	CHANNEL ASSIGNMENTS (TYPICAL)		Pin	Function	Term
130	SP2-G	1	A	B	A	SP2-Y	129
115	SP3-W	2			B	SP8-G	136
135	SP8-Y	3			C	SP9-W	121
103	SP5-G	4			D	SP5-Y	102
106	SP6-W	5			E	SP11-G	109
108	SP-11Y	6	Ch	PH	F	SP12-W	112
133	SP7-G	7	1	1	H	SP7-Y	132
114	SP3-Y (FLTYA)	8	2	2	J	SP1-G	127
126	SP1-Y	9	3	3	K	SP9-Y (FLTYA)	120
124	SP10-G	10	4	4	L	SP10-Y	123
105	SP6-Y (FLTYA)	11	5	5	M	SP4-G	118
117	SP4-Y	12	6	6	N	SP12-Y (FLTYA)	111
A123	ASP1-G	13	7	7	P	NC	-
-	NC	14	8	8	R	ASP2-G	A126
-	T&B	15	9	OLA	S	ASP4-G	A116
-	T&B	16	10	OLB	T	NC	-
-	NC	17	11	OLC	U	T&B	-
-	T&B	18	12	OLD	V	ASP5-G	A103
-	NC	19	13	2PED	W	NC	-
TB01-9	EQ Gnd	20			X	NC	-
TB01-10	AC-	21	14	4PED	Y	DC Gnd	TB02-2
C4-37	Watch Dog	22			Z	Ext. Reset	TB02-5
TB02-1	+24VDC	23	15	6PED	AA	T&B	-
LRCoIL	Interlock	24			BB	Stop Time	TB02-3
TB02-2	Interlock	25	16	8PED	CC	NC	-
-	NC	26			DD	NC	-
-	NC	27			EE	Clapper	TB01-12
TB01-11	Norm. Closed	28			FF	AC+	TB01-11

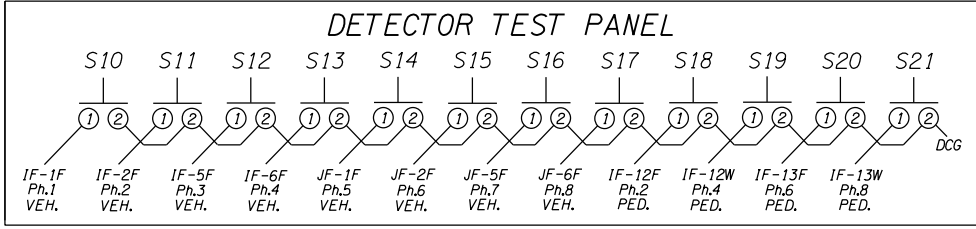
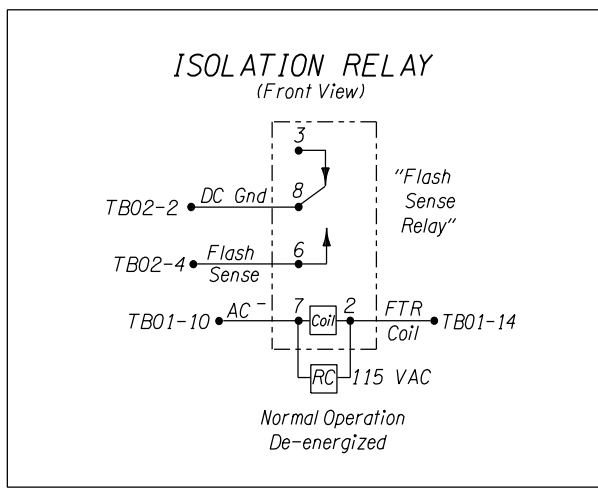
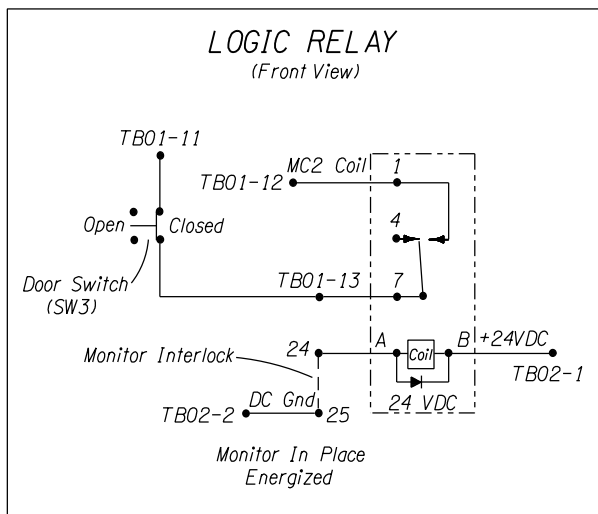
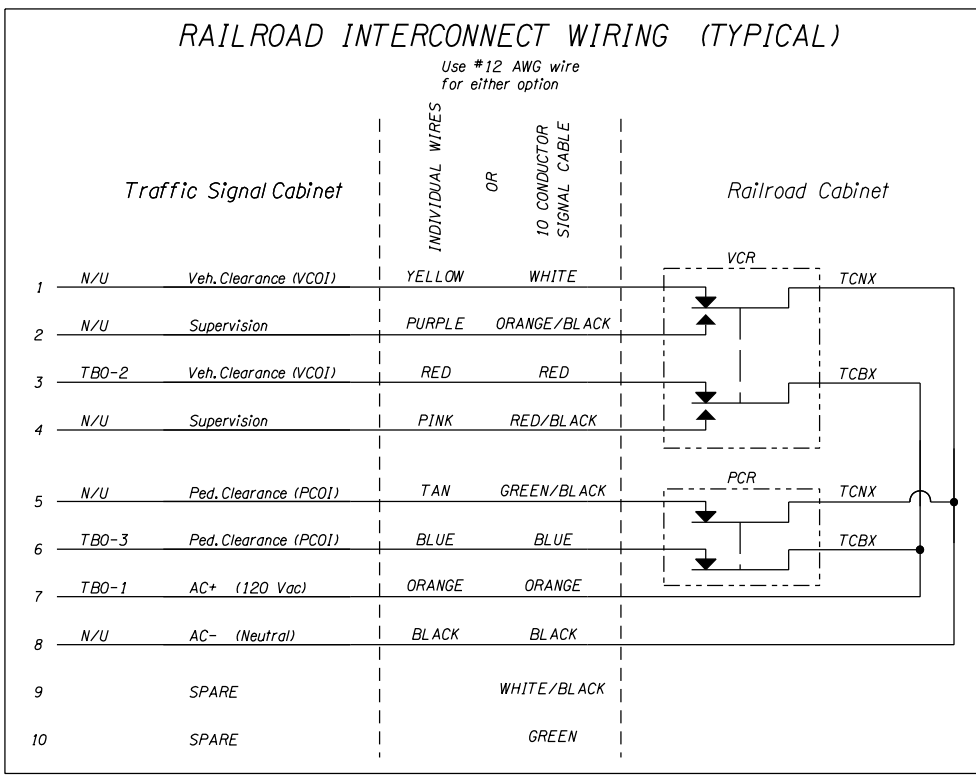
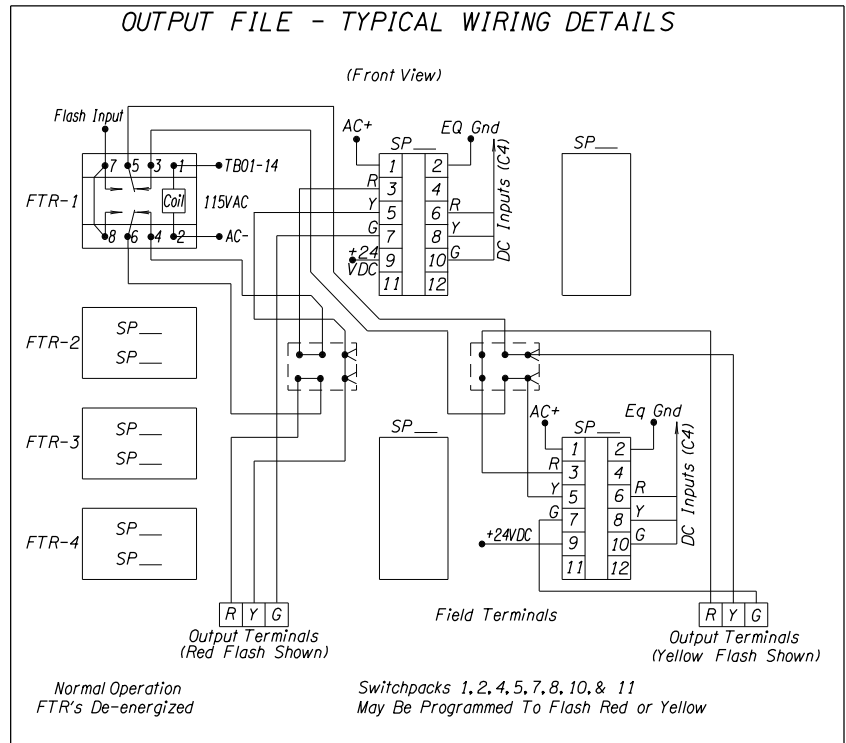
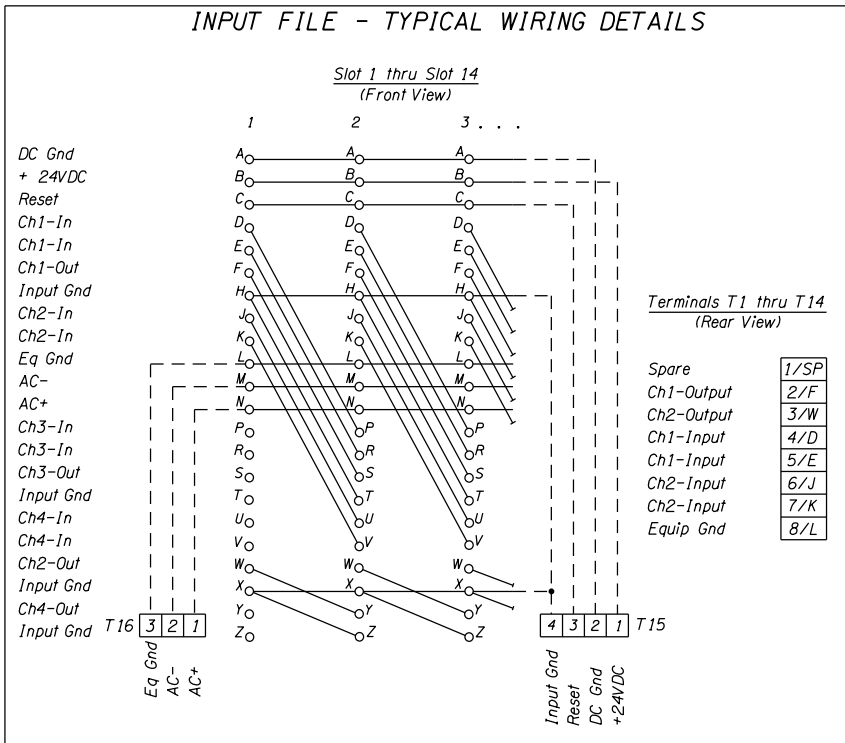
T&B = Tied and Bundled



INTERSECTION: HILLSBORO-SILVERTON HWY @
I-5 NB RAMPS
WOODBURN
HWY*: 140 M.P.*:36.86 TSSU ID*:03024

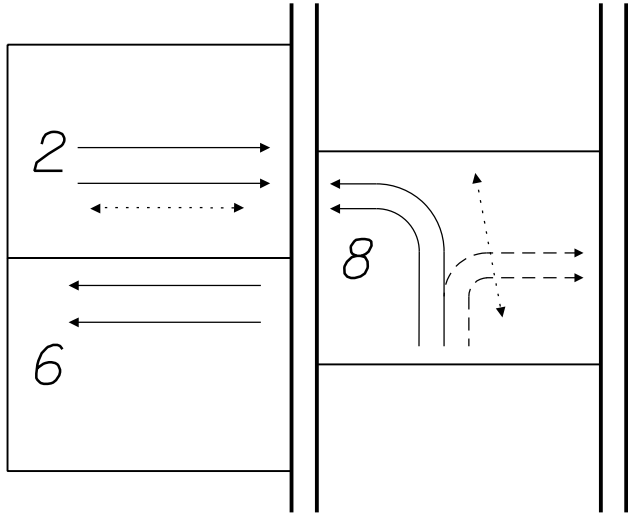
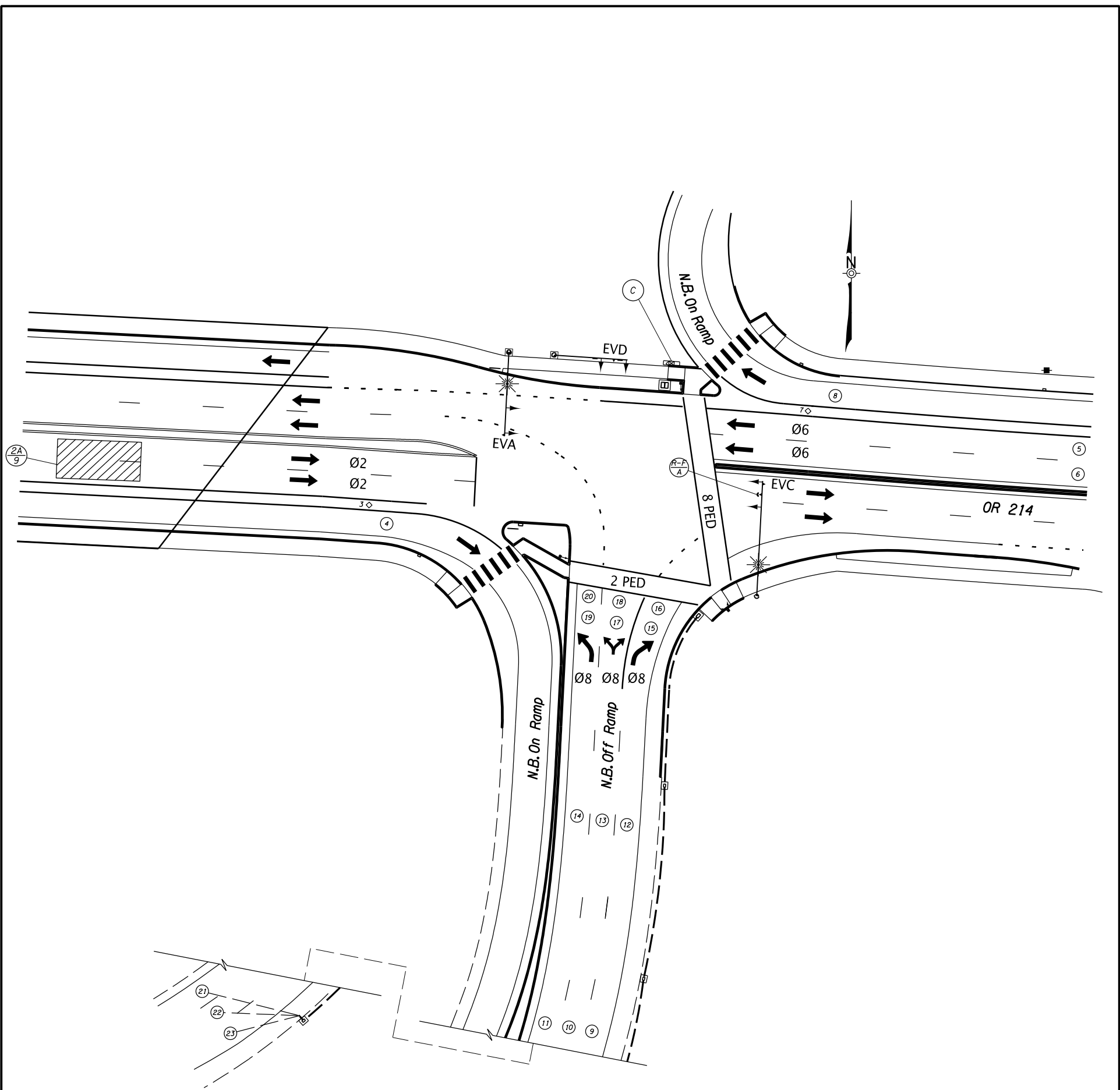


- SURGE PROTECTORS
 - TBS TERMINAL BLOCK-SERVICE
 - EQUIPMENT GROUND
 - PDA POWER DISTRIBUTION ASSEMBLY
 - WIRE SIZE, IF NOT INDICATED SHALL BE # 14 AWG
 - CIRCUIT BREAKER
 - DUPLEX RECEPTACLE
 - W/GFI WITH GROUND FAULT INTERRUPTER
 - RELAY CONTACT, NORMALLY CLOSED
 - RELAY CONTACT, NORMALLY OPEN
 - MC MERCURY CONTACTOR
 - RELAY COIL-* RELAY NAME
 - DC GROUND
 - FLASHER UNIT ONE
 - FLASH RELAY
 - WATCHDOG TIMER
 - FLASH TRANSFER RELAY
 - PDA FLASH ON DISPLAY LAMP
 - DR SW DOOR SWITCH, SHOWN WITH DOOR OPEN
 - CB-1 SIGNAL CIRCUIT BREAKER 1 (SECONDARY)
 - TR TRANSFER RELAY
 - IR ISOLATION RELAY
 - LR LOGIC RELAY
- IF1-14D INPUT FILE "I", TERM BLOCK "14", POSITION "D"

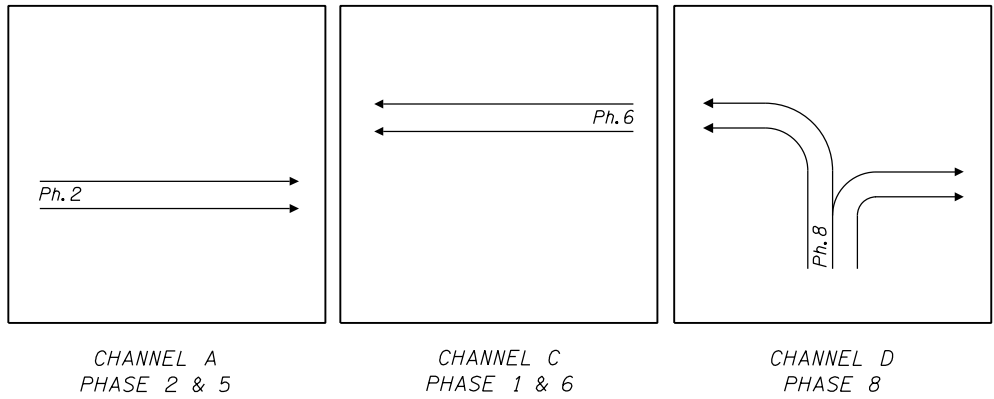


INTERSECTION: HILLSBORO-SILVERTON HWY @
I-5 NB RAMPS
WOODBURN
HWY*: 140 M.P.*:36.86 TSSU ID*:03024

6/3/2021 2:32:01 PM hnym26p 03024_1-5NB-OR214.dgn :: Default



NORMAL PHASE ROTATION



FIRE PREEMPTION OPERATION

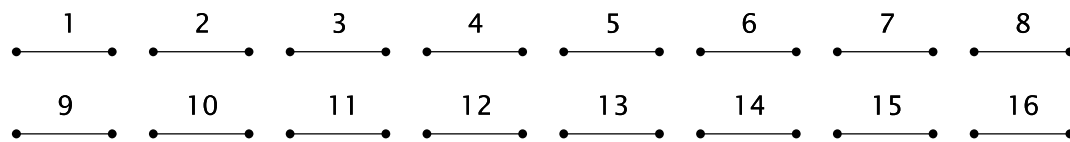
INTERSECTION: HILLSBORO-SILVERTON HWY @
 I-5 NB RAMPS
 WOODBURN
 HWY*: 140 M.P.*:36.86 TSSU ID*:03024

CONFLICT MONITOR DIODE CARD

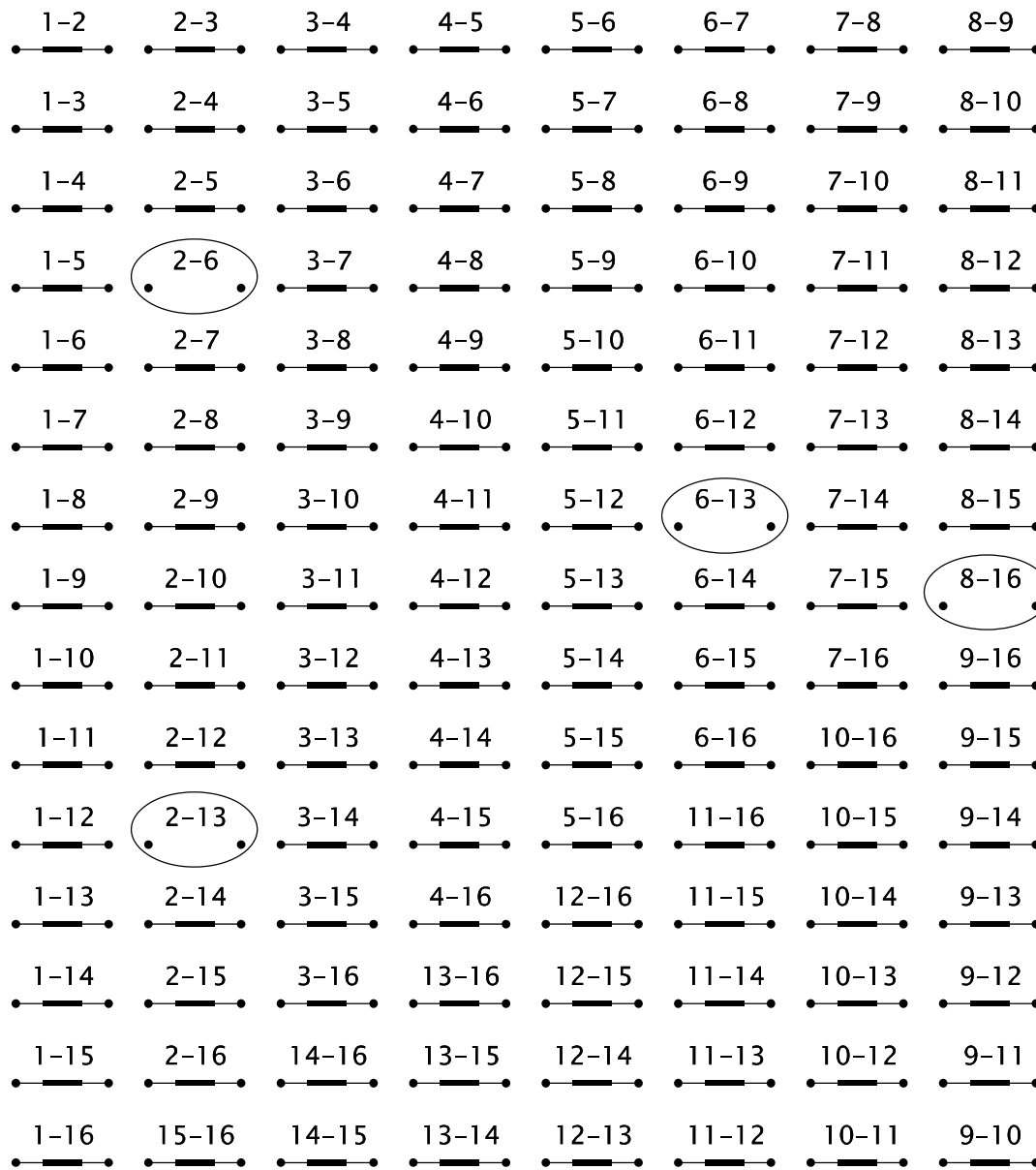
CHANNEL ASSIGNMENT

Ch.1	NU	Ch.5	NU	Ch.9	NU	Ch.13	Ped 2
Ch.2	Ph 2	Ch.6	Ph 6	Ch.10	NU	Ch.14	NU
Ch.3	NU	Ch.7	NU	Ch.11	NU	Ch.15	NU
Ch.4	NU	Ch.8	Ph 8	Ch.12	NU	Ch.16	Ped 8

YELLOW INHIBIT JUMPERS



DIODES - Diode Removed Makes Movement Allowable (Diode IN4148)



INTERSECTION: *HILLSBORO-SILVERTON HWY @ I-5 NB RAMPS*
WOODBURN
 HWY*: 140 M.P.*:36.86 TSSU ID*:03024

Timing Sheet

TSSU ID **3027** Intersection **OR214** @ **Evergreen Rd**

Unit
Startup Parameters, Phase Configuration,
Security, Sequence, Initialization

MCE Sequence*	1	Ring #1	1,2,a,4,8,b	Enabled	Enable		
Free Sequence	1	Ring #2	5,6,a,b				
Startup Flash	0	First All Red**	6	Start Yellow	0.0	Exit Mode Enabled	Enable
Red Revert	5.0	Auto Ped Clear	Enable	Grn Flash Freq	60	Yel Flash Freq	60
Backup Time	600	*Manual Control Enable		**Start Clear Hold			

Phase	Description	Ring	Concurrent Ph.	Startup	Startup Min	No Serve Phase
1	WBL	1	5,6	Phase Not On	0	
2	EB	1	5,6	Green Walk	0	
3	NBL	0		Phase Not On	0	
4	SB	1		Phase Not On	0	
5	EBL	2	1,2	Phase Not On	0	
6	WB	2	1,2	Green Walk	0	
7	SBL	0		Phase Not On	0	
8	NB	1		Phase Not On	0	

Parameter	Phase Timing (Phase Plan 1)							
	1	2	3	4	5	6	7	8
Movement	WBL	EB	NBL	SB	EBL	WB	SBL	NB
Walk	0	7	0	7	0	7	0	7
Ped Clear	0	17	0	22	0	17	0	22
Minimum Green	3	10	5	7	3	10	5	7
Minimum Green 2	0	0	0	0	0	0	0	0
Passage	2.5	6.2	2.5	2.5	2.5	6.2	2.5	2.5
Max 1	25	45	25	35	25	45	25	35
Max 2	25	45	25	35	25	45	25	35
Max 3	25	50	0	25	25	50	0	30
Yellow	3.5	4.0	4.0	4.0	3.5	4.0	4.0	4.0
Red Clearance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Add Red Clearance	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial (Sec Per Act)	0.0	2.4	0.0	0.0	0.0	2.4	0.0	0.0
Max Initial	0	19	0	0	0	19	0	0
Time Before Reduce	5	10	5	5	5	10	0	5
Cars Before Reduce	0	0	0	0	0	0	0	0
Time To Reduce	5	10	5	5	5	10	0	5
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	1.0	4.2	1.0	1.0	1.0	4.2	1.0	1.0
Dynamic Max Limit	0	0	30	0	0	0	30	0
Dynamic Max Step	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0.0
Advance Walk	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0
Alt Ped Clear								
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Options								
Parameter	Per Phase Functions (Phase Plan 1)							
	1	2	3	4	5	6	7	8
Phases Enabled	X	X		X	X	X		X
Auto Flash Entry		X				X		
Auto Flash Exit		X				X		
Non Actuated #1								
Non Actuated #2								
Non Lock Detector Memory*	X	X		X	X	X		X

*AKA: Yellow Lock - When disabled the call is locked at the beginning of yellow interval. When enabled the call locking is dependent on the detector options

Min Vehicle Recall		X				X		
Max Vehicle Recall								
Ped Recall								
Soft Vehicle Recall								
Dual Entry								
Simultaneous Gap Disable	X			X	X			X
Guaranteed Passage								
Actuated Rest In Walk								
Conditional Service Enable								
Add Initial								
Ped Clear During Yellow								
Ped Clear During Red								
Condition Reservice								
Yellow Min Override								
No Startup Veh Call								
Advanced Warning Flasher								
No Ped Startup Call								
Ped Clear Overlap Trail Grn								
Flash Exit Veh Call								
Flah Exit Ped Call								
Min Green #2 Enabled								
Max Green #2 Enabled								
Max Green #3 Enabled								
Ped Timing #2 Enabled								
Ped Clear During Pre-Clear								
Ped NA+Mode								
Red Rest								
Serve Every Other Even								
Serve Every Other Odd								
Ped Recycle								

Detectors					
Global Detector Settings Vehicle					
No Activity	0	Max Presence	10	Erratic Count	35
		Failed Recall	None		

Global Detector Settings: Pedestrian					
No Activity	0	Max Presence	0	Erratic Count	60

Volume Occupancy Data Collection			
Data Collection (Seconds)		Number of Periods	15

Vehicle Detector Parameters														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
Loop 17	1	1	0	0	0	0.0	0.0			0	0	0	0	None
Loop 1	2	2	0	0	0	0.0	0.0			0	0	0	25	None
Loop 2	3	2	0	0	0	0.0	0.0			0	0	0	25	None
Loop 3 Bike	4	2	0	0	0	0.0	0.0			0	0	0	0	None
Loop 4	5	2	0	0	0	0.0	0.0			0	0	0	0	None
	6	2	0	0	0	0.0	0.0			0	0	0	0	None
Loop 26 RT Lane Count Only	8	8	0	0	0	0.0	0.0			0	0	0	0	None
Loop 8	8	4	0	0	0	0.0	0.0			0	0	0	0	None
Loop 9	9	4	0	0	0	0.0	0.0			0	0	0	0	None
Loop 10-11	10	4	0	0	0	0.0	0.0			0	0	0	12	None
Loop 12-13	11	4	0	0	0	0.0	0.0			0	0	0	12	None
	12	4	0	0	0	0.0	0.0			0	0	0	0	None
Loop 18,19	13	1	0	0	0	0.0	0.0			0	0	0	12	None
	14	3	0	0	0	0.0	0.0			0	0	0	0	None
Loop 5	15	5	0	0	0	0.0	0.0			0	0	0	0	None
Loop 15	16	6	0	0	0	0.0	0.0			0	0	0	25	None
Loop 16	17	6	0	0	0	0.0	0.0			0	0	0	25	None
	18	6	0	0	0	0.0	0.0			0	0	0	0	None
	19	6	0	0	0	0.0	0.0			0	0	0	0	None
	20	6	0	0	0	0.0	0.0			0	0	0	0	None
Loop 14 RT Lane Count Only	21	4	0	0	0	0.0	0.0			0	0	0	0	None
Loop 20	22	8	0	0	0	0.0	0.0			0	0	0	0	None
Loop 21	23	8	0	0	0	0.0	0.0			0	0	0	0	None
Loop 22, 23	24	8	0	0	0	0.0	0.0			0	0	0	12	None
Loop 24, 25	25	8	0	0	0	0.0	0.0			0	0	0	12	None
	26	8	0	0	0	0.0	0.0			0	0	0	0	None
Loop 6, 7	27	5	0	0	0	0.0	0.0			0	0	0	12	None
	28	0	0	0	0	0.0	0.0			0	0	0	0	None
	29	0	0	0	0	0.0	0.0			0	0	0	0	None
	30	0	0	0	0	0.0	0.0			0	0	0	0	None
	31	0	0	0	0	0.0	0.0			0	0	0	0	None
	32	0	0	0	0	0.0	0.0			0	0	0	0	None
	33	0	0	0	0	0.0	0.0			0	0	0	0	None
	34	0	0	0	0	0.0	0.0			0	0	0	0	None
	35	0	0	0	0	0.0	0.0			0	0	0	0	None
	36	0	0	0	0	0.0	0.0			0	0	0	0	None
	37	0	0	0	0	0.0	0.0			0	0	0	0	None
	38	0	0	0	0	0.0	0.0			0	0	0	0	None
	39	0	0	0	0	0.0	0.0			0	0	0	0	None
	40	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Parameters (Continued)														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	41	0	0	0	0	0.0	0.0			0	0	0	0	None
	42	0	0	0	0	0.0	0.0			0	0	0	0	None
	43	0	0	0	0	0.0	0.0			0	0	0	0	None
	44	0	0	0	0	0.0	0.0			0	0	0	0	None
	45	0	0	0	0	0.0	0.0			0	0	0	0	None
	46	0	0	0	0	0.0	0.0			0	0	0	0	None
	47	0	0	0	0	0.0	0.0			0	0	0	0	None
	48	0	0	0	0	0.0	0.0			0	0	0	0	None
	49	0	0	0	0	0.0	0.0			0	0	0	0	None
	50	0	0	0	0	0.0	0.0			0	0	0	0	None
	51	0	0	0	0	0.0	0.0			0	0	0	0	None
	52	0	0	0	0	0.0	0.0			0	0	0	0	None
	53	0	0	0	0	0.0	0.0			0	0	0	0	None
	54	0	0	0	0	0.0	0.0			0	0	0	0	None
	55	0	0	0	0	0.0	0.0			0	0	0	0	None
	56	0	0	0	0	0.0	0.0			0	0	0	0	None
	57	0	0	0	0	0.0	0.0			0	0	0	0	None
	58	0	0	0	0	0.0	0.0			0	0	0	0	None
	59	0	0	0	0	0.0	0.0			0	0	0	0	None
	60	0	0	0	0	0.0	0.0			0	0	0	0	None
	61	0	0	0	0	0.0	0.0			0	0	0	0	None
	62	0	0	0	0	0.0	0.0			0	0	0	0	None
	63	0	0	0	0	0.0	0.0			0	0	0	0	None
	64	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 17	65	1	0	0	0	1.5	3.0			0	0	0	0	None
(Dummy)Loop 1	66	2	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 2	67	2	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 3 Bike	68	2	0	0	0	3.0	0.0			0	0	0	0	None
(Dummy)Loop 4	69	2	0	0	0	0.0	0.0			0	0	0	0	None
	70	2	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 26 RT Lane Count Only	71	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 8	72	4	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 9	73	4	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 10-11	74	4	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 12-13	75	4	0	0	0	0.0	3.0			0	0	0	0	None
	76	4	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 18,19	77	1	0	0	0	0.0	5.0			0	0	0	0	None
	78	3	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 5	79	5	0	0	0	1.5	3.0			0	0	0	0	None
(Dummy)Loop 15	80	6	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 16	81	6	0	0	0	0.0	0.0			0	0	0	0	None
	82	6	0	0	0	0.0	0.0			0	0	0	0	None
	83	6	0	0	0	0.0	0.0			0	0	0	0	None
	84	6	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 14 RT Lane Count Only	85	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 20	86	8	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 21	87	8	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 22, 23	88	8	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 24, 25	89	8	0	0	0	0.0	3.0			0	0	0	0	None
	90	8	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 6, 7	91	5	0	0	0	0.0	5.0			0	0	0	0	None
	92	0	0	0	0	0.0	0.0			0	0	0	0	None
	93	0	0	0	0	0.0	0.0			0	0	0	0	None
	94	0	0	0	0	0.0	0.0			0	0	0	0	None
	95	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Parameters (Continued)														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	96	0	0	0	0	0.0	0.0			0	0	0	0	None
	97	0	0	0	0	0.0	0.0			0	0	0	0	None
	98	0	0	0	0	0.0	0.0			0	0	0	0	None
	99	0	0	0	0	0.0	0.0			0	0	0	0	None
	100	0	0	0	0	0.0	0.0			0	0	0	0	None
	101	0	0	0	0	0.0	0.0			0	0	0	0	None
	102	0	0	0	0	0.0	0.0			0	0	0	0	None
	103	0	0	0	0	0.0	0.0			0	0	0	0	None
	104	0	0	0	0	0.0	0.0			0	0	0	0	None
	105	0	0	0	0	0.0	0.0			0	0	0	0	None
	106	0	0	0	0	0.0	0.0			0	0	0	0	None
	107	0	0	0	0	0.0	0.0			0	0	0	0	None
	108	0	0	0	0	0.0	0.0			0	0	0	0	None
	109	0	0	0	0	0.0	0.0			0	0	0	0	None
	110	0	0	0	0	0.0	0.0			0	0	0	0	None
	111	0	0	0	0	0.0	0.0			0	0	0	0	None
	112	0	0	0	0	0.0	0.0			0	0	0	0	None
	113	0	0	0	0	0.0	0.0			0	0	0	0	None
	114	0	0	0	0	0.0	0.0			0	0	0	0	None
	115	0	0	0	0	0.0	0.0			0	0	0	0	None
	116	0	0	0	0	0.0	0.0			0	0	0	0	None
	117	0	0	0	0	0.0	0.0			0	0	0	0	None
	118	0	0	0	0	0.0	0.0			0	0	0	0	None
	119	0	0	0	0	0.0	0.0			0	0	0	0	None
	120	0	0	0	0	0.0	0.0			0	0	0	0	None
	121	0	0	0	0	0.0	0.0			0	0	0	0	None
	122	0	0	0	0	0.0	0.0			0	0	0	0	None
	123	0	0	0	0	0.0	0.0			0	0	0	0	None
	124	0	0	0	0	0.0	0.0			0	0	0	0	None
	125	0	0	0	0	0.0	0.0			0	0	0	0	None
	126	0	0	0	0	0.0	0.0			0	0	0	0	None
	127	0	0	0	0	0.0	0.0			0	0	0	0	None
	128	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Failure Parameters and Other Options								
Det	Volume Detector	Occupancy	Extend	Added Initial	Queue	Terminate	Call	Min Green 2
1	X	X						
2	X	X						
3	X	X						
4	X	X						
5	X	X						
6	X	X						
7	X	X						
8	X	X						
9	X	X						
10	X	X						
11	X	X						
12	X	X						
13	X	X						
14	X	X						
15	X	X						
16	X	X						
17	X	X						
18	X	X						
19	X	X						
20	X	X						
21	X	X						
22	X	X						
23	X	X						
24	X	X						
25	X	X						
26	X	X						
27	X	X						
28	X	X						
29	X	X						
30	X	X						
31	X	X						
32	X	X						
33	X	X						
34	X	X						
35	X	X						
36	X	X						
37	X	X						
38	X	X						
39	X	X						
40	X	X						
41	X	X						
42	X	X						
43	X	X						
44	X	X						
45	X	X						
46	X	X						
47	X	X						
48	X	X						
49	X	X						
50	X	X						
51	X	X						
52	X	X						
53	X	X						
54	X	X						
55	X	X						
56	X	X						
57	X	X						
58	X	X						
59	X	X						
60	X	X						
61	X	X						
62	X	X						
63	X	X						
64	X	X						

Vehicle Detector Failure Parameters and Other Options Cont.								
Det	Volume Detector	Occupancy	Extend	Added Initial	Queue	Terminate	Call	Min Green 2
65	X	X	X				X	
66	X	X	X	X			X	
67	X	X	X	X			X	
68	X	X	X				X	
69	X	X						
70	X	X	X				X	
71	X	X						
72	X	X	X				X	
73	X	X	X				X	
74	X	X	X				X	
75	X	X	X				X	
76	X	X	X				X	
77	X	X	X				X	
78	X	X	X				X	
79	X	X	X				X	
80	X	X	X	X			X	
81	X	X	X	X			X	
82	X	X	X				X	
83	X	X	X				X	
84	X	X	X				X	
85	X	X						
86	X	X	X				X	
87	X	X	X				X	
88	X	X	X				X	
89	X	X	X				X	
90	X	X	X				X	
91	X	X	X				X	
92	X	X	X				X	
93	X	X	X				X	
94	X	X	X				X	
95	X	X	X				X	
96	X	X	X				X	
97	X	X	X				X	
98	X	X	X				X	
99	X	X	X				X	
100	X	X	X				X	
101	X	X	X				X	
102	X	X	X				X	
103	X	X	X				X	
104	X	X	X				X	
105	X	X	X				X	
106	X	X	X				X	
107	X	X	X				X	
108	X	X	X				X	
109	X	X	X				X	
110	X	X	X				X	
111	X	X	X				X	
112	X	X	X				X	
113	X	X	X				X	
114	X	X	X				X	
115	X	X	X				X	
116	X	X	X				X	
117	X	X	X				X	
118	X	X	X				X	
119	X	X	X				X	
120	X	X	X				X	
121	X	X	X				X	
122	X	X	X				X	
123	X	X	X				X	
124	X	X	X				X	
125	X	X	X				X	
126	X	X	X				X	
127	X	X	X				X	
128	X	X	X				X	

Pedestrian Detector Options and Failure Parameters								
Det	Call Phase	Call Overlap	Add. Call Ph	Walk 2 Time	Ped Clear 2 Time	No Activity	Max Presence	Erratic Count
1	0	0		0	0	0	0	0
2	0	0		0	0	0	0	0
3	0	0		0	0	0	0	0
4	0	0		0	0	0	0	0
5	0	0		0	0	0	0	0
6	0	0		0	0	0	0	0
7	0	0		0	0	0	0	0
8	0	0		0	0	0	0	0

Overlap Parameters													
<i>First 8 Overlaps Should Be Reserved for FYA</i>													
Overlaps	1(A)	2(B)	3(C)	4(D)	5(E)	6(F)	7(G)	8(H)	9(I)	10(J)	11(K)	12(L)	13(M)
Description	Ph 1 FYA	Ph2 Thru ped			Ph 5 FYA	Ph 6 Thru Ped							
Overlap Enabled	Enabled	Enabled	Disabled	Disabled	Enabled	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Phases Included	2	2			6	6							
Overlap Type	FYA - 4 Sec	Thru FYA Ped	Off	Off	FYA - 4 Sec	Thru FYA Ped	Off	Off	Off	Off	Off	Off	Off
Modifier Phases	1				5								
Modifier Overlaps		1				5							
Inhibit Negative Ph.													
Negative Veh Ph.													
Negative Ped Ph.	2				6								
Neg.Ped Overlaps													
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Alt Walk Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clear Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay	3.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Green	3	10	0	0	3	10	0	0	0	0	0	0	0
Max Green Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt Rate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call													
Recall													
Disable Veh Reservice													
No Hold On TrailExit													
Ped Recycle													
Disable Yellow Prot													
Disable Bridging													
LRT Prepare To Go													
Call For Service													
Allow Trail Green Bridge													
FYA During Red Clear													

Coordination Data

Coordination Patterns, Mode, and Transition Parameters

Operational Mode	Automatic	Coordination Mode	Auto Permissive	Max Mode	Per Pattern
Correction Mode	Shortway (Auto)	Force Mode	Per Pattern		
Max Cycle Limit %	30	Min Cycle Limit %	30	Max Dwell	0
Trans. Cover Peds	Pattern				

Sequence Parameters

Sequence	Ring	Sequence Data	Sequence	Ring	Sequence Data
1	1	1,2,a,4,8,b	1	2	5,6,a,b
2	1	2,1,a,4,8,b	2	2	5,6,a,b
3	1		3	2	
4	1		4	2	
5	1		5	2	

Pattern Parameters

Plan	Coord Plan	Cycle Length	Offset Time	Seq Number	Reference	Coord. Mode	Force Off	Max Mode	Trans Cover Peds
1	Midday - PM Peak	100	60	2	Yel	Auto	Phase	Inh	Phase
2		0	0	0	Yel	Auto	Fixed	Inh	Phase
3		0	0	0	Yel	Auto	Fixed	Inh	Phase
4		0	0	0	Yel	Auto	Fixed	Inh	Phase
5		0	0	0	Yel	Auto	Fixed	Inh	Phase
6		0	0	0	Yel	Auto	Fixed	Inh	Phase
7		0	0	0	Yel	Auto	Fixed	Inh	Phase
8		0	0	0	Yel	Auto	Fixed	Inh	Phase
9		0	0	0	Yel	Auto	Fixed	Inh	Phase
10		0	0	0	Yel	Auto	Fixed	Inh	Phase
11	Midday - PM Peak (No FYA)	100	60	2	Yel	Auto	Phase	Inh	Phase
12		0	0	0	Yel	Auto	Fixed	Inh	Phase
13		0	0	0	Yel	Auto	Fixed	Inh	Phase
14		0	0	0	Yel	Auto	Fixed	Inh	Phase
15		0	0	0	Yel	Auto	Fixed	Inh	Phase
16		0	0	0	Yel	Auto	Fixed	Inh	Phase
17		0	0	0	Yel	Auto	Fixed	Inh	Phase
18		0	0	0	Yel	Auto	Fixed	Inh	Phase
19		0	0	0	Yel	Auto	Fixed	Inh	Phase
20		0	0	0	Yel	Auto	Fixed	Inh	Phase

Ring Plan	Ring #1		Ring #2		Ring Plan #	Pattern																	
	Offset	Early Coord Gap Out	Offset	Early Coord Gap Out		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	2																		
3	0	0	0	0	3																		
4	0	0	0	0	4																		
5	0	0	0	0	5																		
6	0	0	0	0	6																		

Coordination Splits

Midday - PM Peak

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>18</i>	<i>37</i>	<i>0</i>	<i>20</i>	<i>18</i>	<i>37</i>	<i>0</i>	<i>25</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph		<i>X</i>				<i>X</i>		
Ref Point		<i>X</i>				<i>X</i>		
Cover Ped								
FO Mode	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Coordination Splits (cont.)

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Time of Day Data																						
Day Program						Schedule Program																
Event	Day Prog	Action	Hour	Min	Description	Schedule	1	Day Plan	1													
1	1	1	5	30	Mid-day/Weekend	Schedule	1	Day Plan	1													
2	1	21	8	0	Free Max 1	Description	Monday - Friday															
3	1	1	11	0	Mid-day/Weekend	Month	J	F	M	A	M	J	J	A	S	O	N	D				
4	1	11	15	0	Mid-day+No FYA		X	X	X	X	X	X	X	X	X	X	X	X				
5	1	21	18	0	Free Max 1	Weekday	S	M	T	W	T	F	S									
6	1		0	0			X	X	X	X	X											
7	1		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
8	1		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	1		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
10	1		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	2	1	9	0	Mid-day/Weekend	Schedule	2	Day Plan	2													
12	2	21	19	0	Free Max 1	Description	Saturday - Sunday															
13	2		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
14	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X				
15	2		0	0		Weekday	S	M	T	W	T	F	S									
16	2		0	0			X						X									
17	2		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
18	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	2		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
20	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21	3		0	0		Schedule	3	Day Plan	2													
22	3		0	0		Description	New Year															
23	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
24	3		0	0			X						X									
25	3		0	0		Weekday	S	M	T	W	T	F	S									
26	3		0	0			X	X	X	X	X											
27	3		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
28	3		0	0			X															
29	3		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
30	3		0	0																		
31	4		0	0		Schedule	4	Day Plan	2													
32	4		0	0		Description	New Year															
33	4		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
34	4		0	0			X															
35	4		0	0		Weekday	S	M	T	W	T	F	S									
36	4		0	0			X															
37	4		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
38	4		0	0			X															
39	4		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
40	4		0	0																		
41	5		0	0		Schedule	5	Day Plan	2													
42	5		0	0		Description	Memorial Day															
43	5		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
44	5		0	0								X										
45	5		0	0		Weekday	S	M	T	W	T	F	S									
46	5		0	0			X															
47	5		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
48	5		0	0																		
49	5		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
50	5		0	0																		

Time of Day Data Cont.						
Day Program					Schedule Program	
Event	Day Prog	Action	Hour	Min	Description	
51	6		0	0		Schedule 6 Day Plan 2
52	6		0	0		Description July 4th
53	6		0	0		Month J F M A M J J A S O N D
54	6		0	0		X
55	6		0	0		Weekday S M T W T F S
56	6		0	0		X X X X X
57	6		0	0		Day of Month 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
58	6		0	0		X
59	6		0	0		16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
60	6		0	0		
61	7		0	0		Schedule 7 Day Plan 2
62	7		0	0		Description July 4th
63	7		0	0		Month J F M A M J J A S O N D
64	7		0	0		X
65	7		0	0		Weekday S M T W T F S
66	7		0	0		X
67	7		0	0		Day of Month 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
68	7		0	0		X
69	7		0	0		16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
70	7		0	0		
71	8		0	0		Schedule 8 Day Plan 2
72	8		0	0		Description Labor Day
73	8		0	0		Month J F M A M J J A S O N D
74	8		0	0		X
75	8		0	0		Weekday S M T W T F S
76	8		0	0		X
77	8		0	0		Day of Month 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
78	8		0	0		X X X X X X
79	8		0	0		16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
80	8		0	0		
81	9		0	0		Schedule 9 Day Plan 2
82	9		0	0		Description Thanksgiving
83	9		0	0		Month J F M A M J J A S O N D
84	9		0	0		X
85	9		0	0		Weekday S M T W T F S
86	9		0	0		X
87	9		0	0		Day of Month 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
88	9		0	0		
89	9		0	0		16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
90	9		0	0		X X X X X X X
91	10		0	0		Schedule 10 Day Plan 2
92	10		0	0		Description Christmas
93	10		0	0		Month J F M A M J J A S O N D
94	10		0	0		
95	10		0	0		Weekday S M T W T F S
96	10		0	0		X X X X X
97	10		0	0		Day of Month 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
98	10		0	0		
99	10		0	0		16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
100	10		0	0		X

Preemption Data

Sequence Parameters

Parameters	Sequence									
	1	2	3	4	5	6	7	8	9	10
Enabled	Enabled	Enabled	Enabled	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Description	EVA	EVB	EVC	EVD						
Preemption Type	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh
Dwell Veh Ph	2,5	4	1,6	8						
Dwell Ped Ph										
Dwell Overlap	2,5		1,6							
Exit Phases	2,5	4	1,6	8						
Exit Type	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Track Phases										
Track Overlaps										
Cycling Veh Ph										
Cycling Ped Ph										
Cycling Overlap										
Non Lock Mem	X	X	X	X						
Not Override Flash	X	X	X	X						
Not override Next Preempt	X	X	X	X						
Min Green	255	255	255	255	0	0	0	0	0	0
Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Min Walk	0	0	0	0	0	0	0	0	0	0
Min Ped Clear	255	255	255	255	255	255	255	255	255	255
Link	0	0	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0	0	0
Min Presence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Presence	180	180	180	180	0	0	0	0	0	0
Dwell Green	3	3	3	3	0	0	0	0	0	0
Max Exit Green	0	0	0	0	0	0	0	0	0	0
Exit Ped Clear	255	255	255	255	255	255	255	255	255	255
Exit Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Exit time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Serial Ports

Port	Description	Function	Address	Baud	Bits	Stop	Parity	Flow	CTS	RTS
1	Port 2/C21S	None	1	9600	8	1	None	None	0	0
2	Aux_P3/C22S	None	1	9600	8	1	None	None	0	0
3	SDLC Port 1	None	1	9600	8	1	None	None	0	0
4	Com A/C50S	None	1	9600	8	1	None	None	0	0
5	FIO	None	1	9600	8	1	None	None	0	0
6	DISPLAY/C60M	None	1	9600	8	1	None	None	0	0
7	SP7	None	1	9600	8	1	None	None	0	0
8	SP8/Com B	None	1	9600	8	1	None	None	0	0

Advanced IO Configuration						
Channel Configuration						
Channel	Control Type	Ctrl Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	<i>Olp</i>	1		X	X	1
2	<i>Olp</i>	2		X		2
3	<i>Phs Veh</i>	3		X		3
4	<i>Phs Veh</i>	4		X	X	4
5	<i>Olp</i>	5		X	X	5
6	<i>Olp</i>	6		X		6
7	<i>Phs Veh</i>	7		X		7
8	<i>Phs Veh</i>	8		X	X	8
9	<i>Olp</i>	9		X		9
10	<i>Olp</i>	10		X		10
11	<i>Olp</i>	11		X		11
12	<i>Olp</i>	12		X		12
13	<i>Phs Ped</i>	2				13
14	<i>Phs Ped</i>	4				14
15	<i>Phs Ped</i>	6				15
16	<i>Phs Ped</i>	8				16
17	<i>None</i>	0				17
18	<i>None</i>	0				18

Cabinet Configuration

	IO Module	1	Type	ODOT 332	
	ITS Cabinet Port 1	No	33X Input Leading Edge		Enable TS2 Stop Time
	ITS Cabinet Port C13S	No	33X input Trailing Edge		Disable TS2 Cabinet Alarm
	Disable TS2 Startup Call		Use Raw MMU Channel Status		Disable TS2 Fault Flash

Input Points (Module 1)							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-39	<i>Veh Det Call</i>	2	25	C11-10	<i>Not Active</i>	0
2	C1-40	<i>Veh Det Call</i>	16	26	C11-11	<i>Not Active</i>	0
3	C1-41	<i>Veh Det Call</i>	8	27	C11-12	<i>Not Active</i>	0
4	C1-42	<i>Veh Det Call</i>	22	28	C11-13	<i>Not Active</i>	0
5	C1-43	<i>Veh Det Call</i>	3	29	C1-63	<i>Veh Det Call</i>	4
6	C1-44	<i>Veh Det Call</i>	17	30	C1-64	<i>Veh Det Call</i>	18
7	C1-45	<i>Veh Det Call</i>	9	31	C1-65	<i>Veh Det Call</i>	10
8	C1-46	<i>Veh Det Call</i>	23	32	C1-66	<i>Veh Det Call</i>	24
9	C1-47	<i>Veh Det Call</i>	6	33	C1-67	<i>Ped Det Call</i>	2
10	C1-48	<i>Veh Det Call</i>	20	34	C1-68	<i>Ped Det Call</i>	6
11	C1-49	<i>Veh Det Call</i>	12	35	C1-69	<i>Ped Det Call</i>	4
12	C1-50	<i>Veh Det Call</i>	26	36	C1-70	<i>Ped Det Call</i>	8
13	C1-51	<i>Not Active</i>	0	37	C1-71	<i>Pre High Pri Low</i>	1
14	C1-52	<i>Not Active</i>	1	38	C1-72	<i>Pre High Pri Low</i>	2
15	C1-53	<i>Man Ctrl Enable</i>	1	39	C1-73	<i>Pre High Pri Low</i>	3
16	C1-54	<i>Not Active</i>	0	40	C1-74	<i>Pre High Pri Low</i>	4
17	C1-55	<i>Veh Det Call</i>	15	41	C1-75	<i>Clock Reset</i>	1
18	C1-56	<i>Veh Det Call</i>	1	42	C1-76	<i>Veh Det Call</i>	5
19	C1-57	<i>Veh Det Call</i>	21	43	C1-77	<i>Veh Det Call</i>	19
20	C1-58	<i>Veh Det Call</i>	7	44	C1-78	<i>Veh Det Call</i>	11
21	C1-59	<i>Veh Det Call</i>	27	45	C1-79	<i>Veh Det Call</i>	25
22	C1-60	<i>Veh Det Call</i>	13	46	C1-80	<i>Interval Adv</i>	1
23	C1-61	<i>Veh Det Call</i>	28	47	C1-81	<i>Flash Sense</i>	1
24	C1-62	<i>Veh Det Call</i>	14	48	C1-82	<i>Unit Stop Time</i>	1

Input Points (Module 1) Cont.

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
49	C11-15	Not Active	0	57	C11-23	Not Active	0
50	C11-16	Not Active	0	58	C11-24	Not Active	0
51	C11-17	Not Active	0	59	C11-25	Not Active	0
52	C11-18	Not Active	0	60	C11-26	Not Active	0
53	C11-19	Not Active	0	61	C11-27	Not Active	0
54	C11-20	Not Active	0	62	C11-28	Not Active	0
55	C11-21	Not Active	0	63	C11-29	Not Active	0
56	C11-22	Not Active	0	64	C11-30	Not Active	0

Output Points (Module 1)

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-2	Ch Red DWalk	14	33	C1-35	Not Active	1
2	C1-3	Chl Green Walk	14	34	C1-36	Not Active	5
3	C1-4	Ch Red DWalk	4	35	C1-37	Not Active	14
4	C1-5	Ch Yel Ped Clear	4	36	C1-38	Not Active	16
5	C1-6	Chl Green Walk	4	37	C1-100	Ch Yel Ped Clear	18
6	C1-7	Ch Red DWalk	3	38	C1-101	Ch Yel Ped Clear	17
7	C1-8	Ch Yel Ped Clear	3	39	C1-102	Auto Flash	1
8	C1-9	Chl Green Walk	3	40	C1-103	Watchdog	1
9	C1-10	Ch Red DWalk	13	41	C1-83	Ch Red DWalk	0
10	C1-11	Chl Green Walk	13	42	C1-84	Chl Green Walk	0
11	C1-12	Ch Red DWalk	2	43	C1-85	Ch Red DWalk	12
12	C1-13	Ch Yel Ped Clear	2	44	C1-86	Ch Yel Ped Clear	12
13	C1-15	Chl Green Walk	2	45	C1-87	Chl Green Walk	12
14	C1-16	Ch Red DWalk	1	46	C1-88	Not Active	11
15	C1-17	Overlap Yellow	1	47	C1-89	Not Active	11
16	C1-18	Phase Green	1	48	C1-90	Overlap Green	5
17	C1-19	Ch Red DWalk	16	49	C1-91	Ch Red DWalk	0
18	C1-20	Chl Green Walk	16	50	C1-93	Chl Green Walk	0
19	C1-21	Ch Red DWalk	8	51	C1-94	Ch Red DWalk	10
20	C1-22	Ch Yel Ped Clear	8	52	C1-95	Ch Yel Ped Clear	10
21	C1-23	Chl Green Walk	8	53	C1-96	Chl Green Walk	10
22	C1-24	Ch Red DWalk	7	54	C1-97	Not Active	9
23	C1-25	Ch Yel Ped Clear	7	55	C1-98	Not Active	9
24	C1-26	Chl Green Walk	7	56	C1-99	Overlap Green	1
25	C1-27	Ch Red DWalk	15	57	C11-1	Not Active	0
26	C1-28	Chl Green Walk	15	58	C11-2	Not Active	0
27	C1-29	Ch Red DWalk	6	59	C11-3	Not Active	0
28	C1-30	Ch Yel Ped Clear	6	60	C11-4	Not Active	0
29	C1-31	Chl Green Walk	6	61	C11-5	Not Active	0
30	C1-32	Ch Red DWalk	5	62	C11-6	Not Active	0
31	C1-33	Overlap Yellow	5	63	C11-7	Not Active	0
32	C1-34	Phase Green	5	64	C11-8	Not Active	0

Vehicle and Pedestrian Phase Intervals									
Interval	Vehicle/Ped	Description	Red	Yellow	Green	Don't Walk	Clearance	Walk	Type
1	<i>Vehicle</i>	<i>Not Active</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
2	<i>Vehicle</i>	<i>Delay Green</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
3	<i>Vehicle</i>	<i>Pre Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
4	<i>Vehicle</i>	<i>Min Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
5	<i>Vehicle</i>	<i>Green Extension</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
6	<i>Vehicle</i>	<i>Green Dwell</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
7	<i>Vehicle</i>	<i>Pre Clear</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
8	<i>Vehicle</i>	<i>Yellow Change</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	-	-	-	<i>Yellow</i>
9	<i>Vehicle</i>	<i>Red Clear</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
10	<i>Vehicle</i>	<i>Red Dwell</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
11	<i>Vehicle</i>	<i>Barrier Hold</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
1	<i>Ped</i>	<i>Not Active</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
2	<i>Ped</i>	<i>Delay Ped</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
3	<i>Ped</i>	<i>Walk</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
4	<i>Ped</i>	<i>Walk Dwell</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
5	<i>Ped</i>	<i>Flash Don't Walk</i>	-	-	-	<i>Flash</i>	<i>On</i>	<i>Off</i>	<i>Ped Clear</i>
6	<i>Ped</i>	<i>Don't Walk</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>

User Program Configuration						
Program Information						
Program #	1	Description	Unit Stop Time	Enabled	Enabled	
Statement	Result		Index	Delay	Ext	Description
1	Unit Stop Time		1	0.0	0.0	
	Parameter A		Index			
	Aux Switch State		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
2	None		0	0.0	0.0	
	Parameter A		Index			
	Number		2			
	Parameter B		Index			
	Prev Line		0			
Statement	Result		Index	Delay	Ext	Description
3	None		0	0.0	0.0	Omit FYA during preempt if already red
	Parameter A		Index			
	Number		3			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
4	None		0	0.0	0.0	Dummy Detector Jumpers
	Parameter A		Index			
	Number		4			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
5	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
6	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
7	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			
Statement	Result		Index	Delay	Ext	Description
8	None		0	0.0	0.0	
	Parameter A		Index			
	None		0			
	Parameter B		Index			
	None		0			

Program #	2	Description	Stop Time Beep	Enabled	Enabled
1	Global Var		100	0.0	0.0
	Parameter A		Index		
	Glob Var		100		
	Parameter B		Index		
	Number		1		
2	None		0	0.0	0.0
	Parameter A		Index		
	Prev Line		0		
	Parameter B		Index		
	Number		10		
3	None		0	0.0	0.0
	Parameter A		Index		
	Prev Line		0		
	Parameter B		Index		
	Number		15		
4	Global Var		101	0.0	0.0
	Parameter A		Index		
	Prev Line		0		
	Parameter B		Index		
	Number		0		
5	None		0	0.0	0.0
	Parameter A		Index		
	Glob Var		101		
	Parameter B		Index		
	None		0		
6	None		0	0.0	0.0
	Parameter A		Index		
	None		0		
	Parameter B		Index		
	None		0		
7	None		0	0.0	0.0
	Parameter A		Index		
	None		0		
	Parameter B		Index		
	None		0		
8	None		0	0.0	0.0
	Parameter A		Index		
	None		0		
	Parameter B		Index		
	None		0		

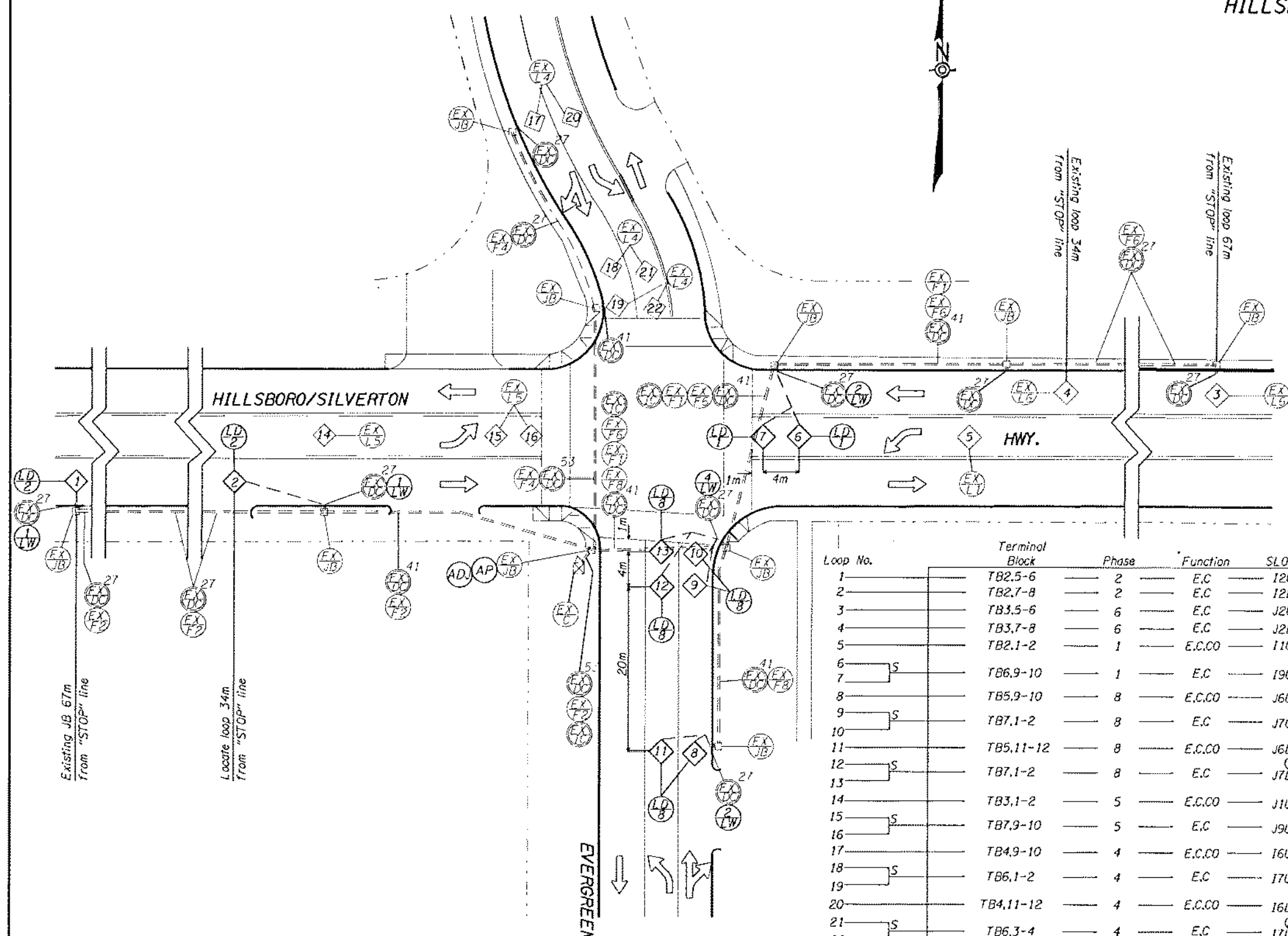
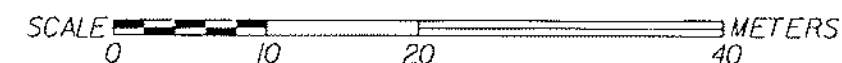
Program #	3	Description	Gap Dependent FYA	Enabled	Enabled
Statement	Result	Index	Delay	Ext	Description
1	Local Var	20	0.0	0.0	
	Parameter A	Index			
	Ch Red	1			
	Parameter B	Index			
	Ph Green	2			
Statement	Result	Index	Delay	Ext	Description
2	Local Var	21	0.0	0.0	
	Parameter A	Index			
	Veh Det	2			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
3	Local Var	22	0.0	0.0	
	Parameter A	Index			
	Pre Input	1			
	Parameter B	Index			
	Loc Var	21			
Statement	Result	Index	Delay	Ext	Description
4	Olp Omit	1	0.0	0.0	
	Parameter A	Index			
	Loc Var	20			
	Parameter B	Index			
	Loc Var	22			
Statement	Result	Index	Delay	Ext	Description
5	Local Var	60	0.0	0.0	
	Parameter A	Index			
	Ch Red	5			
	Parameter B	Index			
	Ph Green	6			
Statement	Result	Index	Delay	Ext	Description
6	Local Var	61	0.0	0.0	
	Parameter A	Index			
	Veh Det	16			
	Parameter B	Index			
	None	0			
Statement	Result	Index	Delay	Ext	Description
7	Local Var	62	0.0	0.0	
	Parameter A	Index			
	Pre Input	3			
	Parameter B	Index			
	Loc Var	61			
Statement	Result	Index	Delay	Ext	Description
8	Olp Omit	5	0.0	0.0	
	Parameter A	Index			
	Loc Var	60			
	Parameter B	Index			
	Loc Var	62			

Program #	4	Description	<i>Dummy Detector Jumpers</i>		Enabled	Enabled
Statement	Result	Index	Delay	Ext	Description	
1	<i>Veh Det Call</i>	65	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	1				
	Parameter B	Index				
	<i>None</i>	0				
2	<i>Veh Det Call</i>	66	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	2				
	Parameter B	Index				
	<i>None</i>	0				
3	<i>Veh Det Call</i>	67	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	3				
	Parameter B	Index				
	<i>None</i>	0				
4	<i>Veh Det Call</i>	68	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	4				
	Parameter B	Index				
	<i>None</i>	0				
5	<i>Veh Det Call</i>	69	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	5				
	Parameter B	Index				
	<i>None</i>	0				
6	<i>Veh Det Call</i>	70	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	6				
	Parameter B	Index				
	<i>None</i>	0				
7	<i>Veh Det Call</i>	71	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	7				
	Parameter B	Index				
	<i>None</i>	0				
8	<i>Veh Det Call</i>	72	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	8				
	Parameter B	Index				
	<i>None</i>	0				

Program #	5	Description	Enabled	Enabled	
Statement	Result	Index	Delay	Ext	Description
1	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
2	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
3	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
4	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
5	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
6	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
7	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				
Statement	Result	Index	Delay	Ext	Description
8	None	0	0.0	0.0	
	Parameter A	Index			
	None	0			
	Parameter B	Index			
None	0				



**DETECTOR REPLACEMENT PLAN
HILLSBORO/SILVERTON HWY. AT EVERGREEN (WOODBURN)
HWY. 140, M.P. 37.03**



LEGEND

- Retain and protect existing Model 170 controller and Model 332 cabinet
- Retain and protect existing junction box
- Retain and protect existing phase (Ph) vehicle detector loop
- Retain and protect existing phase (Ph) loop feeder cable
- Retain and protect existing detector conduit
- Retain and protect existing interconnect conduit
- Adjust grade of junction box to match that of existing ground
- Install 300mm portland cement concrete apron per standard drawing TM407
- Install phase (Ph) 1.2 m diamond vehicle detector loop
- Install (N) pair of loop wires

Ph = Phase shown
N = Number shown
S = Size shown

Loop No.	Terminal Block	Phase	Function	SLOT
1	TB2.5-6	2	E.C	12U
2	TB2.7-8	2	E.C	12L
3	TB3.5-6	6	E.C	J2U
4	TB3.7-8	6	E.C	J2L
5	TB2.1-2	1	E.C.CO	11U
6	TB6.9-10	1	E.C	19U
7	TB5.9-10	8	E.C.CO	J6U
8	TB7.1-2	8	E.C	J7U
9	TB5.11-12	8	E.C.CO	J6L
10	TB7.1-2	8	E.C	J7L
11	TB3.1-2	5	E.C.CO	J1U
12	TB7.9-10	5	E.C	J9U
13	TB4.9-10	4	E.C.CO	16U
14	TB6.1-2	4	E.C	J7U
15	TB4.11-12	4	E.C.CO	16L
16	TB6.3-4	4	E.C	17L

S=Series, E=Extension, C=Call, CO=Carry-over, D=Delay
See T.M.S. Drwg. TM408 for loop detector details
Center all loops in travel lanes or as shown on plan

LOOP DETECTOR WIRING DIAGRAM

- ① Program transfer call to JB
- ② Program transfer call to IB

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC MANAGEMENT SECTION

TRAFFIC SIGNAL INSTALLATION
REGION 2 SIGNAL LOOP REPLACEMENT 2001
VARIOUS HIGHWAYS
VARIOUS COUNTIES

DATE: AUGUST 2000

DESIGNED BY: C. CARMAN

CHECKED BY: C. BLACK

DRAWN BY: C. CARMAN

ACCOMPANIED BY DWGS. 12236 Thru
12248, TM404, TM407, TM408

T.M.S. DWG. NO. **12236**

10435r2.dp1 B14

Timing Sheet

TSSU ID **3029** Intersection **OR214** @ **Oregon Way-Country Club**

Unit	
Startup Parameters, Phase Configuration, Security, Sequence, Initialization	

MCE Sequence*	1	Ring #1	1,2,a,3,4,b	Enabled	Enable		
Free Sequence	1	Ring #2	5,6,a,7,8,b				
Startup Flash	0	First All Red**	6	Start Yellow	0.0	Exit Mode Enabled	Enable
Red Revert	5.0	Auto Ped Clear	Enable	Grn Flash Freq	60	Yel Flash Freq	60
Backup Time	600	*Manual Control Enable		**Start Clear Hold			

Phase Configuration for Startup						
Phase	Description	Ring	Concurrent Ph.	Startup	Startup Min	No Serve Phase
1	WBL	1	5,6	Phase Not On	0	
2	EB	1	5,6	Green Walk	0	
3	NBL	1	7,8	Phase Not On	0	
4	SB	1	7,8	Phase Not On	0	
5	EBL	2	1,2	Phase Not On	0	
6	WB	2	1,2	Green Walk	0	
7	SBL	2	3,4	Phase Not On	0	
8	NB	2	3,4	Phase Not On	0	

Phase Parameters								
Parameter	Phase Timing (Phase Plan 1)							
	1	2	3	4	5	6	7	8
Movement	WBL	EB	NBL	SB	EBL	WB	SBL	NB
Walk	0	7	0	8	0	7	0	7
Ped Clear	0	17	0	25	0	17	0	24
Minimum Green	3	10	3	5	3	10	3	5
Minimum Green 2	0	0	0	0	0	0	0	0
Passage	2.5	6.2	2.5	2.5	2.5	6.2	2.5	2.5
Max 1	20	40	20	20	20	40	20	20
Max 2	20	50	25	25	20	50	25	25
Max 3	0	0	0	0	0	0	0	0
Yellow	3.5	4.0	3.5	3.5	3.5	4.0	3.5	3.5
Red Clearance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Add Red Clearance	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial (Sec Per Act)	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0
Max Initial	0	20	0	0	0	20	0	0
Time Before Reduce	5	15	5	5	5	15	5	5
Cars Before Reduce	0	0	0	0	0	0	0	0
Time To Reduce	5	10	5	5	5	10	5	5
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	1.0	4.2	1.0	1.0	1.0	4.2	1.0	1.0
Dynamic Max Limit	0	0	0	0	0	0	0	0
Dynamic Max Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0
Alt Ped Clear								
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Options								
Parameter	Per Phase Functions (Phase Plan 1)							
	1	2	3	4	5	6	7	8
Phases Enabled	X	X	X	X	X	X	X	X
Auto Flash Entry				X				X
Auto Flash Exit		X				X		
Non Actuated #1								
Non Actuated #2								
Non Lock Detector Memory*	X	X	X	X	X	X	X	X

*AKA: Yellow Lock - When disabled the call is locked at the beginning of yellow interval. When enabled the call locking is dependent on the detector options

Min Vehicle Recall		X				X		
Max Vehicle Recall								
Ped Recall								
Soft Vehicle Recall								
Dual Entry				X				X
Simultaneous Gap Disable	X		X	X	X		X	X
Guaranteed Passage								
Actuated Rest In Walk								
Conditional Service Enable								
Add Initial								
Ped Clear During Yellow								
Ped Clear During Red								
Condition Reservice								
Yellow Min Override								
No Startup Veh Call								
Advanced Warning Flasher								
No Ped Startup Call								
Ped Clear Overlap Trail Grn								
Flash Exit Veh Call								
Flah Exit Ped Call								
Min Green #2 Enabled								
Max Green #2 Enabled								
Max Green #3 Enabled								
Ped Timing #2 Enabled								
Ped Clear During Pre-Clear								
Ped NA+Mode								
Red Rest								
Serve Every Other Even								
Serve Every Other Odd								
Ped Recycle								

Detectors					
Global Detector Settings Vehicle					
No Activity	0	Max Presence	10	Erratic Count	35
		Failed Recall	None		

Global Detector Settings: Pedestrian					
No Activity	0	Max Presence	0	Erratic Count	60

Volume Occupancy Data Collection			
Data Collection (Seconds)		Number of Periods	15

Vehicle Detector Parameters														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
Loop 14	1	1	0	0	0	0.0	0.0			0	0	0	0	None
Loop 1	2	2	0	0	0	0.0	0.0			0	0	0	25	None
Loop 2	3	2	0	0	0	0.0	0.0			0	0	0	25	None
	4	2	0	0	0	0.0	0.0			0	0	0	0	None
	5	2	0	0	0	0.0	0.0			0	0	0	0	None
	6	2	0	0	0	0.0	0.0			0	0	0	0	None
Loop 20	7	3	0	0	0	0.0	0.0			0	0	0	0	None
Loop 6	8	4	0	0	0	0.0	0.0			0	0	0	0	None
Loop 7, 8	9	4	0	0	0	0.0	0.0			0	0	0	12	None
	10	4	0	0	0	0.0	0.0			0	0	0	0	None
	11	4	0	0	0	0.0	0.0			0	0	0	0	None
	12	4	0	0	0	0.0	0.0			0	0	0	0	None
Loop 15,16	13	1	0	0	0	0.0	0.0			0	0	0	12	None
Loop 21, 22	14	3	0	0	0	0.0	0.0			0	0	0	12	None
Loop 3	15	5	0	0	0	0.0	0.0			0	0	0	0	None
Loop 12	16	6	0	0	0	0.0	0.0			0	0	0	25	None
Loop 13	17	6	0	0	0	0.0	0.0			0	0	0	25	None
	18	6	0	0	0	0.0	0.0			0	0	0	0	None
	19	6	0	0	0	0.0	0.0			0	0	0	0	None
	20	6	0	0	0	0.0	0.0			0	0	0	0	None
Loop 9	21	7	0	0	0	0.0	0.0			0	0	0	0	None
Loop 17	22	8	0	0	0	0.0	0.0			0	0	0	0	None
Loop 18, 19	23	8	0	0	0	0.0	0.0			0	0	0	12	None
	24	8	0	0	0	0.0	0.0			0	0	0	0	None
	25	8	0	0	0	0.0	0.0			0	0	0	0	None
	26	8	0	0	0	0.0	0.0			0	0	0	0	None
Loop 4, 5	27	5	0	0	0	0.0	0.0			0	0	0	12	None
Loop 10, 11	28	7	0	0	0	0.0	0.0			0	0	0	12	None
	29	0	0	0	0	0.0	0.0			0	0	0	0	None
	30	0	0	0	0	0.0	0.0			0	0	0	0	None
	31	0	0	0	0	0.0	0.0			0	0	0	0	None
	32	0	0	0	0	0.0	0.0			0	0	0	0	None
	33	0	0	0	0	0.0	0.0			0	0	0	0	None
	34	0	0	0	0	0.0	0.0			0	0	0	0	None
	35	0	0	0	0	0.0	0.0			0	0	0	0	None
	36	0	0	0	0	0.0	0.0			0	0	0	0	None
	37	0	0	0	0	0.0	0.0			0	0	0	0	None
	38	0	0	0	0	0.0	0.0			0	0	0	0	None
	39	0	0	0	0	0.0	0.0			0	0	0	0	None
	40	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Parameters (Continued)														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	41	0	0	0	0	0.0	0.0			0	0	0	0	None
	42	0	0	0	0	0.0	0.0			0	0	0	0	None
	43	0	0	0	0	0.0	0.0			0	0	0	0	None
	44	0	0	0	0	0.0	0.0			0	0	0	0	None
	45	0	0	0	0	0.0	0.0			0	0	0	0	None
	46	0	0	0	0	0.0	0.0			0	0	0	0	None
	47	0	0	0	0	0.0	0.0			0	0	0	0	None
	48	0	0	0	0	0.0	0.0			0	0	0	0	None
	49	0	0	0	0	0.0	0.0			0	0	0	0	None
	50	0	0	0	0	0.0	0.0			0	0	0	0	None
	51	0	0	0	0	0.0	0.0			0	0	0	0	None
	52	0	0	0	0	0.0	0.0			0	0	0	0	None
	53	0	0	0	0	0.0	0.0			0	0	0	0	None
	54	0	0	0	0	0.0	0.0			0	0	0	0	None
	55	0	0	0	0	0.0	0.0			0	0	0	0	None
	56	0	0	0	0	0.0	0.0			0	0	0	0	None
	57	0	0	0	0	0.0	0.0			0	0	0	0	None
	58	0	0	0	0	0.0	0.0			0	0	0	0	None
	59	0	0	0	0	0.0	0.0			0	0	0	0	None
	60	0	0	0	0	0.0	0.0			0	0	0	0	None
	61	0	0	0	0	0.0	0.0			0	0	0	0	None
	62	0	0	0	0	0.0	0.0			0	0	0	0	None
	63	0	0	0	0	0.0	0.0			0	0	0	0	None
	64	0	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 14	65	1	0	0	0	1.5	3.0			0	0	0	0	None
(Dummy)Loop 1	66	2	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 2	67	2	0	0	0	0.0	0.0			0	0	0	0	None
	68	2	0	0	0	0.0	0.0			0	0	0	0	None
	69	2	0	0	0	0.0	0.0			0	0	0	0	None
	70	2	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 20	71	3	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 6	72	4	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 7, 8	73	4	0	0	0	0.0	0.0			0	0	0	0	None
	74	4	0	0	0	0.0	0.0			0	0	0	0	None
	75	4	0	0	0	0.0	0.0			0	0	0	0	None
	76	4	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 15,16	77	1	0	0	0	0.0	10.0			0	0	0	0	None
(Dummy)Loop 21, 22	78	3	0	0	0	0.0	3.0			0	0	0	0	None
(Dummy)Loop 3	79	5	0	0	0	1.5	3.0			0	0	0	0	None
(Dummy)Loop 12	80	6	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 13	81	6	0	0	0	0.0	0.0			0	0	0	0	None
	82	6	0	0	0	0.0	0.0			0	0	0	0	None
	83	6	0	0	0	0.0	0.0			0	0	0	0	None
	84	6	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 9	85	7	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 17	86	8	0	0	0	1.5	0.0			0	0	0	0	None
(Dummy)Loop 18, 19	87	8	0	0	0	0.0	0.0			0	0	0	0	None
	88	8	0	0	0	0.0	0.0			0	0	0	0	None
	89	8	0	0	0	0.0	0.0			0	0	0	0	None
	90	8	0	0	0	0.0	0.0			0	0	0	0	None
(Dummy)Loop 4, 5	91	5	0	0	0	0.0	10.0			0	0	0	0	None
(Dummy)Loop 10, 11	92	7	0	0	0	0.0	3.0			0	0	0	0	None
	93	0	0	0	0	0.0	0.0			0	0	0	0	None
	94	0	0	0	0	0.0	0.0			0	0	0	0	None
	95	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Parameters (Continued)														
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Yellow Lock	Red Lock	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	96	0	0	0	0	0.0	0.0			0	0	0	0	None
	97	0	0	0	0	0.0	0.0			0	0	0	0	None
	98	0	0	0	0	0.0	0.0			0	0	0	0	None
	99	0	0	0	0	0.0	0.0			0	0	0	0	None
	100	0	0	0	0	0.0	0.0			0	0	0	0	None
	101	0	0	0	0	0.0	0.0			0	0	0	0	None
	102	0	0	0	0	0.0	0.0			0	0	0	0	None
	103	0	0	0	0	0.0	0.0			0	0	0	0	None
	104	0	0	0	0	0.0	0.0			0	0	0	0	None
	105	0	0	0	0	0.0	0.0			0	0	0	0	None
	106	0	0	0	0	0.0	0.0			0	0	0	0	None
	107	0	0	0	0	0.0	0.0			0	0	0	0	None
	108	0	0	0	0	0.0	0.0			0	0	0	0	None
	109	0	0	0	0	0.0	0.0			0	0	0	0	None
	110	0	0	0	0	0.0	0.0			0	0	0	0	None
	111	0	0	0	0	0.0	0.0			0	0	0	0	None
	112	0	0	0	0	0.0	0.0			0	0	0	0	None
	113	0	0	0	0	0.0	0.0			0	0	0	0	None
	114	0	0	0	0	0.0	0.0			0	0	0	0	None
	115	0	0	0	0	0.0	0.0			0	0	0	0	None
	116	0	0	0	0	0.0	0.0			0	0	0	0	None
	117	0	0	0	0	0.0	0.0			0	0	0	0	None
	118	0	0	0	0	0.0	0.0			0	0	0	0	None
	119	0	0	0	0	0.0	0.0			0	0	0	0	None
	120	0	0	0	0	0.0	0.0			0	0	0	0	None
	121	0	0	0	0	0.0	0.0			0	0	0	0	None
	122	0	0	0	0	0.0	0.0			0	0	0	0	None
	123	0	0	0	0	0.0	0.0			0	0	0	0	None
	124	0	0	0	0	0.0	0.0			0	0	0	0	None
	125	0	0	0	0	0.0	0.0			0	0	0	0	None
	126	0	0	0	0	0.0	0.0			0	0	0	0	None
	127	0	0	0	0	0.0	0.0			0	0	0	0	None
	128	0	0	0	0	0.0	0.0			0	0	0	0	None

Vehicle Detector Failure Parameters and Other Options								
Det	Volume Detector	Occupancy	Extend	Added Initial	Queue	Terminate	Call	Min Green 2
1	X	X						
2	X	X						
3	X	X						
4	X	X						
5	X	X						
6	X	X						
7	X	X						
8	X	X						
9	X	X						
10	X	X						
11	X	X						
12	X	X						
13	X	X						
14	X	X						
15	X	X						
16	X	X						
17	X	X						
18	X	X						
19	X	X						
20	X	X						
21	X	X						
22	X	X						
23	X	X						
24	X	X						
25	X	X						
26	X	X						
27	X	X						
28	X	X						
29	X	X						
30	X	X						
31	X	X						
32	X	X						
33	X	X						
34	X	X						
35	X	X						
36	X	X						
37	X	X						
38	X	X						
39	X	X						
40	X	X						
41	X	X						
42	X	X						
43	X	X						
44	X	X						
45	X	X						
46	X	X						
47	X	X						
48	X	X						
49	X	X						
50	X	X						
51	X	X						
52	X	X						
53	X	X						
54	X	X						
55	X	X						
56	X	X						
57	X	X						
58	X	X						
59	X	X						
60	X	X						
61	X	X						
62	X	X						
63	X	X						
64	X	X						

Vehicle Detector Failure Parameters and Other Options Cont.								
Det	Volume Detector	Occupancy	Extend	Added Initial	Queue	Terminate	Call	Min Green 2
65	X	X	X				X	
66	X	X	X	X			X	
67	X	X	X	X			X	
68	X	X	X				X	
69	X	X	X				X	
70	X	X	X				X	
71	X	X	X				X	
72	X	X	X				X	
73	X	X	X				X	
74	X	X	X				X	
75	X	X	X				X	
76	X	X	X				X	
77	X	X	X				X	
78	X	X	X				X	
79	X	X	X				X	
80	X	X	X	X			X	
81	X	X	X	X			X	
82	X	X	X				X	
83	X	X	X				X	
84	X	X	X				X	
85	X	X	X				X	
86	X	X	X				X	
87	X	X	X				X	
88	X	X	X				X	
89	X	X	X				X	
90	X	X	X				X	
91	X	X	X				X	
92	X	X	X				X	
93	X	X	X				X	
94	X	X	X				X	
95	X	X	X				X	
96	X	X	X				X	
97	X	X	X				X	
98	X	X	X				X	
99	X	X	X				X	
100	X	X	X				X	
101	X	X	X				X	
102	X	X	X				X	
103	X	X	X				X	
104	X	X	X				X	
105	X	X	X				X	
106	X	X	X				X	
107	X	X	X				X	
108	X	X	X				X	
109	X	X	X				X	
110	X	X	X				X	
111	X	X	X				X	
112	X	X	X				X	
113	X	X	X				X	
114	X	X	X				X	
115	X	X	X				X	
116	X	X	X				X	
117	X	X	X				X	
118	X	X	X				X	
119	X	X	X				X	
120	X	X	X				X	
121	X	X	X				X	
122	X	X	X				X	
123	X	X	X				X	
124	X	X	X				X	
125	X	X	X				X	
126	X	X	X				X	
127	X	X	X				X	
128	X	X	X				X	

Pedestrian Detector Options and Failure Parameters								
Det	Call Phase	Call Overlap	Add. Call Ph	Walk 2 Time	Ped Clear 2 Time	No Activity	Max Presence	Erratic Count
1	0	0		0	0	0	0	0
2	0	0		0	0	0	0	0
3	0	0		0	0	0	0	0
4	0	0		0	0	0	0	0
5	0	0		0	0	0	0	0
6	0	0		0	0	0	0	0
7	0	0		0	0	0	0	0
8	0	0		0	0	0	0	0

Overlap Parameters													
<i>First 8 Overlaps Should Be Reserved for FYA</i>													
Overlaps	1(A)	2(B)	3(C)	4(D)	5(E)	6(F)	7(G)	8(H)	9(I)	10(J)	11(K)	12(L)	13(M)
Description	Ph 1 FYA	Ph 2 Thru Ped			Ph 5 FYA	Ph 2 Thru Ped							
Overlap Enabled	Enabled	Enabled	Disabled	Disabled	Enabled	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Phases Included	2	2			6	6							
Overlap Type	FYA - 4 Sec	Thru FYA Ped	Off	Off	FYA - 4 Sec	Thru FYA Ped	Off	Off	Off	Off	Off	Off	Off
Modifier Phases	1				5								
Modifier Overlaps		1				5							
Inhibit Negative Ph.													
Negative Veh Ph.													
Negative Ped Ph.	2				6								
Neg.Ped Overlaps													
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Alt Walk Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clear Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay	3.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Green	3	10	0	0	3	10	0	0	0	0	0	0	0
Max Green Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt Rate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call													
Recall													
Disable Veh Reservice													
No Hold On TrailExit													
Ped Recycle													
Disable Yellow Prot													
Disable Bridging													
LRT Prepare To Go													
Call For Service													
Allow Trail Green Bridge													
FYA During Red Clear													

Coordination Data

Coordination Patterns, Mode, and Transition Parameters

Operational Mode	<i>Automatic</i>	Coordination Mode	<i>Auto Permissive</i>	Max Mode	<i>Per Pattern</i>
Correction Mode	<i>Shortway (Auto)</i>	Force Mode	<i>Per Pattern</i>		
Max Cycle Limit %	30	Min Cycle Limit %	30	Max Dwell	0
Trans. Cover Peds	<i>Pattern</i>				

Sequence Parameters

Sequence	Ring	Sequence Data	Sequence	Ring	Sequence Data
1	1	1,2,a,3,4,b	1	2	5,6,a,7,8,b
2	1	1,2,a,4,3,b	2	2	6,5,a,8,7,b
3	1		3	2	
4	1		4	2	
5	1		5	2	

Pattern Parameters

Plan	Coord Plan	Cycle Length	Offset Time	Seq Number	Reference	Coord. Mode	Force Off	Max Mode	Trans Cover Peds
1	All Peaks	100	60	2	Yel	Auto	Phase	Inh	Phase
2		0	0	0	Yel	Auto	Fixed	Inh	Phase
3		0	0	0	Yel	Auto	Fixed	Inh	Phase
4		0	0	0	Yel	Auto	Fixed	Inh	Phase
5		0	0	0	Yel	Auto	Fixed	Inh	Phase
6		0	0	0	Yel	Auto	Fixed	Inh	Phase
7		0	0	0	Yel	Auto	Fixed	Inh	Phase
8		0	0	0	Yel	Auto	Fixed	Inh	Phase
9		0	0	0	Yel	Auto	Fixed	Inh	Phase
10		0	0	0	Yel	Auto	Fixed	Inh	Phase
11		0	0	0	Yel	Auto	Phase	Inh	Phase
12		0	0	0	Yel	Auto	Fixed	Inh	Phase
13		0	0	0	Yel	Auto	Fixed	Inh	Phase
14		0	0	0	Yel	Auto	Fixed	Inh	Phase
15		0	0	0	Yel	Auto	Fixed	Inh	Phase
16		0	0	0	Yel	Auto	Fixed	Inh	Phase
17		0	0	0	Yel	Auto	Fixed	Inh	Phase
18		0	0	0	Yel	Auto	Fixed	Inh	Phase
19		0	0	0	Yel	Auto	Fixed	Inh	Phase
20		0	0	0	Yel	Auto	Fixed	Inh	Phase

Ring Plan	Ring #1		Ring #2		Ring Plan #	Pattern																	
	Offset	Early Coord Gap Out	Offset	Early Coord Gap Out		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	5	0	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0																			
3	0	0	0	0																			
4	0	0	0	0																			
5	0	0	0	0																			
6	0	0	0	0																			

Coordination Splits

All Peaks

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>15</i>	<i>45</i>	<i>20</i>	<i>20</i>	<i>15</i>	<i>45</i>	<i>20</i>	<i>20</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph		<i>X</i>				<i>X</i>		
Ref Point		<i>X</i>				<i>X</i>		
Cover Ped								
FO Mode	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>
Ph Mode	<i>None</i>	<i>Max Rcl</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>Max Rcl</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Flt</i>	<i>Flt</i>	<i>Fix</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Fix</i>	<i>Flt</i>
Ph Mode	<i>None</i>	<i>Max Rcl</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>Max Rcl</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Coordination Splits (cont.)

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Time of Day Data																						
Day Program						Schedule Program																
Event	Day Prog	Action	Hour	Min	Description																	
1	1	1	5	30	All Peaks	Schedule	1	Day Plan	1													
2	1	22	8	0	Free Max 2	Description	Monday - Friday															
3	1	1	11	0	All Peaks	Month	J	F	M	A	M	J	J	A	S	O	N	D				
4	1	22	18	0	Free Max 2		X	X	X	X	X	X	X	X	X	X	X	X				
5	1	21	20	0	Free Max 1	Weekday	S	M	T	W	T	F	S									
6	1		0	0			X	X	X	X	X											
7	1		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
8	1		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	1		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
10	1		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	2	1	9	0	All Peaks	Schedule	2	Day Plan	2													
12	2	21	19	0	Free Max 1	Description	Saturday - Sunday															
13	2		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
14	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X				
15	2		0	0		Weekday	S	M	T	W	T	F	S									
16	2		0	0			X						X									
17	2		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
18	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19	2		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
20	2		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21	3		0	0		Schedule	3	Day Plan	2													
22	3		0	0		Description	New Year															
23	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
24	3		0	0			X											X				
25	3		0	0		Weekday	S	M	T	W	T	F	S									
26	3		0	0			X	X	X	X	X											
27	3		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
28	3		0	0			X															
29	3		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
30	3		0	0																		
31	4		0	0		Schedule	4	Day Plan	2													
32	4		0	0		Description	New Year															
33	4		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
34	4		0	0			X															
35	4		0	0		Weekday	S	M	T	W	T	F	S									
36	4		0	0			X															
37	4		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
38	4		0	0			X															
39	4		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
40	4		0	0																		
41	5		0	0		Schedule	5	Day Plan	2													
42	5		0	0		Description	Memorial Day															
43	5		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
44	5		0	0							X											
45	5		0	0		Weekday	S	M	T	W	T	F	S									
46	5		0	0			X															
47	5		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
48	5		0	0																		
49	5		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
50	5		0	0												X	X	X	X	X	X	X

Time of Day Data Cont.																										
Day Program					Schedule Program																					
Event	Day Prog	Action	Hour	Min	Description																					
51	6		0	0		Schedule	6	Day Plan	2																	
52	6		0	0		Description	July 4th																			
53	6		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D								
54	6		0	0		Weekday	S	M	T	W	T	F	S								X					
55	6		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15					
56	6		0	0						X	X	X	X	X												
57	6		0	0																						
58	6		0	0							X															
59	6		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
60	6		0	0																						
61	7		0	0		Schedule	7	Day Plan	2																	
62	7		0	0		Description	July 4th																			
63	7		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D								
64	7		0	0		Weekday	S	M	T	W	T	F	S								X					
65	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15					
66	7		0	0						X																
67	7		0	0																						
68	7		0	0							X															
69	7		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
70	7		0	0																						
71	8		0	0		Schedule	8	Day Plan	2																	
72	8		0	0		Description	Labor Day																			
73	8		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D								
74	8		0	0		Weekday	S	M	T	W	T	F	S								X					
75	8		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15					
76	8		0	0						X																
77	8		0	0																						
78	8		0	0						X	X	X	X	X	X											
79	8		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
80	8		0	0																						
81	9		0	0		Schedule	9	Day Plan	2																	
82	9		0	0		Description	Thanksgiving																			
83	9		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D								
84	9		0	0		Weekday	S	M	T	W	T	F	S								X					
85	9		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15					
86	9		0	0							X															
87	9		0	0																						
88	9		0	0																						
89	9		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
90	9		0	0									X	X	X	X	X	X								
91	10		0	0		Schedule	10	Day Plan	2																	
92	10		0	0		Description	Christmas																			
93	10		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D								
94	10		0	0		Weekday	S	M	T	W	T	F	S								X					
95	10		0	0		Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15					
96	10		0	0						X	X	X	X													
97	10		0	0																						
98	10		0	0																						
99	10		0	0			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
100	10		0	0													X									

Preemption Data

Sequence Parameters

Parameters	Sequence									
	1	2	3	4	5	6	7	8	9	10
Enabled	Enabled	Enabled	Enabled	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Description	EVA	EVB	EVC	EVD						
Preemption Type	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh
Dwell Veh Ph	2,5	4,7	1,6	3,8						
Dwell Ped Ph										
Dwell Overlap	1,2,5		1,5,6							
Exit Phases	2,5	4,7	1,6	3,8						
Exit Type	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Track Phases										
Track Overlaps										
Cycling Veh Ph										
Cycling Ped Ph										
Cycling Overlap										
Non Lock Mem	X	X	X	X						
Not Override Flash	X	X	X	X						
Not override Next Preempt	X	X	X	X						
Min Green	255	255	255	255	0	0	0	0	0	0
Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Min Walk	0	0	0	0	0	0	0	0	0	0
Min Ped Clear	255	255	255	255	255	255	255	255	255	255
Link	0	0	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0	0	0
Min Presence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Presence	180	180	180	180	0	0	0	0	0	0
Dwell Green	3	3	3	3	0	0	0	0	0	0
Max Exit Green	0	0	0	0	0	0	0	0	0	0
Exit Ped Clear	255	255	255	255	255	255	255	255	255	255
Exit Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Exit time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Serial Ports

Port	Description	Function	Address	Baud	Bits	Stop	Parity	Flow	CTS	RTS
1	Port 2/C21S	None	1	9600	8	1	None	None	0	0
2	Aux_P3/C22S	None	1	9600	8	1	None	None	0	0
3	SDLC Port 1	None	1	9600	8	1	None	None	0	0
4	Com A/C50S	None	1	9600	8	1	None	None	0	0
5	FIO	None	1	9600	8	1	None	None	0	0
6	DISPLAY/C60M	None	1	9600	8	1	None	None	0	0
7	SP7	None	1	9600	8	1	None	None	0	0
8	SP8/Com B	None	1	9600	8	1	None	None	0	0

Advanced IO Configuration						
Channel Configuration						
Channel	Control Type	Ctrl Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Olp	1		X	X	1
2	Olp	2		X		2
3	Phs Veh	3		X		3
4	Phs Veh	4		X	X	4
5	Olp	5		X	X	5
6	Olp	6		X		6
7	Phs Veh	7		X		7
8	Phs Veh	8		X	X	8
9	Olp	9				9
10	Olp	10				10
11	Olp	11				11
12	Olp	12				12
13	Phs Ped	2				13
14	Phs Ped	4				14
15	Phs Ped	6				15
16	Phs Ped	8				16
17	None	17				17
18	None	18				18

Cabinet Configuration

	IO Module	1	Type	ODOT 332	
	ITS Cabinet Port 1	No	33X Input Leading Edge		Enable TS2 Stop Time
	ITS Cabinet Port C13S	No	33X input Trailing Edge		Disable TS2 Cabinet Alarm
	Disable TS2 Startup Call		Use Raw MMU Channel Status		Disable TS2 Fault Flash

Input Points (Module 1)							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-39	Veh Det Call	2	25	C11-10	Not Active	0
2	C1-40	Veh Det Call	16	26	C11-11	Not Active	0
3	C1-41	Veh Det Call	8	27	C11-12	Not Active	0
4	C1-42	Veh Det Call	22	28	C11-13	Not Active	0
5	C1-43	Veh Det Call	3	29	C1-63	Veh Det Call	4
6	C1-44	Veh Det Call	17	30	C1-64	Veh Det Call	18
7	C1-45	Veh Det Call	9	31	C1-65	Veh Det Call	10
8	C1-46	Veh Det Call	23	32	C1-66	Veh Det Call	24
9	C1-47	Veh Det Call	6	33	C1-67	Ped Det Call	2
10	C1-48	Veh Det Call	20	34	C1-68	Ped Det Call	6
11	C1-49	Veh Det Call	12	35	C1-69	Ped Det Call	4
12	C1-50	Veh Det Call	26	36	C1-70	Ped Det Call	8
13	C1-51	Not Active	0	37	C1-71	Pre High Pri Low	1
14	C1-52	Not Active	1	38	C1-72	Pre High Pri Low	2
15	C1-53	Man Ctrl Enable	1	39	C1-73	Pre High Pri Low	3
16	C1-54	Not Active	0	40	C1-74	Pre High Pri Low	4
17	C1-55	Veh Det Call	15	41	C1-75	Clock Reset	1
18	C1-56	Veh Det Call	1	42	C1-76	Veh Det Call	5
19	C1-57	Veh Det Call	21	43	C1-77	Veh Det Call	19
20	C1-58	Veh Det Call	7	44	C1-78	Veh Det Call	11
21	C1-59	Veh Det Call	27	45	C1-79	Veh Det Call	25
22	C1-60	Veh Det Call	13	46	C1-80	Interval Adv	1
23	C1-61	Veh Det Call	28	47	C1-81	Flash Sense	1
24	C1-62	Veh Det Call	14	48	C1-82	Unit Stop Time	1

Input Points (Module 1) Cont.

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
49	C11-15	Not Active	0	57	C11-23	Not Active	0
50	C11-16	Not Active	0	58	C11-24	Not Active	0
51	C11-17	Not Active	0	59	C11-25	Not Active	0
52	C11-18	Not Active	0	60	C11-26	Not Active	0
53	C11-19	Not Active	0	61	C11-27	Not Active	0
54	C11-20	Not Active	0	62	C11-28	Not Active	0
55	C11-21	Not Active	0	63	C11-29	Not Active	0
56	C11-22	Not Active	0	64	C11-30	Not Active	0

Output Points (Module 1)

Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-2	Ch Red DWalk	14	33	C1-35	Not Active	1
2	C1-3	Chl Green Walk	14	34	C1-36	Not Active	5
3	C1-4	Ch Red DWalk	4	35	C1-37	Not Active	14
4	C1-5	Ch Yel Ped Clear	4	36	C1-38	Not Active	16
5	C1-6	Chl Green Walk	4	37	C1-100	Ch Yel Ped Clear	18
6	C1-7	Ch Red DWalk	3	38	C1-101	Ch Yel Ped Clear	17
7	C1-8	Ch Yel Ped Clear	3	39	C1-102	Auto Flash	1
8	C1-9	Chl Green Walk	3	40	C1-103	Watchdog	1
9	C1-10	Ch Red DWalk	13	41	C1-83	Ch Red DWalk	18
10	C1-11	Chl Green Walk	13	42	C1-84	Chl Green Walk	18
11	C1-12	Ch Red DWalk	2	43	C1-85	Ch Red DWalk	12
12	C1-13	Ch Yel Ped Clear	2	44	C1-86	Ch Yel Ped Clear	12
13	C1-15	Chl Green Walk	2	45	C1-87	Chl Green Walk	12
14	C1-16	Ch Red DWalk	1	46	C1-88	Not Active	11
15	C1-17	Ch Yel Ped Clear	1	47	C1-89	Not Active	11
16	C1-18	Phase Green	1	48	C1-90	Overlap Green	5
17	C1-19	Ch Red DWalk	16	49	C1-91	Ch Red DWalk	17
18	C1-20	Chl Green Walk	16	50	C1-93	Chl Green Walk	17
19	C1-21	Ch Red DWalk	8	51	C1-94	Ch Red DWalk	10
20	C1-22	Ch Yel Ped Clear	8	52	C1-95	Ch Yel Ped Clear	10
21	C1-23	Chl Green Walk	8	53	C1-96	Chl Green Walk	10
22	C1-24	Ch Red DWalk	7	54	C1-97	Not Active	9
23	C1-25	Ch Yel Ped Clear	7	55	C1-98	Not Active	9
24	C1-26	Chl Green Walk	7	56	C1-99	Overlap Green	1
25	C1-27	Ch Red DWalk	15	57	C11-1	Not Active	0
26	C1-28	Chl Green Walk	15	58	C11-2	Not Active	0
27	C1-29	Ch Red DWalk	6	59	C11-3	Not Active	0
28	C1-30	Ch Yel Ped Clear	6	60	C11-4	Not Active	0
29	C1-31	Chl Green Walk	6	61	C11-5	Not Active	0
30	C1-32	Ch Red DWalk	5	62	C11-6	Not Active	0
31	C1-33	Ch Yel Ped Clear	5	63	C11-7	Not Active	0
32	C1-34	Phase Green	5	64	C11-8	Not Active	0

Vehicle and Pedestrian Phase Intervals									
Interval	Vehicle/Ped	Description	Red	Yellow	Green	Don't Walk	Clearance	Walk	Type
1	<i>Vehicle</i>	<i>Not Active</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
2	<i>Vehicle</i>	<i>Delay Green</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
3	<i>Vehicle</i>	<i>Pre Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
4	<i>Vehicle</i>	<i>Min Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
5	<i>Vehicle</i>	<i>Green Extension</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
6	<i>Vehicle</i>	<i>Green Dwell</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
7	<i>Vehicle</i>	<i>Pre Clear</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
8	<i>Vehicle</i>	<i>Yellow Change</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	-	-	-	<i>Yellow</i>
9	<i>Vehicle</i>	<i>Red Clear</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
10	<i>Vehicle</i>	<i>Red Dwell</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
11	<i>Vehicle</i>	<i>Barrier Hold</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
1	<i>Ped</i>	<i>Not Active</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
2	<i>Ped</i>	<i>Delay Ped</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
3	<i>Ped</i>	<i>Walk</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
4	<i>Ped</i>	<i>Walk Dwell</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
5	<i>Ped</i>	<i>Flash Don't Walk</i>	-	-	-	<i>Flash</i>	<i>On</i>	<i>Off</i>	<i>Ped Clear</i>
6	<i>Ped</i>	<i>Don't Walk</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>

User Program Configuration					
Program Information					
Program #	1	Description	<i>Unit Stop Time</i>	Enabled	Enabled
Statement	Result	Index	Delay	Ext	Description
1	<i>Unit Stop Time</i>	1	0.0	0.0	
	Parameter A	Index			
	<i>Aux Switch State</i>	0			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
2	<i>None</i>	0	0.0	0.0	
	Parameter A	Index			
	<i>Number</i>	2			
	Parameter B	Index			
	<i>Prev Line</i>	0			
Statement	Result	Index	Delay	Ext	Description
3	<i>None</i>	0	0.0	0.0	
	Parameter A	Index			
	<i>Number</i>	3			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
4	<i>None</i>	0	0.0	0.0	
	Parameter A	Index			
	<i>Number</i>	4			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
5	<i>None</i>	0	0.0	0.0	
	Parameter A	Index			
	<i>Number</i>	5			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
6	<i>None</i>	0	0.0	0.0	
	Parameter A	Index			
	<i>None</i>	0			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
7	<i>None</i>	0	0.0	0.0	
	Parameter A	Index			
	<i>None</i>	0			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
8	<i>None</i>	0	0.0	0.0	
	Parameter A	Index			
	<i>None</i>	0			
	Parameter B	Index			
	<i>None</i>	0			

Program #	2	Description	Stop Time Beep	Enabled	Enabled
1	Global Var		100	0.0	0.0
	Parameter A		Index		
	Glob Var		100		
	Parameter B		Index		
	Number		1		
2	None		0	0.0	0.0
	Parameter A		Index		
	Prev Line		0		
	Parameter B		Index		
	Number		10		
3	None		0	0.0	0.0
	Parameter A		Index		
	Prev Line		0		
	Parameter B		Index		
	Number		15		
4	Global Var		101	0.0	0.0
	Parameter A		Index		
	Prev Line		0		
	Parameter B		Index		
	Number		0		
5	None		0	0.0	0.0
	Parameter A		Index		
	Glob Var		101		
	Parameter B		Index		
	None		0		
6	None		0	0.0	0.0
	Parameter A		Index		
	None		0		
	Parameter B		Index		
	None		0		
7	None		0	0.0	0.0
	Parameter A		Index		
	None		0		
	Parameter B		Index		
	None		0		
8	None		0	0.0	0.0
	Parameter A		Index		
	None		0		
	Parameter B		Index		
	None		0		

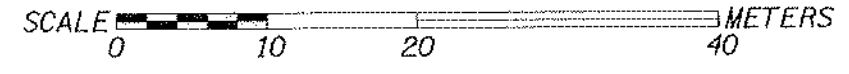
Program #	3	Description	Gap Dependent FYA	Enabled	Enabled
Statement	Result	Index	Delay	Ext	Description
1	Local Var	20	0.0	0.0	Ph 1 red and Ph 2 green check
	Parameter A	Index			
	Ch Red	1			
	Parameter B	Index			
	Ph Green	2			
Statement	Result	Index	Delay	Ext	Description
2	Local Var	21	0.0	0.0	Ph 2 detector input check
	Parameter A	Index			
	Veh Det	2			
	Parameter B	Index			
	Veh Det	3			
Statement	Result	Index	Delay	Ext	Description
3	Local Var	22	0.0	0.0	Preempt 1 check and combine above
	Parameter A	Index			
	Pre Input	1			
	Parameter B	Index			
	Loc Var	21			
Statement	Result	Index	Delay	Ext	Description
4	Olp Omit	1	0.0	0.0	Omit Ph 1 FYA
	Parameter A	Index			
	Loc Var	20			
	Parameter B	Index			
	Loc Var	22			
Statement	Result	Index	Delay	Ext	Description
5	Local Var	60	0.0	0.0	Ph 5 red and Ph 6 green check
	Parameter A	Index			
	Ch Red	5			
	Parameter B	Index			
	Ph Green	6			
Statement	Result	Index	Delay	Ext	Description
6	Local Var	61	0.0	0.0	Ph 6 detector input check
	Parameter A	Index			
	Veh Det	16			
	Parameter B	Index			
	Veh Det	17			
Statement	Result	Index	Delay	Ext	Description
7	Local Var	62	0.0	0.0	Preempt 3 check and combine above
	Parameter A	Index			
	Pre Input	3			
	Parameter B	Index			
	Loc Var	61			
Statement	Result	Index	Delay	Ext	Description
8	Olp Omit	5	0.0	0.0	Omit Ph 5 FYA
	Parameter A	Index			
	Loc Var	60			
	Parameter B	Index			
	Loc Var	62			

Program #	4	Description	<i>Dummy Detector Jumpers</i>		Enabled	Enabled
Statement	Result	Index	Delay	Ext	Description	
1	<i>Veh Det Call</i>	65	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	1				
	Parameter B	Index				
	<i>None</i>	0				
2	<i>Veh Det Call</i>	66	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	2				
	Parameter B	Index				
	<i>None</i>	0				
3	<i>Veh Det Call</i>	67	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	3				
	Parameter B	Index				
	<i>None</i>	0				
4	<i>Veh Det Call</i>	68	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	4				
	Parameter B	Index				
	<i>None</i>	0				
5	<i>Veh Det Call</i>	69	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	5				
	Parameter B	Index				
	<i>None</i>	0				
6	<i>Veh Det Call</i>	70	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	6				
	Parameter B	Index				
	<i>None</i>	0				
7	<i>Veh Det Call</i>	71	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	7				
	Parameter B	Index				
	<i>None</i>	0				
8	<i>Veh Det Call</i>	72	0.0	0.0	<i>Dummy Detector Jumper</i>	
	Parameter A	Index				
	<i>Veh Det</i>	8				
	Parameter B	Index				
	<i>None</i>	0				

Program #	5	Description	Enabled	Enabled	
Statement	Result	Index	Delay	Ext	Description
1	<i>Veh Det Call</i>	65	0.0	0.0	<i>Dummy Detector Jumper</i>
	Parameter A	Index			
	<i>Veh Det</i>	1			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
2	<i>Veh Det Call</i>	66	0.0	0.0	<i>Dummy Detector Jumper</i>
	Parameter A	Index			
	<i>Veh Det</i>	2			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
3	<i>Veh Det Call</i>	67	0.0	0.0	<i>Dummy Detector Jumper</i>
	Parameter A	Index			
	<i>Veh Det</i>	3			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
4	<i>Veh Det Call</i>	68	0.0	0.0	<i>Dummy Detector Jumper</i>
	Parameter A	Index			
	<i>Veh Det</i>	4			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
5	<i>Veh Det Call</i>	69	0.0	0.0	<i>Dummy Detector Jumper</i>
	Parameter A	Index			
	<i>Veh Det</i>	5			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
6	<i>Veh Det Call</i>	70	0.0	0.0	<i>Dummy Detector Jumper</i>
	Parameter A	Index			
	<i>Veh Det</i>	6			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
7	<i>Veh Det Call</i>	71	0.0	0.0	<i>Dummy Detector Jumper</i>
	Parameter A	Index			
	<i>Veh Det</i>	7			
	Parameter B	Index			
	<i>None</i>	0			
Statement	Result	Index	Delay	Ext	Description
8	<i>Veh Det Call</i>	72	0.0	0.0	<i>Dummy Detector Jumper</i>
	Parameter A	Index			
	<i>Veh Det</i>	8			
	Parameter B	Index			
	<i>None</i>	0			



**DETECTOR REPLACEMENT PLAN
HILLSBORO-SILVERTON HWY AT
COUNTRY CLUB RD/OREGON WAY
HWY 140, M.P. 37.15**

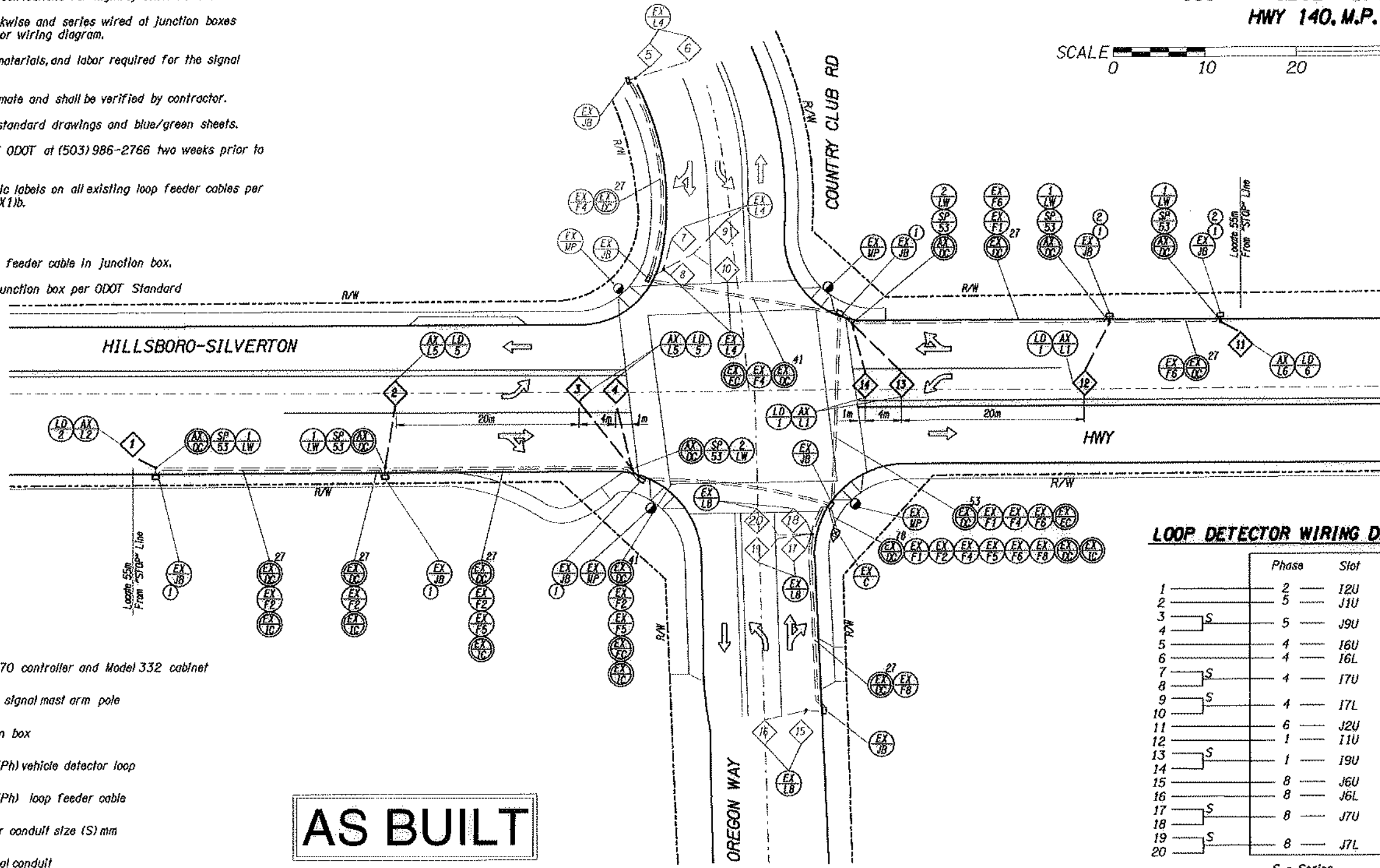


GENERAL NOTES

1. All materials and workmanship shall conform to the 1996 Oregon Department of Transportation (ODOT) standard specifications for highway construction and the 1998 and 1999 supplemental standard specifications for highway construction.
2. All loops are to be individually wound clockwise and series wired at junction boxes or controller, as shown on the loop detector wiring diagram.
3. The contractor shall supply all equipment, materials, and labor required for the signal operations shown on this plan.
4. Location of existing equipment is approximate and shall be verified by contractor.
5. The contractor shall use the latest ODOT standard drawings and blue/green sheets.
6. Coordinate loop layout with Craig Black of ODOT at (503) 986-2766 two weeks prior to placement.
7. The contractor shall place permanent plastic labels on all existing loop feeder cables per ODOT Standard Specification 00990.43(bX1)b.

CONSTRUCTION NOTES

- 1 Connect new loop wires to existing loop feeder cable in junction box.
- 2 Install concrete apron around existing junction box per ODOT Standard Drawing TM418.



AS BUILT

LEGEND

- Retain and protect existing Model 170 controller and Model 332 cabinet
- Retain and protect existing traffic signal mast arm pole
- Retain and protect existing junction box
- Retain and protect existing phase (Ph) vehicle detector loop
- Retain and protect existing phase (Ph) loop feeder cable
- Retain and protect existing detector conduit size (S) mm
- Retain and protect existing electrical conduit
- Retain and protect existing interconnect conduit
- Abandon existing detector conduit
- Abandon existing phase (Ph) vehicle detector loop
- Install phase (Ph) 1.2 m diamond vehicle detector loop
- Install (N) pair of loop wires
- Install 150 mm max. sand pocket block-out with (S) mm conduit to junction box

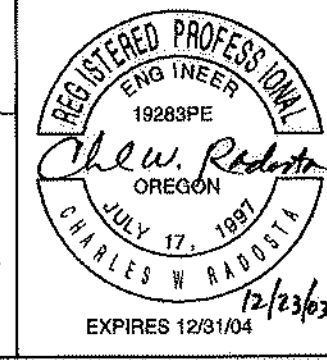
ABBREVIATIONS

- PH = Phase shown
- S = Size shown
- X = Number of cables shown
- N = Number shown

LOOP DETECTOR WIRING DIAGRAM

Phase	Slot	
1	2	I2U
2	5	J1U
3	5	J9U
4	4	I6U
5	4	I6L
6	4	I7U
7	4	I7L
8	4	I7L
9	4	I7L
10	4	I7L
11	6	J2U
12	1	I1U
13	1	I9U
14	8	J6U
15	8	J6L
16	8	J6L
17	8	J7U
18	8	J7U
19	8	J7L
20	8	J7L

S = Series



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(503) 228-8280

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC MANAGEMENT SECTION

TRAFFIC SIGNAL INSTALLATION
HILLS-SILV. HWY AT COUNTRY CLUB/OREGON
PACIFIC HIGHWAY EAST
MARION COUNTY

DATE: December 2003

DESIGNED BY: C. Radosta

CHECKED BY: M. Butler

DRAWN BY: T. Ched

EXPIRES 12/31/04

T.A.S. Dwg. No. **12980**

Timing Sheet

TSSU ID **3028** Intersection **OR214** @ **Settlemeier-BoonesFry**

Unit	
Startup Parameters, Phase Configuration, Security, Sequence, Initialization	

MCE Sequence*	1	Sequence 1	Sequence 2	Sequence 3
Free Sequence	1	Ring #1 1,2,a,3,4,b	Ring #1	Ring #1
Startup Flash	0	Ring #2 5,6,a,7,8,b	Ring #2	Ring #2
Red Revert	5.0	First All Red** 6	Start Yellow 0.0	Exit Mode Enable
Backup Time	600	Auto Ped Clear Enable	Grn Flash Freq 60	Yel Flash Freq 60

Phase	Description	Ring	Concurrent Ph.	Startup	Startup Min	No Serve Phase
1	WBL	1	5,6	Phase Not On	0	
2	EB	1	5,6	Green Walk	0	
3	NBL	1	7,8	Phase Not On	0	
4	SB	1	7,8	Phase Not On	0	
5	EBL	2	1,2	Phase Not On	0	
6	WB	2	1,2	Green Walk	0	
7	SBL	2	3,4	Phase Not On	0	
8	NB	2	3,4	Phase Not On	0	

Parameter	Phase Timing (Phase Plan 1)							
	1	2	3	4	5	6	7	8
Movement	WBL	EB	NBL	SB	EBL	WB	SBL	NB
Walk	0	7	0	7	0	7	0	7
Ped Clear	0	18	0	19	0	17	0	17
Minimum Green	5	10	5	5	5	10	5	5
Minimum Green 2	0	0	0	0	0	0	0	0
Passage	2.5	4.8	2.5	2.5	2.5	4.8	2.5	2.5
Max 1	20	55	25	25	20	55	25	25
Max 2	25	65	35	30	25	65	25	30
Max 3	25	75	35	35	25	75	25	35
Yellow	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0
Add Red Clearance	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial (Sec Per Act)	0.0	2.7	0.0	0.0	0.0	2.7	0.0	0.0
Max Initial	0	21	0	0	0	21	0	0
Time Before Reduce	5	10	5	10	5	10	0	10
Cars Before Reduce	0	0	0	0	0	0	0	0
Time To Reduce	5	10	5	5	5	10	0	5
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	1.0	2.8	1.0	1.0	1.0	2.8	1.0	1.0
Dynamic Max Limit	0	65	30	35	0	65	30	35
Dynamic Max Step	0.0	5.0	5.0	5.0	0.0	5.0	5.0	5.0
Advance Walk	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0
Alt Ped Clear								
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Options								
	Per Phase Functions (Phase Plan 1)							
Parameter	1	2	3	4	5	6	7	8
Phases Enabled	X	X	X	X	X	X	X	X
Auto Flash Entry				X				X
Auto Flash Exit		X				X		
Non Actuated #1								
Non Actuated #2								
Non Lock Detector Memory*	X	X	X	X	X	X	X	X

*AKA: Yellow Lock - When disabled the call is locked at the beginning of yellow interval. When enabled the call locking is dependent on the detector options

Min Vehicle Recall		X				X		
Max Vehicle Recall								
Ped Recall								
Soft Vehicle Recall								
Dual Entry				X				X
Simultaneous Gap Disable	X		X	X	X		X	X
Guaranteed Passage								
Actuated Rest In Walk								
Conditional Service Enable								
Add Initial								
Ped Clear During Yellow								
Ped Clear During Red								
Condition Reservice								
Yellow Min Override								
No Startup Veh Call								
Advanced Warning Flasher								
No Ped Startup Call								
Ped Clear Overlap Trail Grn								
Flash Exit Veh Call								
Flah Exit Ped Call								
Min Green #2 Enabled								
Max Green #2 Enabled								
Max Green #3 Enabled								
Ped Timing #2 Enabled								
Ped Clear During Pre-Clear								
Ped NA+Mode								
Red Rest								
Serve Every Other Even								
Serve Every Other Odd								
Ped Recycle		X				X		

Global Detector Settings				
Vehicle	No Activity	0	Max Presence	10
	Erratic Count	35	Failed Recall	None
Pedestrian	No Activity	0	Max Presence	5
	Erratic Count	60		

Volume Occupancy Data Collection			
Data Collection (Seconds)		Number of Periods	15

Vehicle Detector Parameters													
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Queue Limit	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
Loop 21	1	1	0	0	0	0.0	0.0	0	0	0	0	0	None
Video adv thru	2	2	0	0	0	0.0	0.0	0	0	0	0	0	None
Video adv RT	3	2	0	0	0	0.0	0.0	0	0	0	0	0	None
Video adv	4	5	0	0	0	0.0	0.0	0	0	0	0	0	None
Video presence	5	5	0	0	0	0.0	0.0	0	0	0	0	0	None
Video bike	6	2	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 32	7	3	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 7	8	4	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 8	9	4	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 11, 12	10	4	0	0	0	0.0	0.0	0	0	0	0	12	None
Loop 13, 14 Bike	11	4	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 9, 10	12	4	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 22, 23	13	1	0	0	0	0.0	0.0	0	0	0	0	12	None
Loop 33, 34	14	3	0	0	0	0.0	0.0	0	0	0	0	12	None
	15	5	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 18	16	6	0	0	0	0.0	0.0	0	0	0	0	25	None
Loop 19	17	6	0	0	0	0.0	0.0	0	0	0	0	0	None
	18	6	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 20 Bike	19	6	0	0	0	0.0	0.0	0	0	0	0	0	None
	20	6	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 15	21	7	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 24	22	8	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 25	23	8	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 28, 29	24	8	0	0	0	0.0	0.0	0	0	0	0	12	None
Loop 30, 31 Bike	25	8	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 26, 27	26	8	0	0	0	0.0	0.0	0	0	0	0	0	None
Loops 5-6	27	5	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 16, 17	28	7	0	0	0	0.0	0.0	0	0	0	0	12	None
	29	1	0	0	0	0.0	0.0	0	0	0	0	0	None
	30	1	0	0	0	0.0	0.0	0	0	0	0	0	None
	31	2	0	0	0	0.0	0.0	0	0	0	0	0	None
	32	3	0	0	0	0.0	0.0	0	0	0	0	0	None
	33	3	0	0	0	0.0	0.0	0	0	0	0	0	None
	34	4	0	0	0	0.0	0.0	0	0	0	0	0	None
	35	5	0	0	0	0.0	0.0	0	0	0	0	0	None
	36	5	0	0	0	0.0	0.0	0	0	0	0	0	None
	37	6	0	0	0	0.0	0.0	0	0	0	0	0	None
	38	7	0	0	0	0.0	0.0	0	0	0	0	0	None
	39	7	0	0	0	0.0	0.0	0	0	0	0	0	None
	40	8	0	0	0	0.0	0.0	0	0	0	0	0	None
	41	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	42	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	43	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	44	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	45	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	46	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	47	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	48	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	49	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	50	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	51	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	52	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	53	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	54	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	55	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	56	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	57	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	58	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	59	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	60	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	61	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	62	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	63	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	64	0	0	0	0	0.0	0.0	0	0	0	0	0	None

Vehicle Detector Parameters (Continued)													
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Queue Limit	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
Dummy Loop 21	65	1	0	0	0	0.0	0.0	0	0	0	0	0	None
	66	2	0	0	0	1.0	0.0	0	0	0	0	0	None
	67	2	0	0	0	0.0	0.0	0	0	0	0	0	None
	68	2	0	0	0	0.0	0.0	0	0	0	0	0	None
	69	2	0	0	0	0.0	0.0	0	0	0	0	0	None
	70	2	0	0	0	0.0	0.0	0	0	0	0	0	None
Dummy Loop 32	71	3	0	0	0	1.5	0.0	0	0	0	0	0	None
Dummy Loop 7	72	4	0	0	0	1.5	0.0	0	0	0	0	0	None
Dummy Loop 8	73	4	0	0	0	1.5	0.0	0	0	0	0	0	None
Dummy Loop 11, 12	74	4	0	0	0	0.0	0.0	0	0	0	0	0	None
Dummy Loop 13, 14 Bike	75	4	0	0	0	3.0	0.0	0	0	0	0	0	None
Dummy Loop 9, 10	76	4	0	0	0	0.0	5.0	0	0	0	0	0	None
Dummy Loop 22, 23	77	1	0	0	0	0.0	3.0	0	0	0	0	0	None
Dummy Loop 33, 34	78	3	0	0	0	0.0	3.0	0	0	0	0	0	None
	79	5	0	0	0	0.0	0.0	0	0	0	0	0	None
Dummy Loop 18	80	6	0	0	0	1.0	0.0	0	0	0	0	0	None
Dummy Loop 19	81	6	0	0	0	0.0	0.0	0	0	0	0	0	None
	82	6	0	0	0	0.0	0.0	0	0	0	0	0	None
Dummy Loop 20 Bike	83	6	0	0	0	3.0	0.0	0	0	0	0	0	None
	84	6	0	0	0	0.0	0.0	0	0	0	0	0	None
Dummy Loop 15	85	7	0	0	0	1.5	0.0	0	0	0	0	0	None
Dummy Loop 24	86	8	0	0	0	1.5	0.0	0	0	0	0	0	None
Dummy Loop 25	87	8	0	0	0	1.5	0.0	0	0	0	0	0	None
Dummy Loop 28, 29	88	8	0	0	0	3.0	0.0	0	0	0	0	0	None
Dummy Loop 30, 31 Bike	89	8	0	0	0	3.0	0.0	0	0	0	0	0	None
Dummy Loop 26, 27	90	8	0	0	0	0.0	5.0	0	0	0	0	0	None
Dummy Loops 5-6	91	5	0	0	0	0.0	0.0	0	0	0	0	0	None
Dummy Loop 16, 17	92	7	0	0	0	0.0	3.0	0	0	0	0	0	None
	93	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	94	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	95	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	96	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	97	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	98	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	99	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	100	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	101	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	102	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	103	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	104	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	105	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	106	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	107	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	108	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	109	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	110	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	111	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	112	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	113	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	114	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	115	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	116	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	117	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	118	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	119	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	120	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	121	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	122	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	123	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	124	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	125	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	126	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	127	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	128	0	0	0	0	0.0	0.0	0	0	0	0	0	None

Vehicle Detector Failure Parameters and Other Options										
Description	Det	Vol Det	Occ Det	Call	Extend	Added Initial	Queue	Yellow Lock	Red Lock	Min Green 2
Loop 21	1	X	X							
Video adv thru	2	X	X	X	X					
Video adv RT	3	X	X	X	X					
Video adv	4	X	X	X	X					
Video presence	5	X	X	X	X					
Video bike	6	X	X	X	X					
Loop 32	7	X	X							
Loop 7	8	X	X							
Loop 8	9	X	X							
Loop 11, 12	10	X	X							
Loop 13, 14 Bike	11	X	X							
Loop 9, 10	12	X	X							
Loop 22, 23	13	X	X							
Loop 33, 34	14	X	X							
	15	X	X							
Loop 18	16	X	X			X				
Loop 19	17	X	X							
	18	X	X							
Loop 20 Bike	19	X	X							
	20	X	X							
Loop 15	21	X	X							
Loop 24	22	X	X							
Loop 25	23	X	X							
Loop 28, 29	24	X	X							
Loop 30, 31 Bike	25	X	X							
Loop 26, 27	26	X	X							
Loops 5-6	27	X	X							
Loop 16, 17	28	X	X							
	29	X	X							
	30	X	X							
	31	X	X							
	32	X	X							
	33	X	X							
	34	X	X							
	35	X	X							
	36	X	X							
	37	X	X							
	38	X	X							
	39	X	X							
	40	X	X							
	41	X	X							
	42	X	X							
	43	X	X							
	44	X	X							
	45	X	X							
	46	X	X							
	47	X	X							
	48	X	X							
	49	X	X							
	50	X	X							
	51	X	X							
	52	X	X							
	53	X	X							
	54	X	X							
	55	X	X							
	56	X	X							
	57	X	X							
	58	X	X							
	59	X	X							
	60	X	X							
	61	X	X							
	62	X	X							
	63	X	X							
	64	X	X							

Vehicle Detector Failure Parameters and Other Options Cont.										
Description	Det	Vol Det	Occ Det	Call	Extend	Added Initial	Queue	Yellow Lock	Red Lock	Min Green 2
Dummy Loop 21	65	X	X	X	X					
	66	X	X	X	X					
	67	X	X	X	X					
	68	X	X	X	X					
	69	X	X	X	X					
	70	X	X	X	X					
Dummy Loop 32	71	X	X	X	X					
Dummy Loop 7	72	X	X	X	X					
Dummy Loop 8	73	X	X	X	X					
Dummy Loop 11, 12	74	X	X	X	X					
Dummy Loop 13, 14 Bike	75	X	X	X	X					
Dummy Loop 9, 10	76	X	X	X	X					
Dummy Loop 22, 23	77	X	X	X	X					
Dummy Loop 33, 34	78	X	X	X	X					
	79	X	X	X	X					
Dummy Loop 18	80	X	X	X	X					
Dummy Loop 19	81	X	X	X	X					
	82	X	X	X	X					
Dummy Loop 20 Bike	83	X	X	X	X					
	84	X	X	X	X					
Dummy Loop 15	85	X	X	X	X					
Dummy Loop 24	86	X	X	X	X					
Dummy Loop 25	87	X	X	X	X					
Dummy Loop 28, 29	88	X	X	X	X					
Dummy Loop 30, 31 Bike	89	X	X	X	X					
Dummy Loop 26, 27	90	X	X	X	X					
Dummy Loops 5-6	91	X	X	X	X					
Dummy Loop 16, 17	92	X	X	X	X					
	93	X	X	X	X					
	94	X	X	X	X					
	95	X	X	X	X					
	96	X	X	X	X					
	97	X	X	X	X					
	98	X	X	X	X					
	99	X	X	X	X					
	100	X	X	X	X					
	101	X	X	X	X					
	102	X	X	X	X					
	103	X	X	X	X					
	104	X	X	X	X					
	105	X	X	X	X					
	106	X	X	X	X					
	107	X	X	X	X					
	108	X	X	X	X					
	109	X	X	X	X					
	110	X	X	X	X					
	111	X	X	X	X					
	112	X	X	X	X					
	113	X	X	X	X					
	114	X	X	X	X					
	115	X	X	X	X					
	116	X	X	X	X					
	117	X	X	X	X					
	118	X	X	X	X					
	119	X	X	X	X					
	120	X	X	X	X					
	121	X	X	X	X					
	122	X	X	X	X					
	123	X	X	X	X					
	124	X	X	X	X					
	125	X	X	X	X					
	126	X	X	X	X					
	127	X	X	X	X					
	128	X	X	X	X					

Pedestrian Detector Options and Failure Parameters								
Det	Call Phase	Call Overlap	Add. Call Ph	Walk 2 Time	Ped Clear 2 Time	No Activity	Max Presence	Erratic Count
1	0	0		0	0	0	0	0
2	0	0		0	0	0	0	0
3	0	0		0	0	0	0	0
4	0	0		0	0	0	0	0
5	0	0		0	0	0	0	0
6	0	0		0	0	0	0	0
7	0	0		0	0	0	0	0
8	0	0		0	0	0	0	0

Overlap Parameters: Plan 1													
<i>First 8 Overlaps Should Be Reserved for FYA</i>													
Overlaps	1	2	3	4	5	6	7	8	9	10	11	12	13
Description									OLA	OLB	OLC	OLD	
Overlap Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Enabled	Enabled	Enabled	Enabled	Disabled
Phases Included									2,3	4,5	6,7	1,8	
Overlap Type	Off	Off	Off	Off	Off	Off	Off	Off	Normal	Normal	Normal	Normal	Off
Modifier Phases													
Modifier Overlaps													
Inhibit Negative Ph.													
Negative Veh Ph.													
Negative Ped Ph.									2	4	6	8	
Neg.Ped Overlaps													
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Alt Walk Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clear Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Green	0	0	0	0	0	0	0	0	3	3	3	3	0
Max Green Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt Rate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call													
Recall													
Disable Veh Reservice													
No Hold On TrailExit													
Ped Recycle													
Disable Yellow Prot													
Disable Bridging													
LRT Prepare To Go													
Call For Service													
Allow Trail Green Bridge													
FYA During Red Clear													

Overlap Parameters: Plan 2													
First 8 Overlaps Should Be Reserved for FYA													
Overlaps	1(A)	2(B)	3(C)	4(D)	5(E)	6(F)	7(G)	8(H)	9(I)	10(J)	11(K)	12(L)	13(M)
Description													
Overlap Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
Phases Included													
Overlap Type	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Modifier Phases													
Modifier Overlaps													
Inhibit Negative Ph.													
Negative Veh Ph.													
Negative Ped Ph.													
Neg.Ped Overlaps													
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Alt Walk Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clear Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Green Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt Rate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call													
Recall													
Disable Veh Reservice													
No Hold On TrailExit													
Ped Recycle													
Disable Yellow Prot													
Disable Bridging													
LRT Prepare To Go													
Call For Service													
Allow Trail Green Bridge													
FYA During Red Clear													

Custom Overlap Rules

Rule	Custom Overlap	Incl. Phase State	Modifier Phase State	Modifier Overlap State	Negative Phase State	Custom Output	Flash
1	Disable	Any	Any		Any	Not Set	Not Set
2	Disable	Any	Any		Any	Not Set	Not Set
3	Disable	Any	Any		Any	Not Set	Not Set
4	Disable	Any	Any		Any	Not Set	Not Set
5	Disable	Any	Any		Any	Not Set	Not Set

Coordination Data										
Coordination Patterns, Mode, and Transition Parameters										
Operational Mode	Automatic			Coordination Mode	Auto Permissive			Max Mode	Per Pattern	
Correction Mode	Shortway (Auto)			Force Mode	Per Pattern					
Max Cycle Limit %	30			Min Cycle Limit %	20			Max Dwell	0	
Trans. Cover Peds	Pattern									

Sequence Parameters					
Sequence	Ring	Sequence Data	Sequence	Ring	Sequence Data
1	1	1,2,a,3,4,b	1	2	5,6,a,7,8,b
2	1		2	2	
3	1		3	2	
4	1		4	2	
5	1		5	2	

Pattern Parameters									
Plan	Coord Plan	Cycle Length	Offset Time	Seq Number	Reference	Coord. Mode	Force Off	Max Mode	Trans Cover Peds
1		0	0	0	Grn	Auto	Phase	Inh	Phase
2		0	0	0	Grn	Auto	Phase	Inh	Phase
3		0	0	0	Yel	Auto	Fixed	Inh	Phase
4		0	0	0	Yel	Auto	Fixed	Inh	Phase
5		0	0	0	Yel	Auto	Fixed	Inh	Phase
6		0	0	0	Yel	Auto	Fixed	Inh	Phase
7		0	0	0	Yel	Auto	Fixed	Inh	Phase
8		0	0	0	Yel	Auto	Fixed	Inh	Phase
9		0	0	0	Yel	Auto	Fixed	Inh	Phase
10		0	0	0	Yel	Auto	Fixed	Inh	Phase
11		0	0	0	Yel	Auto	Fixed	Inh	Phase
12		0	0	0	Yel	Auto	Fixed	Inh	Phase
13	Max 3 with Ped Plan 2	0	0	1	Grn	Auto	Phase	Max3	Phase
14		0	0	0	Yel	Auto	Fixed	Inh	Phase
15		0	0	0	Yel	Auto	Fixed	Inh	Phase
16		0	0	0	Yel	Auto	Fixed	Inh	Phase
	Free Coord Plans								
21	Free - Max 1	0	0	1	Grn	Auto	Phase	Max1	Phase
22	Free - Max 2	0	0	1	Grn	Auto	Phase	Max2	Phase
23	Free - Max 3	0	0	1	Grn	Auto	Phase	Max3	Phase

Ring Plan	Ring #1		Ring #2		Ring Plan #	Pattern																
	Offset	Early Coord Gap Out	Offset	Early Coord Gap Out		1	2	3	4	5	6	7	8	9	10	#	#	#	15	#	#	#
1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	2																	
3	0	0	0	0	3																	
4	0	0	0	0	4																	
5	0	0	0	0	5																	
6	0	0	0	0	6																	

Coordination Splits

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>	<i>Flt</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Prioritor Max	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Coordination Splits (cont.)

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description	<i>WBL</i>	<i>EB</i>	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Time of Day Data																						
Day Program						Schedule Program																
Day Prog	Event	Action	Hour	Min	Description																	
1	1	22	6	0	Max 2 Free	Schedule 1	Day Plan 1															
1	2	21	8	0	Max 1 Free	Description	Monday - Friday															
1	3	22	10	0	Max 2 Free	Month	J	F	M	A	M	J	J	A	S	O	N	D				
1	4	23	14	30	Max 3 Free		X	X	X	X	X	X	X	X	X	X	X	X				
1	5	13	15	0	Max 3 Phase Plan	2Weekday	S	M	T	W	T	F	S									
1	6	23	15	45	Max 3 Free		X	X	X	X	X											
1	7	22	18	0	Max 2 Free	Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
1	8	21	19	0	Max 1 Free		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
1	10		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	1	22	9	0	Free Max 2	Schedule 2	Day Plan 2															
2	2	21	19	0	Free Max 1	Description	Saturday - Sunday															
2	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
2	4		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	5		0	0		Weekday	S	M	T	W	T	F	S									
2	6		0	0			X						X									
2	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
2	8		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
2	10		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	1		0	0		Schedule 3	Day Plan 2															
3	2		0	0		Description	New Year															
3	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
3	4		0	0			X															
3	5		0	0		Weekday	S	M	T	W	T	F	S									
3	6		0	0			X	X	X	X	X											
3	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
3	8		0	0			X															
3	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
3	10		0	0																		
4	1		0	0		Schedule 4	Day Plan 2															
4	2		0	0		Description	New Year															
4	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
4	4		0	0			X															
4	5		0	0		Weekday	S	M	T	W	T	F	S									
4	6		0	0			X															
4	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
4	8		0	0			X															
4	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
4	10		0	0																		
5	1		0	0		Schedule 5	Day Plan 2															
5	2		0	0		Description	Memorial Day															
5	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
5	4		0	0			X															
5	5		0	0		Weekday	S	M	T	W	T	F	S									
5	6		0	0			X															
5	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
5	8		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
5	9		0	0																		
5	10		0	0														X	X	X	X	X

Time of Day Data Cont.																					
Day Program					Schedule Program																
Day Prog	Event	Action	Hour	Min	Description																
6	1		0	0		Schedule 6	Day Plan 2														
6	2		0	0		Description	July 4th														
6	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D			
6	4		0	0									X								
6	5		0	0		Weekday	S	M	T	W	T	F	S								
6	6		0	0			X	X	X	X	X										
6	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	#		
6	8		0	0						X											
6	9		0	0			#	#	#	#	#	#	#	23	#	#	#	#	28	#	#
6	10		0	0																	
7	1		0	0		Schedule 7	Day Plan 2														
7	2		0	0		Description	July 4th														
7	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D			
7	4		0	0									X								
7	5		0	0		Weekday	S	M	T	W	T	F	S								
7	6		0	0			X														
7	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	#		
7	8		0	0						X											
7	9		0	0			#	#	#	#	#	#	#	23	#	#	#	#	28	#	#
7	10		0	0																	
8	1		0	0		Schedule 8	Day Plan 2														
8	2		0	0		Description	Labor Day														
8	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D			
8	4		0	0										X							
8	5		0	0		Weekday	S	M	T	W	T	F	S								
8	6		0	0			X														
8	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	#		
8	8		0	0			X	X	X	X	X	X									
8	9		0	0			#	#	#	#	#	#	#	23	#	#	#	#	28	#	#
8	10		0	0																	
9	1		0	0		Schedule 9	Day Plan 2														
9	2		0	0		Description	Thanksgiving														
9	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D			
9	4		0	0											X						
9	5		0	0		Weekday	S	M	T	W	T	F	S								
9	6		0	0						X											
9	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	#		
9	8		0	0																	
9	9		0	0			#	#	#	#	#	#	#	23	#	#	#	#	28	#	#
9	10		0	0						X	X	X	X	X							
10	1		0	0		Schedule 10	Day Plan 2														
10	2		0	0		Description	Christmas														
10	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D			
10	4		0	0												X					
10	5		0	0		Weekday	S	M	T	W	T	F	S								
10	6		0	0			X	X	X	X	X										
10	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	#		
10	8		0	0																	
10	9		0	0			#	#	#	#	#	#	#	23	#	#	#	#	28	#	#
10	10		0	0															X		

Action Parameters																					
Action	Pattern	Aux1	Aux2	Aux3	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10	SP11	SP12	SP13	SP14	SP15	SP16	
1	Pattern 1																				
2	Pattern 2																				
3	None																				
4	None																				
5	None																				
6	None																				
7	None																				
8	None																				
9	None																				
10	None																				
11	None																				
21	Pattern 21																				
22	Pattern 22																				
23	Pattern 23																				
24	None																				

Preemption Data											
Parameters	1	2	3	4	5	6	7	8	9	10	
Enabled	Enabled	Enabled	Enabled	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Description	EVA	EVB	EVC	EVD							
Preemption Type	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh
Dwell Veh Ph	2,5	4,7	1,6	3,8							
Dwell Ped Ph											
Dwell Overlap	9	10	11	12							
Exit Phases	2,5	4,7	1,6	3,8							
Exit Type	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phases	
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Track Phases											
Track Overlaps											
Cycling Veh Ph											
Cycling Ped Ph											
Cycling Overlap											
Non Lock Mem	X	X	X	X							
Not Override Flash	X	X	X	X							
Not override Next Preempt	X	X	X	X							
Min Green	255	255	255	255	0	0	0	0	0	0	0
Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Min Walk	0	0	0	0	0	0	0	0	0	0	0
Min Ped Clear	255	255	255	255	255	255	255	255	255	255	255
Link	0	0	0	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0	0	0	0
Min Presence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Presence	180	180	180	180	0	0	0	0	0	0	0
Dwell Green	3	3	3	3	0	0	0	0	0	0	0
Max Exit Green	0	0	0	0	0	0	0	0	0	0	0
Exit Ped Clear	255	255	255	255	255	255	255	255	255	255	255
Exit Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Exit time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Advanced IO Configuration						
Channel Configuration						
Channel	Control Type	Ctrl Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phs Veh	1		X	X	1
2	Phs Veh	2		X		2
3	Phs Veh	3		X		3
4	Phs Veh	4		X	X	4
5	Phs Veh	5		X	X	5
6	Phs Veh	6		X		6
7	Phs Veh	7		X		7
8	Phs Veh	8		X	X	8
9	Olp	9		X		9
10	Olp	10		X		10
11	Olp	11		X		11
12	Olp	12		X		12
13	Phs Ped	2				13
14	Phs Ped	4				14
15	Phs Ped	6				15
16	Phs Ped	8				16
17	None	0				17
18	None	0				18

Cabinet Configuration

IO Module	1	Type	ODOT 332
ITS Cabinet Port 1	No	33X Input Leading Edge	Enable TS2 Stop Time
ITS Cabinet Port C13S	No	33X input Trailing Edge	Disable TS2 Cabinet Alarm
Disable TS2 Startup Call		Use Raw MMU Channel Status	Disable TS2 Fault Flash

Input Points (Module 1)							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-39	Veh Det Call	2	25	C11-10	Not Active	0
2	C1-40	Veh Det Call	16	26	C11-11	Not Active	0
3	C1-41	Veh Det Call	8	27	C11-12	Not Active	0
4	C1-42	Veh Det Call	22	28	C11-13	Not Active	0
5	C1-43	Veh Det Call	3	29	C1-63	Veh Det Call	4
6	C1-44	Veh Det Call	17	30	C1-64	Veh Det Call	18
7	C1-45	Veh Det Call	9	31	C1-65	Veh Det Call	10
8	C1-46	Veh Det Call	23	32	C1-66	Veh Det Call	24
9	C1-47	Veh Det Call	6	33	C1-67	Ped Det Call	2
10	C1-48	Veh Det Call	20	34	C1-68	Ped Det Call	6
11	C1-49	Veh Det Call	12	35	C1-69	Ped Det Call	4
12	C1-50	Veh Det Call	26	36	C1-70	Ped Det Call	8
13	C1-51	Not Active	0	37	C1-71	Pre High Pri Low	1
14	C1-52	Not Active	1	38	C1-72	Pre High Pri Low	2
15	C1-53	Man Ctrl Enable	1	39	C1-73	Pre High Pri Low	3
16	C1-54	Not Active	0	40	C1-74	Pre High Pri Low	4
17	C1-55	Veh Det Call	15	41	C1-75	Not Active	0
18	C1-56	Veh Det Call	1	42	C1-76	Veh Det Call	5
19	C1-57	Veh Det Call	21	43	C1-77	Veh Det Call	19
20	C1-58	Veh Det Call	7	44	C1-78	Veh Det Call	11
21	C1-59	Veh Det Call	27	45	C1-79	Veh Det Call	25
22	C1-60	Veh Det Call	13	46	C1-80	Interval Adv	1
23	C1-61	Veh Det Call	28	47	C1-81	Flash Sense	1
24	C1-62	Veh Det Call	14	48	C1-82	Unit Stop Time	1

Input Points (Module 1) Cont.							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
49	C11-15	Not Active	0	57	C11-23	Not Active	0
50	C11-16	Not Active	0	58	C11-24	Not Active	0
51	C11-17	Not Active	0	59	C11-25	Not Active	0
52	C11-18	Not Active	0	60	C11-26	Not Active	0
53	C11-19	Not Active	0	61	C11-27	Not Active	0
54	C11-20	Not Active	0	62	C11-28	Not Active	0
55	C11-21	Not Active	0	63	C11-29	Not Active	0
56	C11-22	Not Active	0	64	C11-30	Not Active	0

Output Points (Module 1)							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-2	Ch Red DWalk	14	33	C1-35	Not Active	13
2	C1-3	Chl Green Walk	14	34	C1-36	Not Active	15
3	C1-4	Ch Red DWalk	4	35	C1-37	Not Active	14
4	C1-5	Ch Yel Ped Clear	4	36	C1-38	Not Active	16
5	C1-6	Chl Green Walk	4	37	C1-100	Ch Yel Ped Clear	18
6	C1-7	Ch Red DWalk	3	38	C1-101	Ch Yel Ped Clear	17
7	C1-8	Ch Yel Ped Clear	3	39	C1-102	Auto Flash	1
8	C1-9	Chl Green Walk	3	40	C1-103	Watchdog	1
9	C1-10	Ch Red DWalk	13	41	C1-83	Ch Red DWalk	18
10	C1-11	Chl Green Walk	13	42	C1-84	Chl Green Walk	18
11	C1-12	Ch Red DWalk	2	43	C1-85	Overlap Red	12
12	C1-13	Ch Yel Ped Clear	2	44	C1-86	Overlap Yellow	12
13	C1-15	Chl Green Walk	2	45	C1-87	Overlap Green	12
14	C1-16	Ch Red DWalk	1	46	C1-88	Overlap Red	11
15	C1-17	Ch Yel Ped Clear	1	47	C1-89	Overlap Yellow	11
16	C1-18	Chl Green Walk	1	48	C1-90	Overlap Green	11
17	C1-19	Ch Red DWalk	16	49	C1-91	Ch Red DWalk	17
18	C1-20	Chl Green Walk	16	50	C1-93	Chl Green Walk	17
19	C1-21	Ch Red DWalk	8	51	C1-94	Overlap Red	10
20	C1-22	Ch Yel Ped Clear	8	52	C1-95	Overlap Yellow	10
21	C1-23	Chl Green Walk	8	53	C1-96	Overlap Green	10
22	C1-24	Ch Red DWalk	7	54	C1-97	Overlap Red	9
23	C1-25	Ch Yel Ped Clear	7	55	C1-98	Overlap Yellow	9
24	C1-26	Chl Green Walk	7	56	C1-99	Overlap Green	9
25	C1-27	Ch Red DWalk	15	57	C11-1	Not Active	0
26	C1-28	Chl Green Walk	15	58	C11-2	Not Active	0
27	C1-29	Ch Red DWalk	6	59	C11-3	Not Active	0
28	C1-30	Ch Yel Ped Clear	6	60	C11-4	Not Active	0
29	C1-31	Chl Green Walk	6	61	C11-5	Not Active	0
30	C1-32	Ch Red DWalk	5	62	C11-6	Not Active	0
31	C1-33	Ch Yel Ped Clear	5	63	C11-7	Not Active	0
32	C1-34	Chl Green Walk	5	64	C11-8	Not Active	0

Vehicle and Pedestrian Phase Intervals									
Interval	Vehicle/Ped	Description	Red	Yellow	Green	Don't Walk	Clearance	Walk	Type
1	<i>Vehicle</i>	<i>Not Active</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
2	<i>Vehicle</i>	<i>Delay Green</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
3	<i>Vehicle</i>	<i>Pre Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
4	<i>Vehicle</i>	<i>Min Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
5	<i>Vehicle</i>	<i>Green Extension</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
6	<i>Vehicle</i>	<i>Green Dwell</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
7	<i>Vehicle</i>	<i>Pre Clear</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
8	<i>Vehicle</i>	<i>Yellow Change</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	-	-	-	<i>Yellow</i>
9	<i>Vehicle</i>	<i>Red Clear</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
10	<i>Vehicle</i>	<i>Red Dwell</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
11	<i>Vehicle</i>	<i>Barrier Hold</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
1	<i>Ped</i>	<i>Not Active</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
2	<i>Ped</i>	<i>Delay Ped</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
3	<i>Ped</i>	<i>Walk</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
4	<i>Ped</i>	<i>Walk Dwell</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
5	<i>Ped</i>	<i>Flash Don't Walk</i>	-	-	-	<i>Flash</i>	<i>On</i>	<i>Off</i>	<i>Ped Clear</i>
6	<i>Ped</i>	<i>Don't Walk</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>

User Program Configuration										
Program #	1	Description:	Unit Stop Time			Enabled:	Enabled			
1	Result	Unit Stop Time	Index:	1	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Aux Switch State	Index:	0	Description:					
	Parameter B	None	Index:	0						
2	Result	None	Index:	0	Operation:	Run A if B	Delay	0.0	Ext	0.0
	Parameter A	Number	Index:	2	Description:					
	Parameter B	Prev Line	Index:	0						
3	Result	None	Index:	0	Operation:	Run A	Delay	0.0	Ext	0.0
	Parameter A	Number	Index:	3	Description:					
	Parameter B	None	Index:	0						
4	Result	None	Index:	0	Operation:	Run A	Delay	0.0	Ext	0.0
	Parameter A	Number	Index:	4	Description:					
	Parameter B	None	Index:	0						
5	Result	None	Index:	0	Operation:	Run A	Delay	0.0	Ext	0.0
	Parameter A	Number	Index:	5	Description:					
	Parameter B	None	Index:	0						
6	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
7	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
8	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						

Program #	2	Description:	Stop Time	Beep	Enabled:	Enabled			
1	Result	Global Var	Index: 100	Operation:	R=(A + B)	Delay	0.0	Ext	0.0
	Parameter A	Glob Var	Index: 100	Description:					
	Parameter B	Number	Index: 1						
2	Result	None	Index: 0	Operation:	R=(A / B)	Delay	0.0	Ext	0.0
	Parameter A	Prev Line	Index: 0	Description:					
	Parameter B	Number	Index: 10						
3	Result	None	Index: 0	Operation:	R=(A mod B)	Delay	0.0	Ext	0.0
	Parameter A	Prev Line	Index: 0	Description:					
	Parameter B	Number	Index: 15						
4	Result	Global Var	Index: 101	Operation:	R=(A == B)	Delay	0.0	Ext	0.0
	Parameter A	Prev Line	Index: 0	Description:					
	Parameter B	Number	Index: 0						
5	Result	None	Index: 0	Operation:	Beep If A	Delay	0.0	Ext	0.0
	Parameter A	Glob Var	Index: 101	Description:					
	Parameter B	None	Index: 0						
6	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
7	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
8	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						

Program #	3	Description:	Dummy Detector Jumpers			Enabled:	Enabled			
1	Result	Veh Det Call	Index:	65	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	1	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
2	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:	not used				
	Parameter B	None	Index:	0						
3	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:	not used				
	Parameter B	None	Index:	0						
4	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:	not used				
	Parameter B	None	Index:	0						
5	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:	not used				
	Parameter B	None	Index:	0						
6	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:	not used				
	Parameter B	None	Index:	0						
7	Result	Veh Det Call	Index:	71	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	7	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
8	Result	Veh Det Call	Index:	72	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	8	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
9	Result	Veh Det Call	Index:	73	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	9	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
10	Result	Veh Det Call	Index:	74	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	10	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
11	Result	Veh Det Call	Index:	75	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	11	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
12	Result	Veh Det Call	Index:	76	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	12	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
13	Result	Veh Det Call	Index:	77	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	13	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
14	Result	Veh Det Call	Index:	78	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	14	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
15	Result	Veh Det Call	Index:	79	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	15	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
16	Result	Veh Det Call	Index:	80	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	16	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
17	Result	Veh Det Call	Index:	81	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	17	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						
18	Result	Veh Det Call	Index:	82	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Veh Det	Index:	18	Description:	Dummy Detector Jumper				
	Parameter B	None	Index:	0						

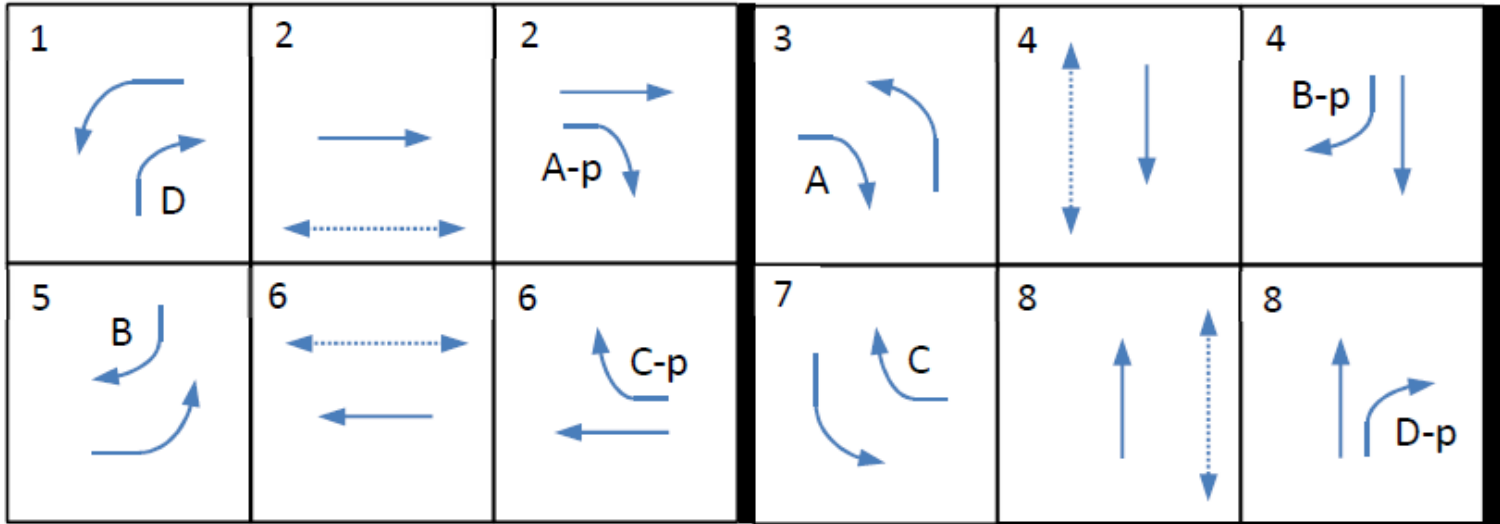
Program #	4	Description:	Delay overlap reservice after ped		Enabled:	Enabled				
1	Result	None	Index:	0	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Ch Yel	Index:	13	Description:					
	Parameter B	None	Index:	0						
2	Result	Olp Omit	Index:	9	Operation:	R=A	Delay	0.0	Ext	5.0
	Parameter A	Prev Line	Index:	1	Description:	Delay OLA for 5 sec after ped 2				
	Parameter B	None	Index:	0						
3	Result	None	Index:	0	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Ch Yel	Index:	14	Description:					
	Parameter B	None	Index:	0						
4	Result	Olp Omit	Index:	10	Operation:	R=A	Delay	0.0	Ext	5.0
	Parameter A	Prev Line	Index:	1	Description:	Delay OLB for 5 sec after ped 4				
	Parameter B	None	Index:	0						
5	Result	None	Index:	0	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Ch Yel	Index:	15	Description:					
	Parameter B	None	Index:	0						
6	Result	Olp Omit	Index:	11	Operation:	R=A	Delay	0.0	Ext	5.0
	Parameter A	Prev Line	Index:	1	Description:	Delay OLC for 5 sec after ped 6				
	Parameter B	None	Index:	0						
7	Result	None	Index:	0	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Ch Yel	Index:	16	Description:					
	Parameter B	None	Index:	0						
8	Result	Olp Omit	Index:	12	Operation:	R=A	Delay	0.0	Ext	5.0
	Parameter A	Prev Line	Index:	1	Description:	Delay OLD for 5 sec after ped 8				
	Parameter B	None	Index:	0						
9	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
10	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						

Program #	5	Description:	Omit overlaps exiting preempts		Enabled:	Enabled				
1	Result	Olp Omit	Index:	9	Operation:	R=A	Delay	0.0	Ext	4.0
	Parameter A	Pre Input	Index:	4	Description:					
	Parameter B	None	Index:	0						
2	Result	Olp Omit	Index:	10	Operation:	R=A	Delay	0.0	Ext	4.0
	Parameter A	Pre Input	Index:	1	Description:					
	Parameter B	None	Index:	0						
3	Result	Olp Omit	Index:	11	Operation:	R=A	Delay	0.0	Ext	4.0
	Parameter A	Pre Input	Index:	2	Description:					
	Parameter B	None	Index:	0						
4	Result	Olp Omit	Index:	12	Operation:	R=A	Delay	0.0	Ext	4.0
	Parameter A	Pre Input	Index:	3	Description:					
	Parameter B	None	Index:	0						
5	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
6	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
7	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
8	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
9	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
10	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						

Program #	6	Description:				Enabled:	Enabled			
1	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
2	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
3	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
4	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
5	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
6	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
7	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
8	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
9	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
10	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						

Program #		7	Description:			Enabled:	Enabled		
1	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
2	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
3	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
4	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
5	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
6	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
7	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
8	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
9	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
10	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						

Settlemer phase rotation diagram:



OLA = Ph2 + Ph3 – Ped.2
 OLB = Ph4 + Ph5 – Ped.4
 OLC = Ph6 + Ph7 – Ped.6
 OLD = Ph8 + Ph1 – Ped.8

Derek Gustafson

LEGEND

CONTROLLERS

- INSTALL MODEL 170E/HC11 CONTROLLER IN MODEL 332 CABINET WITH RISER FRAME, ORIENT LOUVERED DOOR AS SHOWN
- CONTROLLER (SEE SIGNAL PLAN)
- RETAIN & PROTECT EXISTING POWER SOURCE

POLES

- INSTALL (T=TYPE) STANDARD TRAFFIC SIGNAL MAST ARM POLE (SEE, "POLE ENTRANCE CHART")
- INSTALL (L=LENGTH) FOOT TRAFFIC SIGNAL MAST ARM
- INSTALL PEDESTRIAN SIGNAL PEDESTAL WITH FRANGIBLE BASE

LUMINAIRES

- INSTALL (L=LENGTH) FOOT LUMINAIRE ARM
- INSTALL 250 WATT, HIGH PRESSURE SODIUM LUMINAIRE, TYPE M-S-III WITH 120/240 DUAL VOLTAGE MAG-REGULATOR BALLAST
- INSTALL PHOTOCONTROL ELECTRONIC RELAY ON POLE PER T.M.S. DWG. NO. TM422

SIGNALS

- INSTALL PHASE (PH=PHASE) VEHICLE SIGNAL
- INSTALL PHASE (PH=PHASE) PEDESTRIAN SIGNAL WITH CLAMSHELL MOUNT & PUSHBUTTON WITH 'H' MOUNT

SIGNS

- INSTALL ALUMINUM (30" X 36" TYPE "W7") RIGHT ARROW "ONLY" SIGN (R3-5R)
- INSTALL ALUMINUM (30" X 36" TYPE "W7 MOD.") " RIGHT TURN YIELD TO PEDS ON GREEN " SIGN (OR22-14)
- INSTALL NEW TYPE "G1" ALUMINUM SIGN (N=NUMBER), SEE SHEETS S-09907 THRU. S-09916

CABINETS

- INSTALL BASE MOUNTED SERVICE CABINET, 120/240 VOLT METERED, FOR SIGNAL & SIGNAL POLE MOUNTED ILLUMINATION SYSTEMS
- INSTALL TERMINAL CABINET

LEGEND CONTINUED

JUNCTION BOXES

- INSTALL 17"x10"x12" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX
- INSTALL 17"x10"x12" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX WITH CONCRETE APRON.
- INSTALL 22"x12"x12" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX
- INSTALL 30"x17"x12" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX
- JUNCTION BOX (SEE SIGNAL PLAN)
- INSTALL 6" MAX. SAND POCKET BLOCK-OUT WITH (S=SIZE) INCH CONDUIT TO JUNCTION BOX
- RETAIN & PROTECT EXISTING JUNCTION BOX

FIRE PREEMPTION

- INSTALL CHANNEL (CH) FIRE PREEMPTION DETECTOR FEEDER CABLE
- INSTALL CHANNEL (CH), (N) FIRE PREEMPTION DETECTOR UNIT

LOOPS

- INSTALL (X=NUMBER OF CABLES) PHASE (PH=PHASE) LOOP FEEDER CABLES
- INSTALL PHASE (PH=PHASE) 6' ROUND OR 4' DIAMOND VEHICLE DETECTOR LOOP
- INSTALL PHASE (PH=PHASE) 2.5' DIAMOND BICYCLE DETECTOR LOOP
- INSTALL (N=NUMBER) PAIR OF LOOP WIRES
- RETAIN & PROTECT EXISTING SAND POCKET BLOCK-OUT WITH (S=SIZE) INCH CONDUIT TO JUNCTION BOX

SIGNAL MOUNTING OPTION

B = ADJUSTABLE BRACKET ASSEMBLY WITH RAIN CAP(S) (INSTALL 1" METALLIC CHASE NIPPLE IN LIEU OF TENON WHEN REQUIRED FOR WIRING)

SIGNAL HEAD TYPES

- 2 = 12" R, 12" Y, 12" G
- 3L = 12" RLTA, 12" YLTA, 12" GLTA
- 5 = 12" R, 12" Y, 12" G, 12" YRTA, 12" GRTA

LEGEND CONTINUED

CONDUITS

- INSTALL (S=SIZE) INCH ELECTRICAL CONDUIT
- INSTALL 2" CONDUIT STUB (FOR FUTURE USE - CAP ENDS)
- ELECTRICAL CONDUIT (SEE SIGNAL PLAN)
- DETECTOR CONDUIT (SEE DETECTOR PLAN)
- INTERCONNECT CONDUIT (SEE INTERCONNECT PLAN)
- INSTALL CONDUIT & WIRE AS REQUIRED BY POWER COMPANY
- COORDINATE CONDUIT & WIRE WITH TELEPHONE COMPANY FOR PHONE DROP. CONTRACTOR IS RESPONSIBLE TO SEE THAT PHONE CONNECTION IS OPERATIONAL AT SYSTEM TURN-ON
- INSTALL CONDUIT BY HORIZONTAL DIRECTIONAL DRILLING, OPEN TRENCH NOT ALLOWED
- RETAIN & PROTECT EXISTING DETECTOR CONDUIT

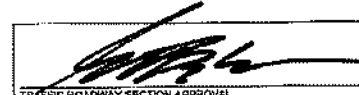

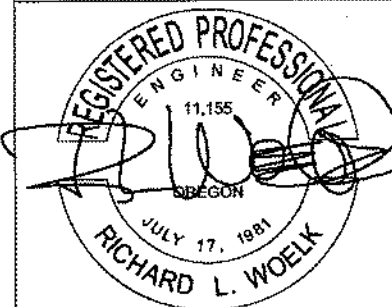
WIRES

- INSTALL (N=NUMBER) NO. (G=AWG WIRE SIZE) TYPE XHHW WIRES
- INSTALL (N=NUMBER) NO. (G=AWG WIRE SIZE) TYPE THWN WIRES
- INSTALL (N=NUMBER) NO. 8 TYPE THWN WIRES (SIGNAL SYSTEM COMMON)
- INSTALL (N=NUMBER) NO. 12 TYPE THWN (PEDESTRIAN SIGNAL SYSTEM COMMON)
- INSTALL POLY PULL LINE (225 FT.LB. MIN. STRENGTH)
- INSTALL 3 SPARE WIRES FOR PHASE (PH=PHASE) AS PER TABLE

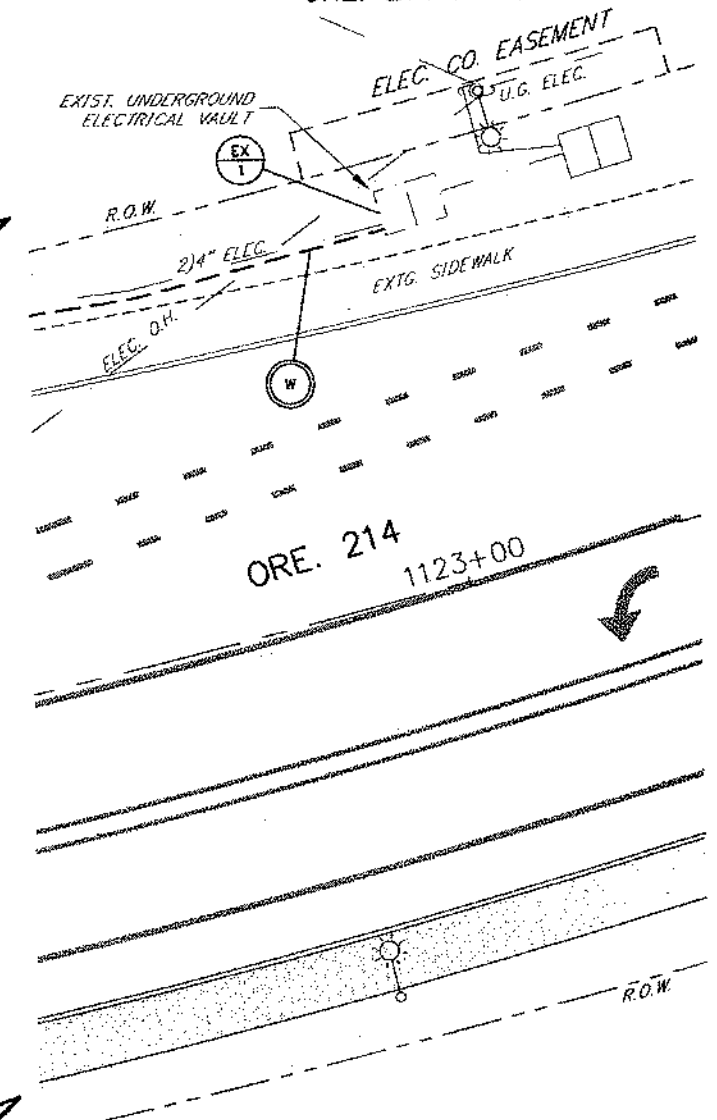
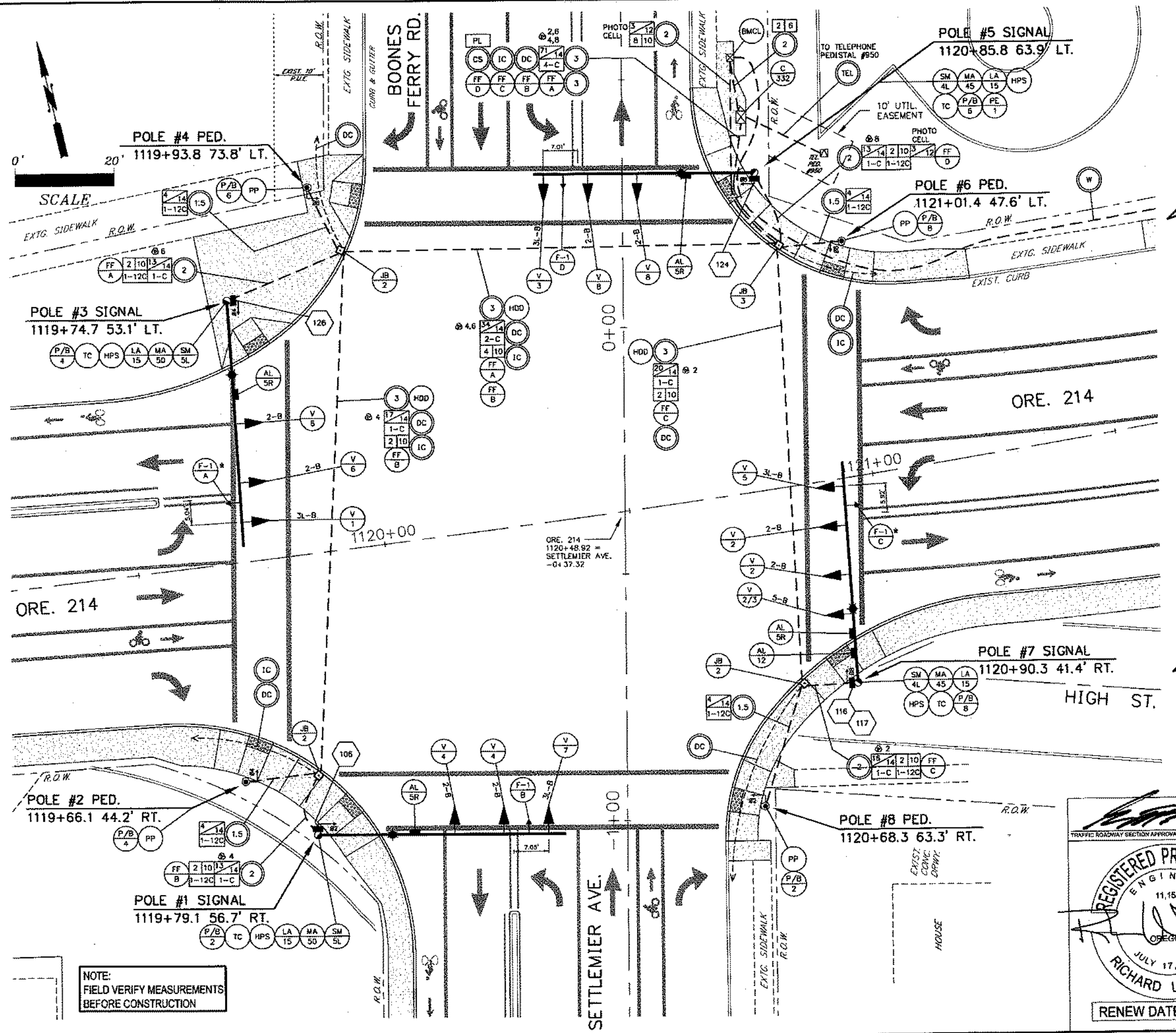
SIGNAL AND DETECTOR PLAN LEGEND SILVERTON - HILLSBORO HWY. AT SETTLEMIER AVE ORE. 214 MP 37.87

NOTE: SEE TRS DWG. 14276 AND 14277 FOR SIGNAL & DETECTOR PLANS

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 TRAFFIC ROADWAY SECTION APPROVAL		 OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC ROADWAY SECTION	
 RENEW DATE: 06/30/08		A.T.E.P., INC. P.O. BOX 3047 503.364.5066 OFFICE SALEM, OR 97302 503.364.1260 FAX	
ORE. 214 AT SETTLEMIER AVE. HILLSBORO-SILVERTON HIGHWAY MARION COUNTY		DESIGNED BY: DICK WOELK P.E. REVIEWED BY: KARL BIRKY P.E. DRAWN BY: DAN GUILLE FC: 140 MP: 37.87	
ACCOMPANIED BY DWGS.: TM460, TM457, TM460, TM462, TM465, TM467, TM470, TM472, TM475, TM478, TM480, TM482, TM485, TM488, TM650 thru TM653 and TRS DWGS: 14276 - 14281		SIGNAL AND DETECTOR PLAN LEGEND	
		SHEET NO. _____ TRS DWG. NO. 14275	

SIGNAL PLAN SILVERTON - HILLSBORO HWY. AT SETTLEMIER AVE. ORE. 214 MP 37.87



* NOTE:
FIRE PREEMPTION DETECTOR LOCATION AND ORIENTATION
ON MAST ARM TO BE DETERMINED IN THE FIELD TO
CAPTURE OPTICOM SIGNAL AS SOON AS POSSIBLE.

NOTE:
SEE TRS DWG. 14275
FOR LEGEND

UTILITIES NOT SHOWN
CONTRACTOR TO CONTACT UTILITY
COMPANIES FOR FIELD LOCATIONS

NOTE:
FIELD VERIFY MEASUREMENTS
BEFORE CONSTRUCTION

REGISTERED PROFESSIONAL
ENGINEER
11,155
JULY 17, 1981
RICHARD L. WOELK
RENEW DATE: 06/30/08

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ROADWAY SECTION

A.T.E.P., INC. P.O. BOX 3047 503.364.5066 OFFICE
SALEM, OR 97302 503.364.1260 FAX

ORE. 214 AT
SETTLEMIER AVE.
HILLSBORO-SILVERTON HIGHWAY
MARION COUNTY

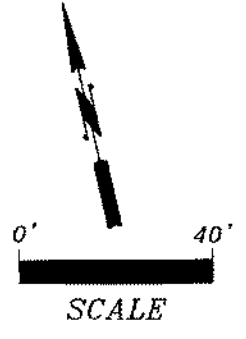
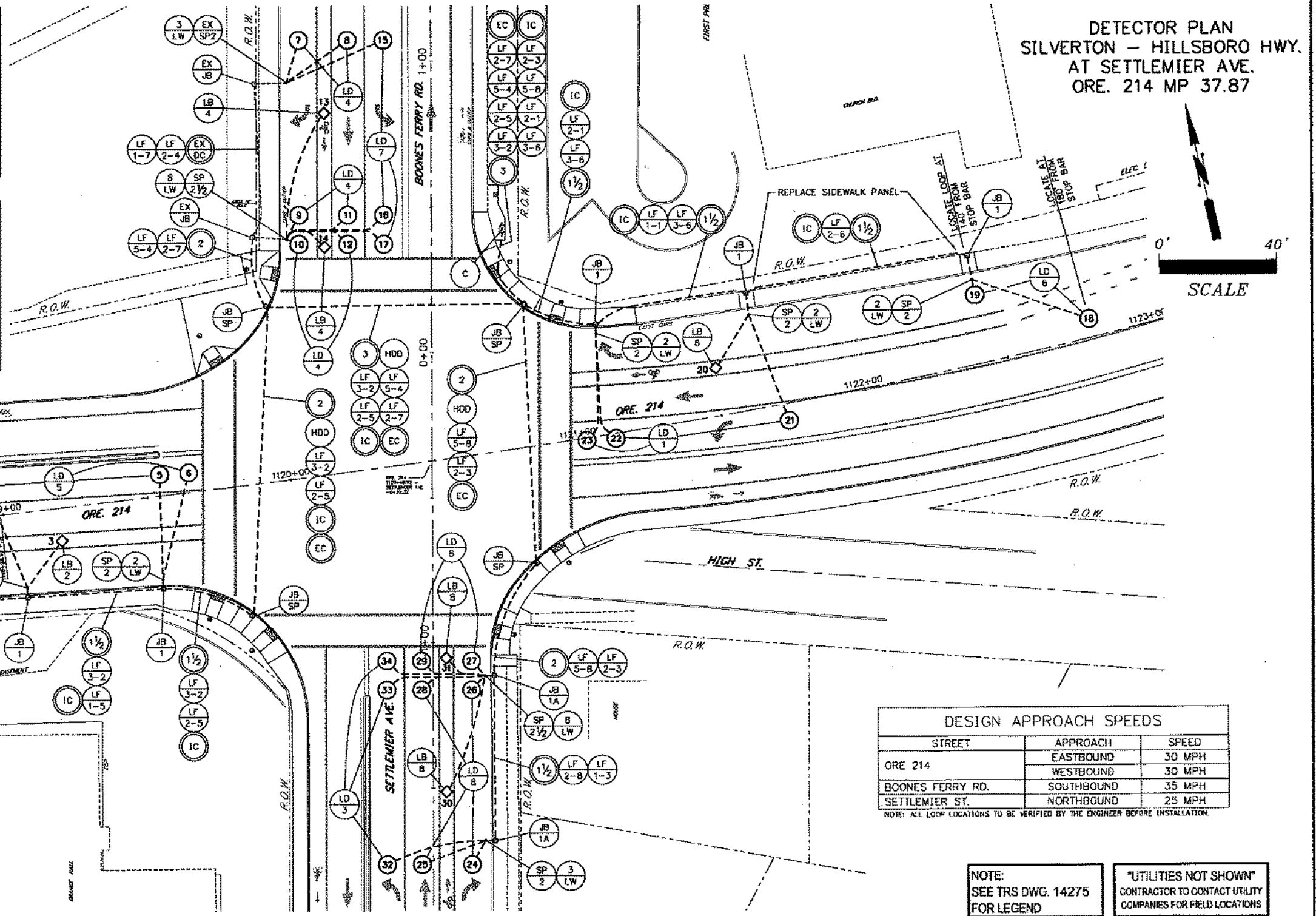
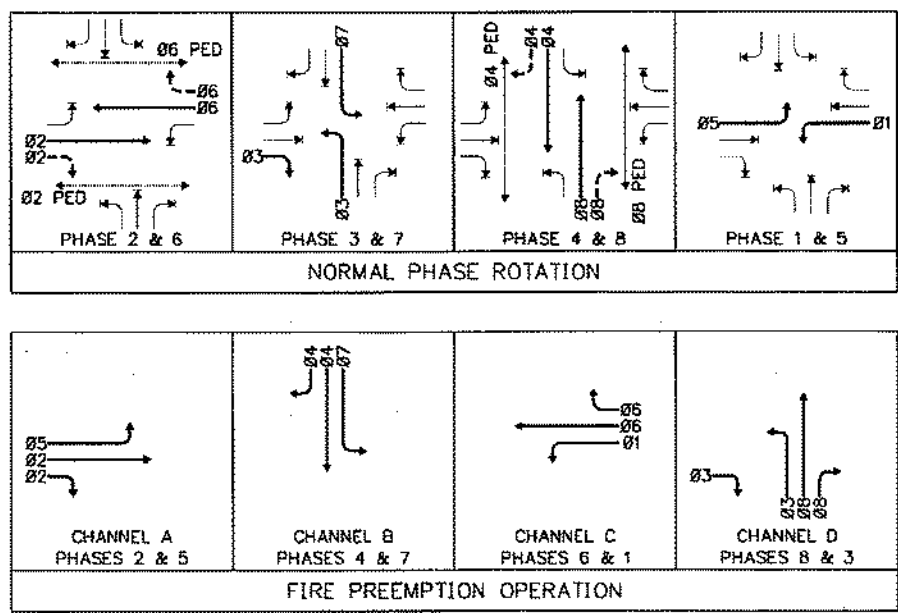
DESIGNED BY: DICK WOELK P.E.
REVIEWED BY: KARL BIRKY P.E.
DRAWN BY: DAN GUILLE
FC: 140 MP: 37.87

SIGNAL PLAN

Sta. ID. No. _____ T.R.S. DWG. NO. 14276

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DETECTOR PLAN
SILVERTON - HILLSBORO HWY.
AT SETTLEMIER AVE.
ORE. 214 MP 37.87



DESIGN APPROACH SPEEDS

STREET	APPROACH	SPEED
ORE 214	EASTBOUND	30 MPH
	WESTBOUND	30 MPH
BOONES FERRY RD.	SOUTHBOUND	35 MPH
SETTLEMIER ST.	NORTHBOUND	25 MPH

NOTE: ALL LOOP LOCATIONS TO BE VERIFIED BY THE ENGINEER BEFORE INSTALLATION.

NOTE: SEE TRS DWG. 14275 FOR LEGEND

"UTILITIES NOT SHOWN"
CONTRACTOR TO CONTACT UTILITY COMPANIES FOR FIELD LOCATIONS

LOOP DETECTOR WIRING DIAGRAM

"DISTANCE" IS FROM STOP LINE TO CENTER OF LOOP IN FEET

LOOP NUMBER	DISTANCE FEET	PHASE	SLOT
1	180	2	I2U
2	140	2	I2L
3	50	2	I3L
4	75	5	J1U
5	15	5	J9U
6	75	4	I6U
7	75	4	I6L
8	15	4	I8U
10	5	4	I8U
11	15	4	I7U
12	5	4	I7U
13	50	4	I7L
14	4	4	I7L
15	75	7	J5U
16	15	7	J9L
17	5	7	J9L
18	180	6	J2U
19	140	6	J2L
20	50	6	J3L
21	75	1	I1U
22	15	1	I9U
23	5	1	I9U
24	75	8	J6U
25	75	8	J6L
26	15	8	J8U
27	5	8	J8U
28	15	8	J7U
29	5	8	J7U
30	50	8	J7L
31	4	8	J7L
32	75	3	I5U
33	15	3	I9L
34	5	3	I9L

CONTROLLER CABINET

TRANSFER TO I7U

TRANSFER TO I7U

TRANSFER TO J7U

TRANSFER TO J7U

REGISTERED PROFESSIONAL ENGINEER
11.155
RICHARD L. WOELK
JULY 17, 1981
OREGON
RENEW DATE: 06/30/08

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ROADWAY SECTION

A.T.E.P., INC. P.O. BOX 3047 SALEM, OR 97302 503.364.5066 OFFICE 503.364.1260 FAX

ORE. 214 AT
SETTLEMIER AVE.
HILLSBORO-SILVERTON HIGHWAY
MARION COUNTY

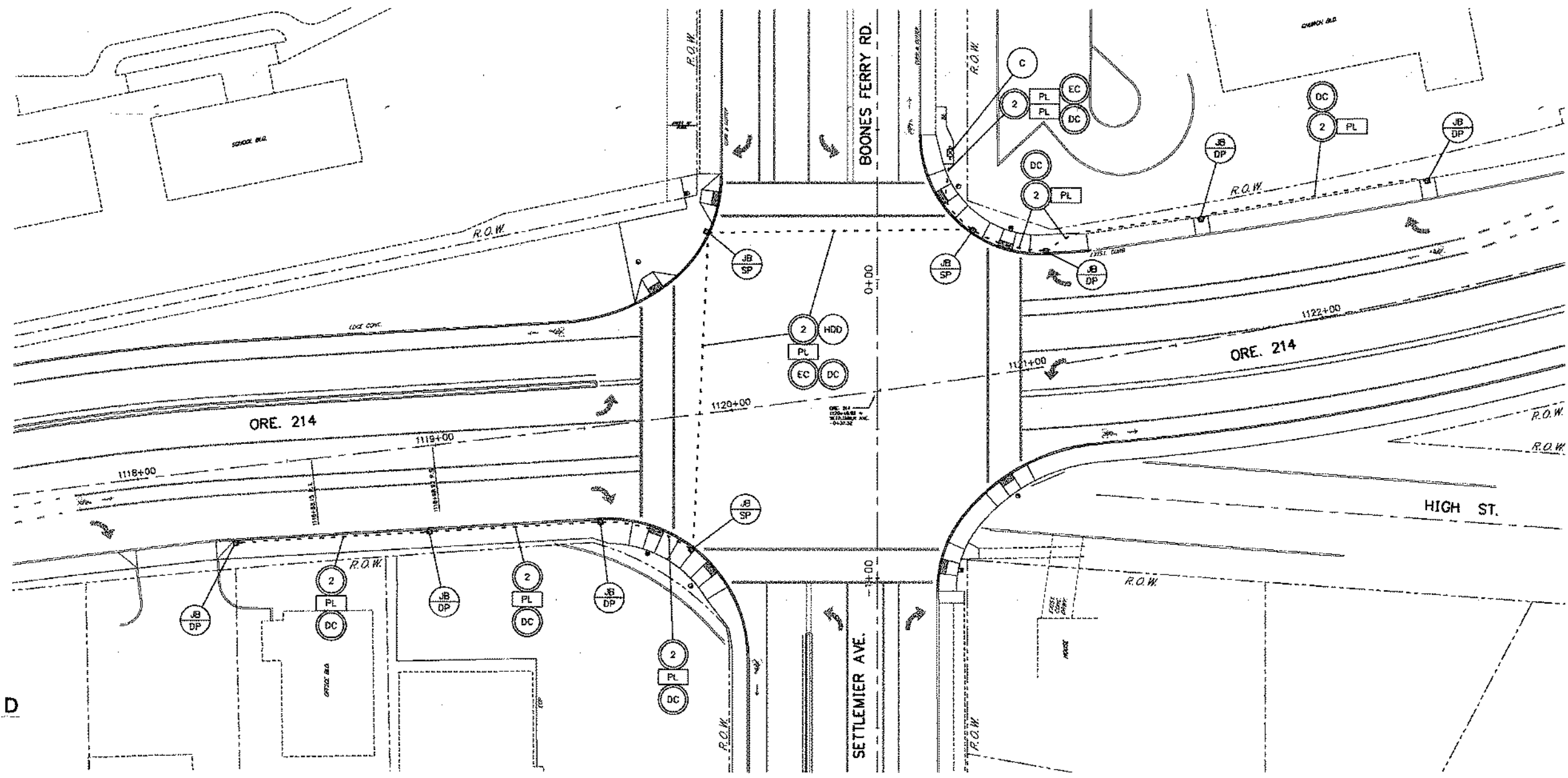
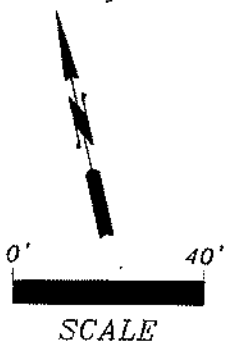
DESIGNED BY: DICK WOELK P.E.
REVIEWED BY: KARL BIRKY P.E.
DRAWN BY: DAN GUILLE
FC: 140 MP: 37.87

DETECTOR PLAN

SP. 10. No. T.R.S. DWG. NO. 14277

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INTERCONNECT PLAN
SILVERTON - HILLSBORO HWY.
AT SETTLEMIER AVE.
ORE. 214 MP 37.87



LEGEND

CONTROLLERS

(C) CONTROLLER (SEE SIGNAL PLAN)

JUNCTION BOXES

(JB/SP) JUNCTION BOX (SEE SIGNAL PLAN)

(JB/DP) JUNCTION BOX (SEE DETECTOR PLAN)

WIRES

(PL) INSTALL POLY PULL LINE
(225 FT.LB. MIN. STRENGTH)

LEGEND CONTINUED

CONDUITS

(S) INSTALL (S = SIZE) INCH ELECTRICAL
CONDUIT (FOR FUTURE USE)

(HDD) INSTALL CONDUIT BY HORIZONTAL
DIRECTIONAL DRILLING,
OPEN TRENCH NOT ALLOWED

(EC) ELECTRICAL CONDUIT (SEE SIGNAL PLAN)

(DC) DETECTOR CONDUIT (SEE DETECTOR PLAN)

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TRAFFIC ROADWAY SECTION APPROVAL
REGISTERED PROFESSIONAL ENGINEER
11.055
OREGON
JULY 17, 1981
RICHARD L. WOELK
RENEW DATE: 06/30/08

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ROADWAY SECTION
A.T.E.P., INC. P.O. BOX 3047 503.364.5066 OFFICE
SALEM, OR 97302 503.364.1260 FAX
ORE. 214 AT
SETTLEMIER AVE.
HILLSBORO-SILVERTON HIGHWAY
MARION COUNTY
DESIGNED BY: DICK WOELK P.E.
REVIEWED BY: KARL BIRKY P.E.
DRAWN BY: DAN GUILLE
FC: 140 MP: 37.87
INTERCONNECT PLAN
Sv. ID. No. _____ T.R.S. DWG. NO. 14278

SIGNAL & DETECTOR REMOVAL PLAN
SILVERTON - HILLSBORO HWY.
AT SETTLEMIER AVE.
ORE. 214 MP 37.87

LEGEND

CONTROLLERS

(RX / C) REMOVE EXISTING CONTROLLER, CABINET & EQUIPMENT

POLES

(RX / SP) REMOVE EXISTING STRAIN POLE & ALL APPURTENANCES

JUNCTION BOXES

(RX / JB) REMOVE EXISTING JUNCTION BOX

(EX / JB) RETAIN & PROTECT EXISTING 17"x10"x12" PRECAST CONCRETE JUNCTION BOX WITH CONCRETE APPRON

(EX / SP) MAINTAIN & PROTECT EXISTING SAND POCKET BLOCK-OUT & CONDUIT TO JUNCTION BOX

(AX / SP) ABANDON EXISTING SAND POCKET BLOCK-OUT & CONDUIT TO JUNCTION BOX

(RX / SP) REMOVE EXISTING SAND POCKET BLOCK-OUT

LOOPS

(AX / LPH) ABANDON EXISTING PHASE (PH=PHASE) VEHICLE DETECTOR LOOP [NOTE: LOOP TO BE SAWCUT IN 3 PLACES TO RENDER INOPERATIVE]

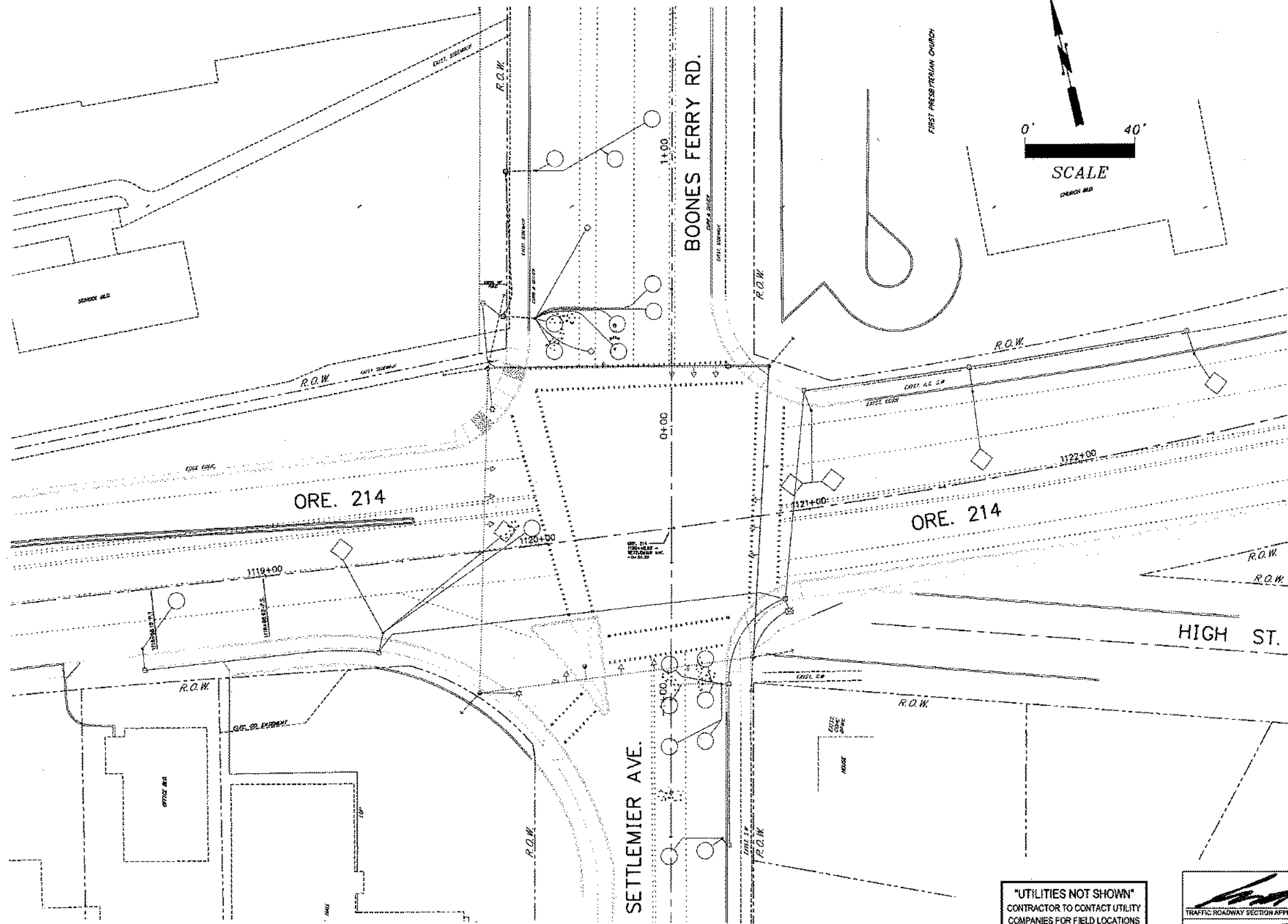
WIRES

(RX / W) REMOVE EXISTING WIRING

CONDUITS

(AX / C) ABANDON EXISTING CONDUIT

(EX / DC) RETAIN & PROTECT EXISTING DETECTOR CONDUIT



"UTILITIES NOT SHOWN"
CONTRACTOR TO CONTACT UTILITY COMPANIES FOR FIELD LOCATIONS

NOTE:
THE REMOVAL OF THE EXISTING SIGNAL SYSTEM AT SETTLEMIER IS INCIDENTAL TO THE PROPOSED TRAFFIC SIGNAL INSTALLATION AT SETTLEMIER

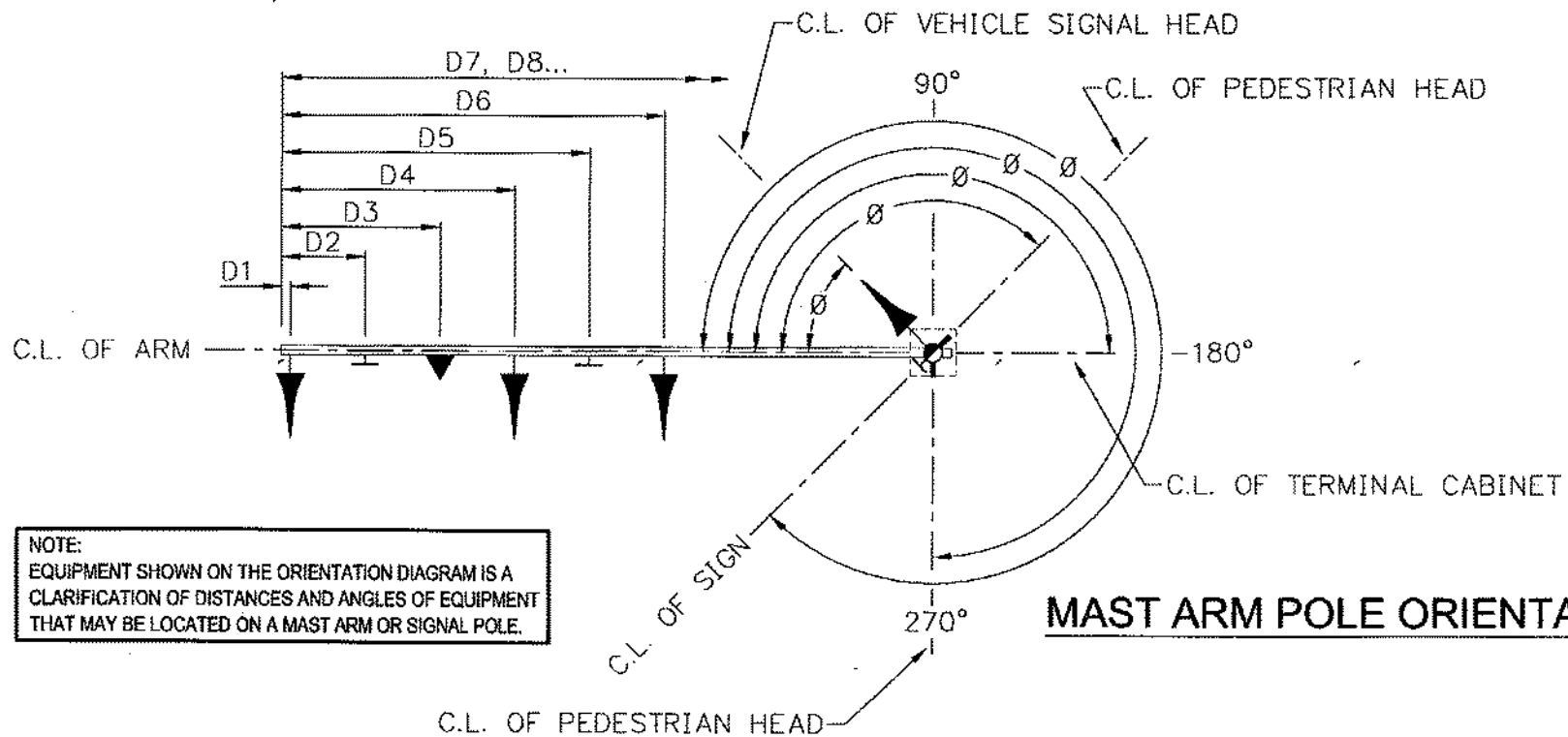
NOTE:
THE CONTRACTOR SHALL CONTACT AND COORDINATE THE REMOVAL OF THE EXISTING POWER WITH THE LOCAL POWER COMPANY.

NOTE:
REMOVE ENTIRE SIGNAL FACILITY AND ALL APPURTENANCES AS DIRECTED BY THE PROJECT ENGINEER. ABANDON ALL EXISTING LOOP DETECTORS.

	<p>A.T.E.P., INC. P.O. BOX 3047 503.364.5066 OFFICE SALEM, OR 97302 503.364.1260 FAX</p>	
<p>ORE. 214 AT SETTLEMIER AVE. HILLSBORO-SILVERTON HIGHWAY MARION COUNTY</p>		
<p>DESIGNED BY: DICK WOELK P.E. REVIEWED BY: KARL BIRKY P.E. DRAWN BY: DAN GULE FC: 140</p>	<p>MP: 37.87</p>	
<p>SIGNAL AND DETECTOR REMOVAL PLAN</p>		<p>Sta. ID. No. _____ T.R.S. DWG. NO. 14279</p>
<p>RENEW DATE: 06/30/08</p>		

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POLE ENTRANCE CHART
SILVERTON - HILLSBORO HWY.
AT SETTLEMIER AVE.
ORE. 214 MP 37.87



NOTE:
EQUIPMENT SHOWN ON THE ORIENTATION DIAGRAM IS A CLARIFICATION OF DISTANCES AND ANGLES OF EQUIPMENT THAT MAY BE LOCATED ON A MAST ARM OR SIGNAL POLE.

MAST ARM POLE ORIENTATION DIAGRAM

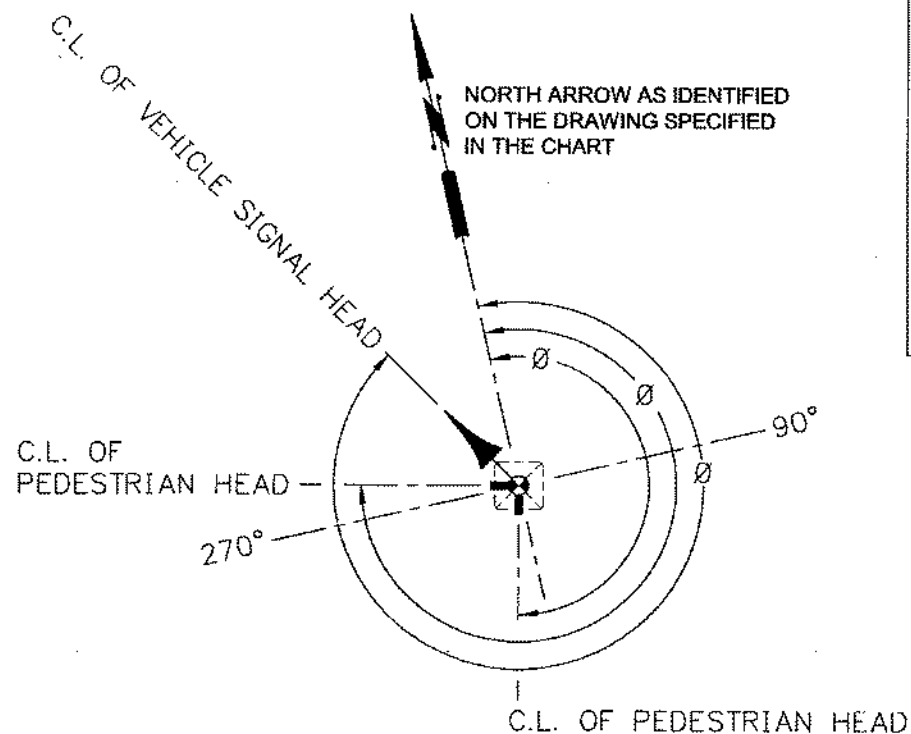
POLE ENTRANCE CHART

POLE NO.	DWG. NO.	TYPE	EQUIPMENT ON POLE					EQUIPMENT ON MAST ARM (LENGTH IN FEET AND EQUIPMENT TYPE)							FOUNDATION INFORMATION		LUMINAIRES								
			PED. SIGNAL DEG.	TERM. CABINET DEG.	SIGN DEG.	TRAFFIC SIGNAL DEG.	PHOTO ELECTRIC CELL	ARM LENGTH	D1	D2	D3	D4	D5	D6	D7	FOUNDATION NUMBER	REQUIRED FOUNDATION DEPTH	ARM LENGTH	ARM DEG.	MTG. HT.	TYPE	FIXTURE	TYPE	WATT.	
1	14276	SM-5L	270	180	270			50	3.5 V3L	7.5 F	12.5 V2	22.5 V2	30.5 SA			6	19'-6"	15	0	35	HPS	M-S-III	250		
2	14276	PP	103																						
3	14276	SM-5L	274	180	270			50	5 V3L	9' F	13 V2	25 V2	31 SA			6	19'-6"	15	0	35	HPS	M-S-III	250		
4	14276	PP	193																						
5	14276	SM-4L	270	180	270		270	45	2 V3L	6 F	11 V2	21 V2	31 SA			5	19'-0"	15	0	35	HPS	M-S-III	250		
6	14276	PP	283																						
7	14276	SM-4L	274	180	270			45	5 V3L	9' F	13 V2	23 V2	31 V5	36 SA	39 SA			5	19'-0"	15	0	35	HPS	M-S-III	250
8	14276	PP	13																						

BRACKET MOUNT:
V2 = TRAFFIC SIGNAL TYP 2, ADJUSTABLE BRACKET MOUNT TENON NOT REQUIRED (SEE STD. DWG. TM460)
V3L = TRAFFIC SIGNAL TYP 3L, ADJUSTABLE BRACKET MOUNT TENON NOT REQUIRED (SEE STD. DWG. TM460)
V5 = TRAFFIC SIGNAL TYP 5, ADJUSTABLE BRACKET MOUNT TENON NOT REQUIRED (SEE STD. DWG. TM460)
SA = SIGN, 30" x 36" ALUMINUM W/ ADJUSTABLE BRACKET MOUNT TENON NOT REQUIRED (SEE STD. DWG. TM465)

F = FIRE PREEMPTION (SEE STD. DWG. TM465)
* = LOCATION & ORIENTATION ON MAST ARM TO BE DETERMINED IN THE FIELD TO CAPTURE OPTICOM SIGNAL AS SOON AS POSSIBLE

Blanks in the chart shown indicate no equipment at that location.



PEDESTRIAN PEDESTAL / VEHICLE PEDISTAL ORIENTATION DIAGRAM

NOTE:
EQUIPMENT SHOWN ON THE ORIENTATION DIAGRAM IS A CLARIFICATION OF ANGLES OF EQUIPMENT THAT MAY BE LOCATED ON A PEDESTRIAN PEDESTAL OR VEHICLE PEDESTAL.

TRAFFIC ROADWAY SECTION APPROVAL

RENEW DATE: 06/30/08

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ROADWAY SECTION

A.T.E.P., INC. P.O. BOX 3047 503.364.5066 OFFICE
SALEM, OR 97302 503.364.1260 FAX

ORE. 214 AT
SETTLEMIER AVE.
HILLSBORO-SILVERTON HIGHWAY
MARION COUNTY

DESIGNED BY: DICK WOELK P.E.
REVIEWED BY: KARL BIRKY P.E.
DRAWN BY: DAN GUILLE
FC: 140 MP: 37.87

POLE ENTRANCE CHART

Timing Sheet

TSSU ID **3025** Intersection **OR99E** @ **OR214/OR211**

Unit	
Startup Parameters, Phase Configuration, Security, Sequence, Initialization	

MCE Sequence*	1	Sequence 1	Sequence 2	Sequence 3
Free Sequence	1	Ring #1 1,2,a,4,3,b	Ring #1 2,1,a,4,3,b	Ring #1 1,2,a,3,4,b
Startup Flash	0	Ring #2 5,6,a,8,7,b	Ring #2 5,6,a,8,7,b	Ring #2 5,6,a,7,8,b
Red Revert	5.0	First All Red** 6	Start Yellow 0.0	Exit Mode Enable
Backup Time	600	Auto Ped Clear Enable	Grn Flash Freq 60	Yel Flash Freq 60

Phase	Description	Ring	Concurrent Ph.	Startup	Startup Min	No Serve Phase
1	NBL	1	5,6	Phase Not On	0	
2	SB	1	5,6	Green Walk	0	
3	EBL	1	8,7	Phase Not On	0	
4	WB	1	8,7	Phase Not On	0	
5	SBL	2	1,2	Phase Not On	0	
6	NB	2	1,2	Green Walk	0	
7	WBL	2	4,3	Phase Not On	0	
8	EB	2	4,3	Phase Not On	0	

Parameter	Phase Timing (Phase Plan 1)							
	1	2	3	4	5	6	7	8
Movement	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Walk	0	7	0	10	0	11	0	11
Ped Clear	0	21	0	27	0	19	0	29
Minimum Green	4	10	4	6	4	10	4	6
Minimum Green 2	0	0	0	0	0	0	0	0
Passage	3.0	5.2	3.0	3.5	3.0	5.2	3.0	3.5
Max 1	25	45	30	30	20	45	30	30
Max 2	25	45	30	30	20	45	30	30
Max 3	0	0	0	0	0	0	0	0
Yellow	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Red Clearance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Add Red Clearance	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial (Sec Per Act)	0.0	1.2	0.0	0.0	0.0	1.2	0.0	0.0
Max Initial	0	21	0	0	0	21	0	0
Time Before Reduce	5	15	8	8	8	15	8	8
Cars Before Reduce	0	0	0	0	0	0	0	0
Time To Reduce	5	8	5	5	5	8	5	5
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	1.0	2.2	1.0	1.0	1.0	2.2	1.0	1.0
Dynamic Max Limit	0	60	0	45	0	60	0	45
Dynamic Max Step	0.0	5.0	0.0	5.0	0.0	5.0	0.0	5.0
Advance Walk	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0
Alt Ped Clear								
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Options								
	Per Phase Functions (Phase Plan 1)							
Parameter	1	2	3	4	5	6	7	8
Phases Enabled	X	X	X	X	X	X	X	X
Auto Flash Entry				X				X
Auto Flash Exit		X				X		
Non Actuated #1								
Non Actuated #2								
Non Lock Detector Memory*	X	X	X	X	X	X	X	X

*AKA: Yellow Lock - When disabled the call is locked at the beginning of yellow interval. When enabled the call locking is dependent on the detector options

Min Vehicle Recall		X				X		
Max Vehicle Recall								
Ped Recall								
Soft Vehicle Recall								
Dual Entry				X				X
Simultaneous Gap Disable	X		X	X	X		X	X
Guaranteed Passage								
Actuated Rest In Walk								
Conditional Service Enable								
Add Initial								
Ped Clear During Yellow								
Ped Clear During Red								
Condition Reservice								
Yellow Min Override								
No Startup Veh Call								
Advanced Warning Flasher								
No Ped Startup Call								
Ped Clear Overlap Trail Grn								
Flash Exit Veh Call								
Flash Exit Ped Call								
Min Green #2 Enabled								
Max Green #2 Enabled								
Max Green #3 Enabled								
Ped Timing #2 Enabled								
Ped Clear During Pre-Clear								
Ped NA+Mode								
Red Rest								
Serve Every Other Even								
Serve Every Other Odd								
Ped Recycle		X				X		

Global Detector Settings				
Vehicle	No Activity	0	Max Presence	10
	Erratic Count	35	Failed Recall	None
Pedestrian	No Activity	0	Max Presence	10
	Erratic Count	0		

Volume Occupancy Data Collection		
Data Collection (Seconds)		Number of Periods 15

Vehicle Detector Parameters													
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Queue Limit	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
Loops 24-25	1	1	0	0	0	1.5	0.0	0	0	0	0	0	None
Loop 1	2	2	0	0	0	2.2	0.0	0	0	0	0	30	None
Loop 2	3	2	0	0	0	2.2	0.0	0	0	0	0	30	None
Loops 3-4	4	2	0	0	0	2.2	0.0	0	0	0	0	30	None
Loop 5 bike	5	2	0	0	0	0.0	0.0	0	0	0	0	0	None
	6	0	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 34	7	3	0	0	0	1.5	0.0	0	0	0	0	0	None
Loop 9	8	4	0	0	0	2.2	0.0	0	0	0	0	0	None
Loop 10	9	4	0	0	0	2.2	0.0	0	0	0	0	0	None
Loops 13-14	10	4	0	0	0	0.0	0.0	0	0	0	0	25	None
Loops 11-12	11	4	0	0	0	0.0	0.0	0	0	0	0	25	None
	12	0	0	0	0	0.0	0.0	0	0	0	0	0	None
Loops 26-29	13	1	0	0	0	0.0	3.0	0	0	0	0	20	None
Loops 35-36	14	3	0	0	0	0.0	0.0	0	0	0	0	25	None
Loop 6	15	5	0	0	0	1.5	0.0	0	0	0	0	0	None
Loop 18	16	6	0	0	0	2.2	0.0	0	0	0	0	30	None
Loop 19	17	6	0	0	0	2.2	0.0	0	0	0	0	30	None
Loops 20-22	18	6	0	0	0	2.2	0.0	0	0	0	0	30	None
Loop 23 bike	19	6	0	0	0	0.0	0.0	0	0	0	0	0	None
	20	0	0	0	0	0.0	0.0	0	0	0	0	0	None
Loop 15	21	7	0	0	0	1.5	0.0	0	0	0	0	0	None
Loop 30	22	8	0	0	0	2.2	0.0	0	0	0	0	0	None
Loop 31	23	8	0	0	0	2.2	0.0	0	0	0	0	0	None
Loops 32-33	24	8	0	0	0	0.0	0.0	0	0	0	0	25	None
	25	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	26	0	0	0	0	0.0	0.0	0	0	0	0	0	None
Loops 7-8	27	5	0	0	0	0.0	3.0	0	0	0	0	20	None
Loops 16-17	28	7	0	0	0	0.0	0.0	0	0	0	0	25	None
	29	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	30	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	31	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	32	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	33	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	34	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	35	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	36	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	37	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	38	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	39	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	40	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	41	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	42	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	43	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	44	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	45	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	46	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	47	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	48	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	49	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	50	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	51	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	52	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	53	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	54	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	55	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	56	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	57	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	58	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	59	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	60	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	61	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	62	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	63	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	64	0	0	0	0	0.0	0.0	0	0	0	0	0	None

Vehicle Detector Parameters (Continued)													
Description	Det	Call Phase	Call Overlap	Call Ped	Switch Phase	Extend	Delay	Queue Limit	No Activity	Max Pres.	Erratic Count	Fail Time	Failed Recall
	65	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	66	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	67	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	68	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	69	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	70	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	71	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	72	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	73	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	74	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	75	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	76	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	77	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	78	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	79	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	80	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	81	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	82	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	83	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	84	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	85	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	86	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	87	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	88	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	89	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	90	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	91	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	92	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	93	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	94	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	95	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	96	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	97	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	98	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	99	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	100	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	101	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	102	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	103	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	104	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	105	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	106	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	107	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	108	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	109	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	110	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	111	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	112	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	113	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	114	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	115	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	116	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	117	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	118	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	119	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	120	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	121	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	122	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	123	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	124	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	125	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	126	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	127	0	0	0	0	0.0	0.0	0	0	0	0	0	None
	128	0	0	0	0	0.0	0.0	0	0	0	0	0	None

Vehicle Detector Failure Parameters and Other Options										
Description	Det	Vol Det	Occ Det	Call	Extend	Added Initial	Queue	Yellow Lock	Red Lock	Min Green 2
Loops 24-25	1	X	X	X	X					
Loop 1	2	X	X	X	X	X				
Loop 2	3	X	X	X	X	X				
Loops 3-4	4	X	X	X	X					
Loop 5 bike	5	X	X	X	X					
	6	X	X	X	X					
Loop 34	7	X	X	X	X					
Loop 9	8	X	X	X	X					
Loop 10	9	X	X	X	X					
Loops 13-14	10	X	X	X	X					
Loops 11-12	11	X	X	X	X					
	12	X	X	X	X					
Loops 26-29	13	X	X	X	X					
Loops 35-36	14	X	X	X	X					
Loop 6	15	X	X	X	X					
Loop 18	16	X	X	X	X	X				
Loop 19	17	X	X	X	X	X				
Loops 20-22	18	X	X	X	X					
Loop 23 bike	19	X	X	X	X					
	20	X	X	X	X					
Loop 15	21	X	X	X	X					
Loop 30	22	X	X	X	X					
Loop 31	23	X	X	X	X					
Loops 32-33	24	X	X	X	X					
	25	X	X	X	X					
	26	X	X	X	X					
Loops 7-8	27	X	X	X	X					
Loops 16-17	28	X	X	X	X					
	29									
	30									
	31									
	32									
	33									
	34									
	35									
	36									
	37									
	38									
	39									
	40									
	41									
	42									
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	59									
	60									
	61									
	62									
	63									
	64									

Vehicle Detector Failure Parameters and Other Options Cont.										
<i>Description</i>	<i>Det</i>	<i>Vol Det</i>	<i>Occ Det</i>	<i>Call</i>	<i>Extend</i>	<i>Added Initial</i>	<i>Queue</i>	<i>Yellow Lock</i>	<i>Red Lock</i>	<i>Min Green 2</i>
	65									
	66									
	67									
	68									
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	123									
	124									
	125									
	126									
	127									
	128									

Pedestrian Detector Options and Failure Parameters								
Det	Call Phase	Call Overlap	Add. Call Ph	Walk 2 Time	Ped Clear 2 Time	No Activity	Max Presence	Erratic Count
1	0	0		0	0	0	0	0
2	0	0		0	0	0	0	0
3	0	0		0	0	0	0	0
4	0	0		0	0	0	0	0
5	0	0		0	0	0	0	0
6	0	0		0	0	0	0	0
7	0	0		0	0	0	0	0
8	0	0		0	0	0	0	0

Overlap Parameters: Plan 1													
<i>First 8 Overlaps Should Be Reserved for FYA</i>													
Overlaps	1	2	3	4	5	6	7	8	9	10	11	12	13
Description													
Overlap Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Phases Included													
Overlap Type	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Modifier Phases													
Modifier Overlaps													
Inhibit Negative Ph.													
Negative Veh Ph.													
Negative Ped Ph.													
Neg.Ped Overlaps													
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Alt Walk Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clear Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Green Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt Rate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call													
Recall													
Disable Veh Reservice													
No Hold On TrailExit													
Ped Recycle													
Disable Yellow Prot													
Disable Bridging													
LRT Prepare To Go													
Call For Service													
Allow Trail Green Bridge													
FYA During Red Clear													

Overlap Parameters: Plan 2													
First 8 Overlaps Should Be Reserved for FYA													
Overlaps	1(A)	2(B)	3(C)	4(D)	5(E)	6(F)	7(G)	8(H)	9(I)	10(J)	11(K)	12(L)	13(M)
Description													
Overlap Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
Phases Included													
Overlap Type	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Modifier Phases													
Modifier Overlaps													
Inhibit Negative Ph.													
Negative Veh Ph.													
Negative Ped Ph.													
Neg.Ped Overlaps													
Trail Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Alt Walk Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clear Time*	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Green Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt Rate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call													
Recall													
Disable Veh Reservice													
No Hold On TrailExit													
Ped Recycle													
Disable Yellow Prot													
Disable Bridging													
LRT Prepare To Go													
Call For Service													
Allow Trail Green Bridge													
FYA During Red Clear													

Custom Overlap Rules

Rule	Custom Overlap	Incl. Phase State	Modifier Phase State	Modifier Overlap State	Negative Phase State	Custom Output	Flash
1	Disable	Any	Any		Any	Not Set	Not Set
2	Disable	Any	Any		Any	Not Set	Not Set
3	Disable	Any	Any		Any	Not Set	Not Set
4	Disable	Any	Any		Any	Not Set	Not Set
5	Disable	Any	Any		Any	Not Set	Not Set

Coordination Data									
Coordination Patterns, Mode, and Transition Parameters									
Operational Mode	Automatic		Coordination Mode	Auto Permissive		Max Mode	Per Pattern		
Correction Mode	Shortway (Auto)		Force Mode	Per Pattern					
Max Cycle Limit %	30		Min Cycle Limit %	30		Max Dwell	0		
Trans. Cover Peds	Pattern								

Sequence Parameters					
Sequence	Ring	Sequence Data	Sequence	Ring	Sequence Data
1	1	1,2,a,4,3,b	1	2	5,6,a,8,7,b
2	1	2,1,a,4,3,b	2	2	5,6,a,8,7,b
3	1	1,2,a,3,4,b	3	2	5,6,a,7,8,b
4	1		4	2	
5	1		5	2	

Pattern Parameters									
Plan	Coord Plan	Cycle Length	Offset Time	Seq Number	Reference	Coord. Mode	Force Off	Max Mode	Trans Cover Peds
1	Coordination AM	105	25	3	Yel	Auto	Phase	Inh	Phase
2	Coordination PM	125	62	3	Yel	Auto	Phase	Inh	Phase
3	Coordination weekend/midday	100	46	2	Yel	Auto	Phase	Inh	Phase
4	Evacuation	145	71	3	Yel	Auto	Phase	Inh	Phase
5		0	0	0	Yel	Auto	Fixed	Inh	Phase
6		0	0	0	Yel	Auto	Fixed	Inh	Phase
7		0	0	0	Yel	Auto	Fixed	Inh	Phase
8		0	0	0	Yel	Auto	Fixed	Inh	Phase
9		0	0	0	Yel	Auto	Fixed	Inh	Phase
10		0	0	0	Yel	Auto	Fixed	Inh	Phase
11		0	0	0	Yel	Auto	Fixed	Inh	Phase
12		0	0	0	Yel	Auto	Fixed	Inh	Phase
13		0	0	0	Yel	Auto	Fixed	Inh	Phase
14		0	0	0	Yel	Auto	Fixed	Inh	Phase
15		0	0	0	Yel	Auto	Fixed	Inh	Phase
16		0	0	0	Yel	Auto	Fixed	Inh	Phase
Free Coord Plans									
21	Free - Max 1	0	0	3	Grn	Auto	Phase	Max1	Phase
22	Free - Max 2	0	0	1	Grn	Auto	Phase	Max2	Phase
23		0	0	0	Yel	Auto	Fixed	Inh	Phase

Ring Plan	Ring #1		Ring #2		Ring Plan #	Pattern														
	Offset	Early Coord Gap Out	Offset	Early Coord Gap Out		1	2	3	4	5	6	7	8	9	10	#	#	#	15	#
1	0	5	0	5	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	2															
3	0	0	0	0	3															
4	0	0	0	0	4															
5	0	0	0	0	5															
6	0	0	0	0	6															

Coordination Splits

Coordination AM

	1	2	3	4	5	6	7	8
Description	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Time	20	30	25	30	20	30	25	30
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph		X				X		
Ref Point		X				X		
Cover Ped								
FO Mode	Flt	Fix	Flt	Fix	Flt	Fix	Flt	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Coordination PM

	1	2	3	4	5	6	7	8
Description	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Time	21	41	25	38	26	36	28	35
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph		X				X		
Ref Point		X				X		
Cover Ped								
FO Mode	Flt	Fix	Flt	Fix	Flt	Fix	Flt	Fix
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Coordination weekend/midday

	1	2	3	4	5	6	7	8
Description	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Time	20	30	17	33	18	32	22	28
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph		X				X		
Ref Point		X				X		
Cover Ped								
FO Mode	Flt	Flt	Flt	Flt	Flt	Flt	Flt	Flt
Ph Mode	None	None	None	None	None	None	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Evacuation

	1	2	3	4	5	6	7	8
Description	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Time	20	80	25	20	18	82	20	25
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph		X				X		
Ref Point		X				X		
Cover Ped								
FO Mode	Flt	Flt	Flt	Flt	Flt	Flt	Flt	Flt
Ph Mode	None	Max Rcl	None	None	None	Max Rcl	None	None
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Coordination Splits (cont.)

	1	2	3	4	5	6	7	8
Description	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>	<i>WBL</i>	<i>EB</i>
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>	<i>WBL</i>	<i>EB</i>
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>	<i>WBL</i>	<i>EB</i>
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

	1	2	3	4	5	6	7	8
Description	<i>NBL</i>	<i>SB</i>	<i>EBL</i>	<i>WB</i>	<i>SBL</i>	<i>NB</i>	<i>WBL</i>	<i>EB</i>
Time	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0
Coord Ph								
Ref Point								
Cover Ped								
FO Mode	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>	<i>Fix</i>
Ph Mode	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Prioritor Min	0	0	0	0	0	0	0	0
Prioritor Max	0	0	0	0	0	0	0	0

Time of Day Data																						
Day Program						Schedule Program																
Day Prog	Event	Action	Hour	Min	Description																	
1	1	21	0	0	Max 1 Free	Schedule 1	Day Plan 1															
1	2	1	5	30	Coord AM	Description	Monday - Friday															
1	3	2	9	0	Coord PM	Month	J	F	M	A	M	J	J	A	S	O	N	D				
1	4	21	19	30	Max 1 Free		X	X	X	X	X	X	X	X	X	X	X	X				
1	5		0	0		Weekday	S	M	T	W	T	F	S									
1	6		0	0			X	X	X	X	X											
1	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
1	8		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
1	10		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	1	21	0	0	Free Max 1	Schedule 2	Day Plan 2															
2	2	2	9	0	Coord PM	Description	Saturday - Sunday															
2	3	21	20	0	Free Max 1	Month	J	F	M	A	M	J	J	A	S	O	N	D				
2	4		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	5		0	0		Weekday	S	M	T	W	T	F	S									
2	6		0	0			X					X										
2	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
2	8		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
2	10		0	0			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	1		0	0		Schedule 3	Day Plan 2															
3	2		0	0		Description	New Year															
3	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
3	4		0	0			X															
3	5		0	0		Weekday	S	M	T	W	T	F	S									
3	6		0	0			X	X	X	X	X											
3	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
3	8		0	0			X															
3	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
3	10		0	0																		
4	1		0	0		Schedule 4	Day Plan 2															
4	2		0	0		Description	New Year															
4	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
4	4		0	0			X															
4	5		0	0		Weekday	S	M	T	W	T	F	S									
4	6		0	0			X															
4	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
4	8		0	0			X															
4	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
4	10		0	0																		
5	1		0	0		Schedule 5	Day Plan 2															
5	2		0	0		Description	Memorial Day															
5	3		0	0		Month	J	F	M	A	M	J	J	A	S	O	N	D				
5	4		0	0			X															
5	5		0	0		Weekday	S	M	T	W	T	F	S									
5	6		0	0			X															
5	7		0	0		Day of Month	1	2	3	4	5	6	7	8	9	#	#	#	13	#	#	
5	8		0	0																		
5	9		0	0			#	#	#	#	#	#	23	#	#	#	#	28	#	#	#	
5	10		0	0														X	X	X	X	X

Time of Day Data Cont.					
Day Program					Schedule Program
Day Prog	Event	Action	Hour	Min	Description
6	1		0	0	Schedule 6 Day Plan 2
6	2		0	0	Description July 4th
6	3		0	0	Month J F M A M J J A S O N D
6	4		0	0	X
6	5		0	0	Weekday S M T W T F S
6	6		0	0	X X X X X
6	7		0	0	Day of Month 1 2 3 4 5 6 7 8 9 # # # 13 # #
6	8		0	0	X
6	9		0	0	# # # # # # 23 # # # # 28 # # #
6	10		0	0	
7	1		0	0	Schedule 7 Day Plan 2
7	2		0	0	Description July 4th
7	3		0	0	Month J F M A M J J A S O N D
7	4		0	0	X
7	5		0	0	Weekday S M T W T F S
7	6		0	0	X
7	7		0	0	Day of Month 1 2 3 4 5 6 7 8 9 # # # 13 # #
7	8		0	0	X
7	9		0	0	# # # # # # 23 # # # # 28 # # #
7	10		0	0	
8	1		0	0	Schedule 8 Day Plan 2
8	2		0	0	Description Labor Day
8	3		0	0	Month J F M A M J J A S O N D
8	4		0	0	X
8	5		0	0	Weekday S M T W T F S
8	6		0	0	X
8	7		0	0	Day of Month 1 2 3 4 5 6 7 8 9 # # # 13 # #
8	8		0	0	X X X X X X X
8	9		0	0	# # # # # # 23 # # # # 28 # # #
8	10		0	0	
9	1		0	0	Schedule 9 Day Plan 2
9	2		0	0	Description Thanksgiving
9	3		0	0	Month J F M A M J J A S O N D
9	4		0	0	X
9	5		0	0	Weekday S M T W T F S
9	6		0	0	X
9	7		0	0	Day of Month 1 2 3 4 5 6 7 8 9 # # # 13 # #
9	8		0	0	
9	9		0	0	# # # # # # 23 # # # # 28 # # #
9	10		0	0	X X X X X X X
10	1		0	0	Schedule 10 Day Plan 2
10	2		0	0	Description Christmas
10	3		0	0	Month J F M A M J J A S O N D
10	4		0	0	X
10	5		0	0	Weekday S M T W T F S
10	6		0	0	X X X X X
10	7		0	0	Day of Month 1 2 3 4 5 6 7 8 9 # # # 13 # #
10	8		0	0	
10	9		0	0	# # # # # # 23 # # # # 28 # # #
10	10		0	0	X

Action Parameters																				
Action	Pattern	Aux1	Aux2	Aux3	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10	SP11	SP12	SP13	SP14	SP15	SP16
1	Pattern 1																			
2	Pattern 2																			
3	Pattern 3																			
4	Pattern 4																			
5	None																			
6	None																			
7	None																			
8	None																			
9	None																			
10	None																			
11	None																			
21	Pattern 21																			
22	Pattern 22																			
23	None																			
24	None																			

Preemption Data											
Parameters	1	2	3	4	5	6	7	8	9	10	
Enabled	Enabled	Enabled	Enabled	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Description	EVA	EVB	EVC	EVD							
Preemption Type	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh
Dwell Veh Ph	2,5	4,7	1,6	3,8							
Dwell Ped Ph											
Dwell Overlap											
Exit Phases											
Exit Type	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phase	Exit Phases	
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Track Phases											
Track Overlaps											
Cycling Veh Ph											
Cycling Ped Ph											
Cycling Overlap											
Non Lock Mem	X	X	X	X							
Not Override Flash	X	X	X	X							
Not override Next Preempt	X	X	X	X							
Min Green	255	255	255	255	0	0	0	0	0	0	0
Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Min Walk	0	0	0	0	0	0	0	0	0	0	0
Min Ped Clear	255	255	255	255	255	255	255	255	255	255	255
Link	0	0	0	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0	0	0	0
Min Presence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Presence	180	180	180	180	0	0	0	0	0	0	0
Dwell Green	3	3	3	3	0	0	0	0	0	0	0
Max Exit Green	0	0	0	0	0	0	0	0	0	0	0
Exit Ped Clear	255	255	255	255	255	255	255	255	255	255	255
Exit Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Exit time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Advanced IO Configuration						
Channel Configuration						
Channel	Control Type	Ctrl Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phs Veh	1		X	X	1
2	Phs Veh	2		X		2
3	Phs Veh	3		X		3
4	Phs Veh	4		X	X	4
5	Phs Veh	5		X	X	5
6	Phs Veh	6		X		6
7	Phs Veh	7		X		7
8	Phs Veh	8		X	X	8
9	None	9				9
10	None	10				10
11	None	11				11
12	None	12				12
13	Phs Ped	2				13
14	Phs Ped	4				14
15	Phs Ped	6				15
16	Phs Ped	8				16
17	None	5				17
18	None	6				18

Cabinet Configuration

IO Module	1	Type	ODOT 332
ITS Cabinet Port 1	No	33X Input Leading Edge	Enable TS2 Stop Time
ITS Cabinet Port C13S	No	33X input Trailing Edge	Disable TS2 Cabinet Alarm
Disable TS2 Startup Call		Use Raw MMU Channel Status	Disable TS2 Fault Flash

Input Points (Module 1)							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-39	Veh Det Call	2	25	C11-10	Not Active	0
2	C1-40	Veh Det Call	16	26	C11-11	Not Active	0
3	C1-41	Veh Det Call	8	27	C11-12	Not Active	0
4	C1-42	Veh Det Call	22	28	C11-13	Not Active	0
5	C1-43	Veh Det Call	3	29	C1-63	Veh Det Call	4
6	C1-44	Veh Det Call	17	30	C1-64	Veh Det Call	18
7	C1-45	Veh Det Call	9	31	C1-65	Veh Det Call	10
8	C1-46	Veh Det Call	23	32	C1-66	Veh Det Call	24
9	C1-47	Veh Det Call	6	33	C1-67	Ped Det Call	2
10	C1-48	Veh Det Call	20	34	C1-68	Ped Det Call	6
11	C1-49	Veh Det Call	12	35	C1-69	Ped Det Call	4
12	C1-50	Veh Det Call	26	36	C1-70	Ped Det Call	8
13	C1-51	Not Active	0	37	C1-71	Pre High Pri Low	1
14	C1-52	Preempt Input	1	38	C1-72	Pre High Pri Low	2
15	C1-53	Man Ctrl Enable	1	39	C1-73	Pre High Pri Low	3
16	C1-54	Not Active	0	40	C1-74	Pre High Pri Low	4
17	C1-55	Veh Det Call	15	41	C1-75	Not Active	0
18	C1-56	Veh Det Call	1	42	C1-76	Veh Det Call	5
19	C1-57	Veh Det Call	21	43	C1-77	Veh Det Call	19
20	C1-58	Veh Det Call	7	44	C1-78	Veh Det Call	11
21	C1-59	Veh Det Call	27	45	C1-79	Veh Det Call	25
22	C1-60	Veh Det Call	13	46	C1-80	Interval Adv	1
23	C1-61	Veh Det Call	28	47	C1-81	Flash Sense	1
24	C1-62	Veh Det Call	14	48	C1-82	Unit Stop Time	1

Input Points (Module 1) Cont.							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
49	C11-15	Not Active	0	57	C11-23	Not Active	0
50	C11-16	Not Active	0	58	C11-24	Not Active	0
51	C11-17	Not Active	0	59	C11-25	Not Active	0
52	C11-18	Not Active	0	60	C11-26	Not Active	0
53	C11-19	Not Active	0	61	C11-27	Not Active	0
54	C11-20	Not Active	0	62	C11-28	Not Active	0
55	C11-21	Not Active	0	63	C11-29	Not Active	0
56	C11-22	Not Active	0	64	C11-30	Not Active	0

Output Points (Module 1)							
Point	C1 Pin	Control Type	Index	Point	C1 Pin	Control Type	Index
1	C1-2	Ch Red DWalk	14	33	C1-35	Not Active	13
2	C1-3	Chl Green Walk	14	34	C1-36	Not Active	15
3	C1-4	Ch Red DWalk	4	35	C1-37	Not Active	14
4	C1-5	Ch Yel Ped Clear	4	36	C1-38	Not Active	16
5	C1-6	Chl Green Walk	4	37	C1-100	Ch Yel Ped Clear	18
6	C1-7	Ch Red DWalk	3	38	C1-101	Ch Yel Ped Clear	17
7	C1-8	Ch Yel Ped Clear	3	39	C1-102	Auto Flash	1
8	C1-9	Chl Green Walk	3	40	C1-103	Watchdog	1
9	C1-10	Ch Red DWalk	13	41	C1-83	Ch Red DWalk	18
10	C1-11	Chl Green Walk	13	42	C1-84	Chl Green Walk	18
11	C1-12	Ch Red DWalk	2	43	C1-85	Ch Red DWalk	12
12	C1-13	Ch Yel Ped Clear	2	44	C1-86	Ch Yel Ped Clear	12
13	C1-15	Chl Green Walk	2	45	C1-87	Chl Green Walk	12
14	C1-16	Ch Red DWalk	1	46	C1-88	Ch Red DWalk	11
15	C1-17	Ch Yel Ped Clear	1	47	C1-89	Ch Yel Ped Clear	11
16	C1-18	Chl Green Walk	1	48	C1-90	Chl Green Walk	11
17	C1-19	Ch Red DWalk	16	49	C1-91	Ch Red DWalk	17
18	C1-20	Chl Green Walk	16	50	C1-93	Chl Green Walk	17
19	C1-21	Ch Red DWalk	8	51	C1-94	Ch Red DWalk	10
20	C1-22	Ch Yel Ped Clear	8	52	C1-95	Ch Yel Ped Clear	10
21	C1-23	Chl Green Walk	8	53	C1-96	Chl Green Walk	10
22	C1-24	Ch Red DWalk	7	54	C1-97	Overlap Red	9
23	C1-25	Ch Yel Ped Clear	7	55	C1-98	Overlap Yellow	9
24	C1-26	Chl Green Walk	7	56	C1-99	Overlap Green	9
25	C1-27	Ch Red DWalk	15	57	C11-1	Not Active	0
26	C1-28	Chl Green Walk	15	58	C11-2	Not Active	0
27	C1-29	Ch Red DWalk	6	59	C11-3	Not Active	0
28	C1-30	Ch Yel Ped Clear	6	60	C11-4	Not Active	0
29	C1-31	Chl Green Walk	6	61	C11-5	Not Active	0
30	C1-32	Ch Red DWalk	5	62	C11-6	Not Active	0
31	C1-33	Ch Yel Ped Clear	5	63	C11-7	Not Active	0
32	C1-34	Chl Green Walk	5	64	C11-8	Not Active	0

Vehicle and Pedestrian Phase Intervals									
Interval	Vehicle/Ped	Description	Red	Yellow	Green	Don't Walk	Clearance	Walk	Type
1	<i>Vehicle</i>	<i>Not Active</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
2	<i>Vehicle</i>	<i>Delay Green</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
3	<i>Vehicle</i>	<i>Pre Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
4	<i>Vehicle</i>	<i>Min Green</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
5	<i>Vehicle</i>	<i>Green Extension</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
6	<i>Vehicle</i>	<i>Green Dwell</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
7	<i>Vehicle</i>	<i>Pre Clear</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	-	-	-	<i>Green</i>
8	<i>Vehicle</i>	<i>Yellow Change</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	-	-	-	<i>Yellow</i>
9	<i>Vehicle</i>	<i>Red Clear</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
10	<i>Vehicle</i>	<i>Red Dwell</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
11	<i>Vehicle</i>	<i>Barrier Hold</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	-	-	-	<i>Red</i>
1	<i>Ped</i>	<i>Not Active</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
2	<i>Ped</i>	<i>Delay Ped</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>
3	<i>Ped</i>	<i>Walk</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
4	<i>Ped</i>	<i>Walk Dwell</i>	-	-	-	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>Walk</i>
5	<i>Ped</i>	<i>Flash Don't Walk</i>	-	-	-	<i>Flash</i>	<i>On</i>	<i>Off</i>	<i>Ped Clear</i>
6	<i>Ped</i>	<i>Don't Walk</i>	-	-	-	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Dont Walk</i>

User Program Configuration										
Program #	1	Description:	Unit Stop Time			Enabled:	Enabled			
1	Result	Unit Stop Time	Index:	1	Operation:	R=A	Delay	0.0	Ext	0.0
	Parameter A	Aux Switch State	Index:	0	Description:					
	Parameter B	None	Index:	0						
2	Result	None	Index:	0	Operation:	Run A if B	Delay	0.0	Ext	0.0
	Parameter A	Number	Index:	2	Description:					
	Parameter B	Prev Line	Index:	0						
3	Result	None	Index:	0	Operation:	Run A	Delay	0.0	Ext	0.0
	Parameter A	Number	Index:	3	Description:	Omit FYA during preempt if already red				
	Parameter B	None	Index:	0						
4	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
5	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
6	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
7	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
8	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						

Program #	2	Description:	Stop Time	Beep	Enabled:	Enabled			
1	Result	Global Var	Index: 100	Operation:	R=(A + B)	Delay	0.0	Ext	0.0
	Parameter A	Glob Var	Index: 100	Description:					
	Parameter B	Number	Index: 1						
2	Result	None	Index: 0	Operation:	R=(A / B)	Delay	0.0	Ext	0.0
	Parameter A	Prev Line	Index: 0	Description:					
	Parameter B	Number	Index: 10						
3	Result	None	Index: 0	Operation:	R=(A mod B)	Delay	0.0	Ext	0.0
	Parameter A	Prev Line	Index: 0	Description:					
	Parameter B	Number	Index: 15						
4	Result	Global Var	Index: 101	Operation:	R=(A == B)	Delay	0.0	Ext	0.0
	Parameter A	Prev Line	Index: 0	Description:					
	Parameter B	Number	Index: 0						
5	Result	None	Index: 0	Operation:	Beep If A	Delay	0.0	Ext	0.0
	Parameter A	Glob Var	Index: 101	Description:					
	Parameter B	None	Index: 0						
6	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
7	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
8	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						

Program #		3	Description:	Enabled:		Enabled			
1	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
2	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
3	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
4	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
5	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
6	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
7	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
8	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
9	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
10	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
11	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
12	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
13	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
14	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
15	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
16	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
17	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
18	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						

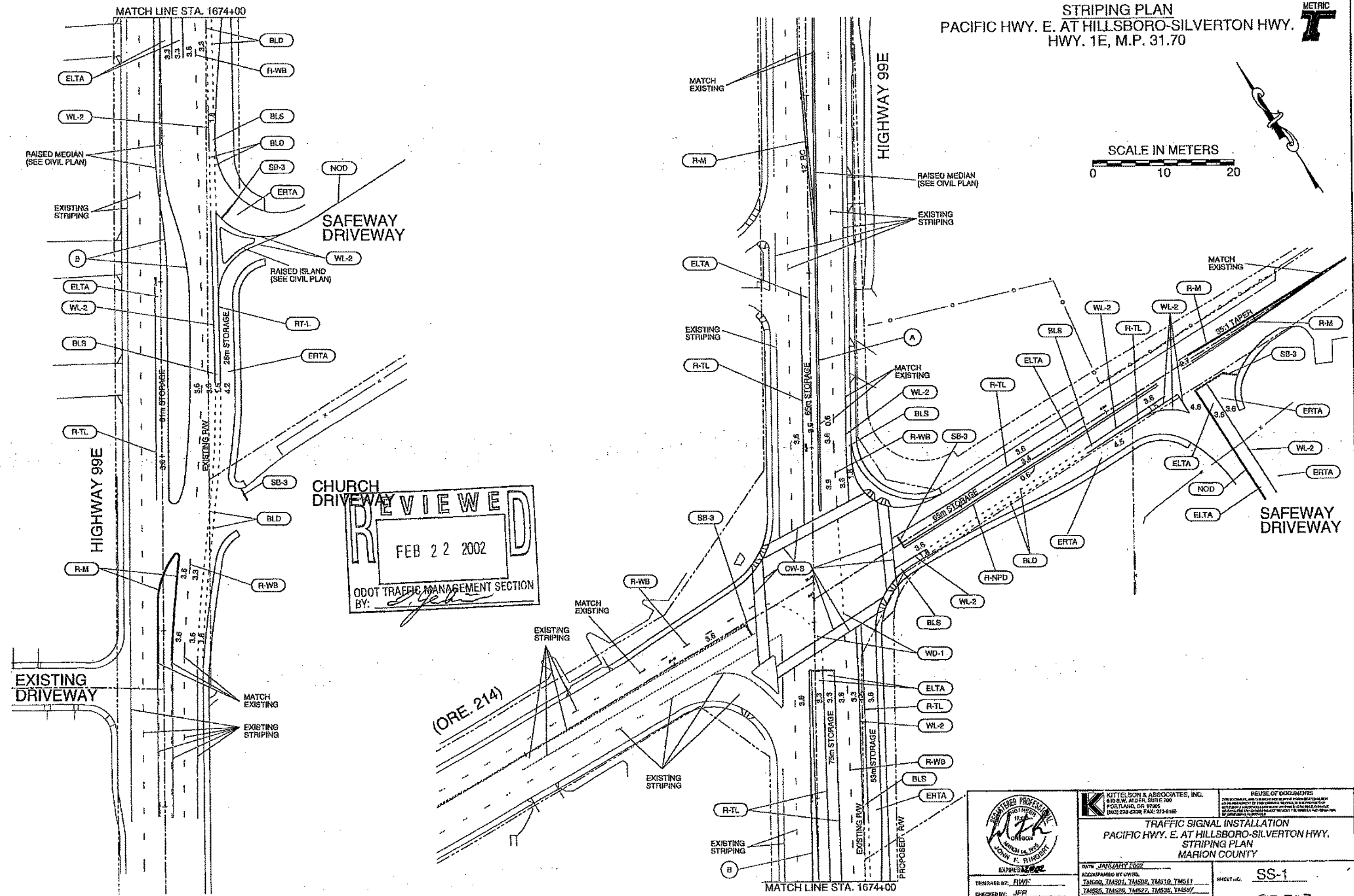
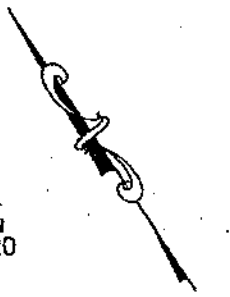
Program #	4	Description:	Enabled:	Enabled					
1	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
2	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
3	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
4	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
5	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
6	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
7	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
8	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
9	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
10	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						

Program #	5	Description:	Enabled:	Enabled					
1	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
2	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
3	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
4	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
5	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
6	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
7	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
8	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
9	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
10	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						

Program #	6	Description:			Enabled:	Enabled				
1	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
2	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
3	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
4	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
5	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
6	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
7	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
8	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
9	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						
10	Result	None	Index:	0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index:	0	Description:					
	Parameter B	None	Index:	0						

Program #		7	Description:			Enabled:	Enabled		
1	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
2	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
3	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
4	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
5	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
6	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
7	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
8	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
9	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						
10	Result	None	Index: 0	Operation:	None	Delay	0.0	Ext	0.0
	Parameter A	None	Index: 0	Description:					
	Parameter B	None	Index: 0						

STRIPING PLAN
 PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
 HWY. 1E, M.P. 31.70



REVIEWED
 FEB 22 2002
 ODOT TRAFFIC MANAGEMENT SECTION
 BY: *[Signature]*



DESIGNED BY: RFW
 CHECKED BY: JFF
 DRAWN BY: JCH

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	TRAFFIC SIGNAL INSTALLATION PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. STRIPING PLAN MARION COUNTY
DATE: <u>JANUARY 2002</u> ACCOMPANIED BY DWGS: <u>TMS01, TMS02, TMS10, TMS11</u> <u>TMS20, TMS25, TMS27, TMS35, TMS37</u> <u>TMS59</u>	SHEET NO. SS-1 THIS OFFICE NO. ST-203

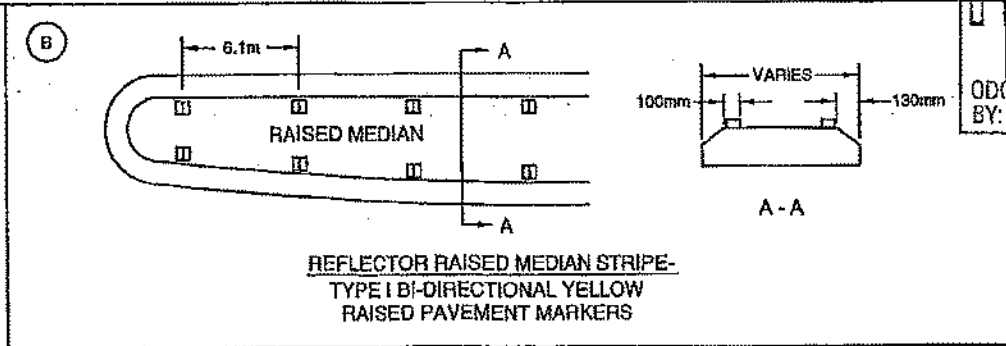
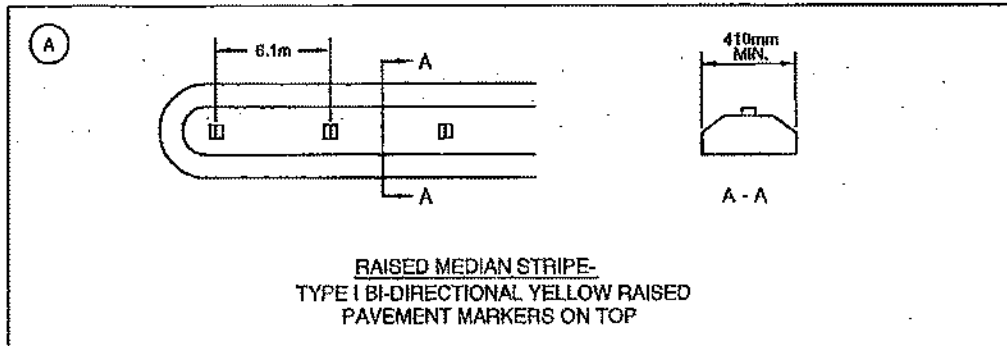
H:\profiles\4905\cwr\14903s1.dwg Feb 12, 2002 - 8:18am

STRIPING DETAILS LEGEND

STRIPING LEGEND
 PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
 HWY. 1E, M.P. 31.70



<p>CW-S</p> <p>STANDARD CROSSWALK TWO 300mm WHITE LINES</p>	<p>BLD</p> <p>BIKE LANE DOTTED LINE 200mm WHITE</p>	<p>BLS</p> <p>BIKE LANE STENCIL STANDARD</p>	<p>R-WB</p> <p>REFLECTOR WHITE BROKEN LINE 100mm WHITE LINE WITH TYPE I MONO-DIRECTIONAL WHITE RAISED PAVEMENT MARKERS.</p>	<p>WD-1</p> <p>100mm WHITE DOTTED LINE FOR LANE EXTENSION (wider gaps MAY be used)</p>
<p>R-M</p> <p>REFLECTOR MEDIAN STRIPE TWO 100mm YELLOW LINES WITH TYPE I BI-DIRECTIONAL YELLOW RAISED PAVEMENT MARKERS</p>	<p>R-NPD</p> <p>REFLECTOR MEDIAN NOSE MARKERS TWO 100mm YELLOW LINES WITH TYPE I BI-DIRECTIONAL YELLOW RAISED PAVEMENT MARKERS</p>	<p>R-TL</p> <p>REFLECTOR TURN LANE LINE 200mm WHITE LINE WITH CRYSTAL TYPE I WHITE MONO-DIRECTIONAL RAISED PAVEMENT MARKERS</p>	<p>WL-2</p> <p>200mm WHITE LINE</p>	<p>SB-3</p> <p>STOP BAR (see note 1)</p>
<p>NOD</p> <p>NARROW DOUBLE TWO 100mm YELLOW LINES</p>	<p>ERTA</p> <p>ELONGATED RIGHT TURN ARROW (white)</p>	<p>ELTA</p> <p>ELONGATED LEFT TURN ARROW (white)</p>		



REVIEWED
 FEB 22 2002
 ODOT TRAFFIC MANAGEMENT SECTION
 BY: *[Signature]*

Feb 12, 2002 - 8:18am
 H:\projects\14905\drawing\4905ST1.dwg

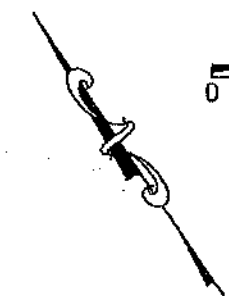
DESIGNED BY: RWF
 CHECKED BY: TIN
 DRAWN BY: JCH

K KETTELSON & ASSOCIATES, INC.
 610 S.W. ALDER, SUITE 700
 PORTLAND, OR 97205
 (503) 226-5200; FAX: 226-8188

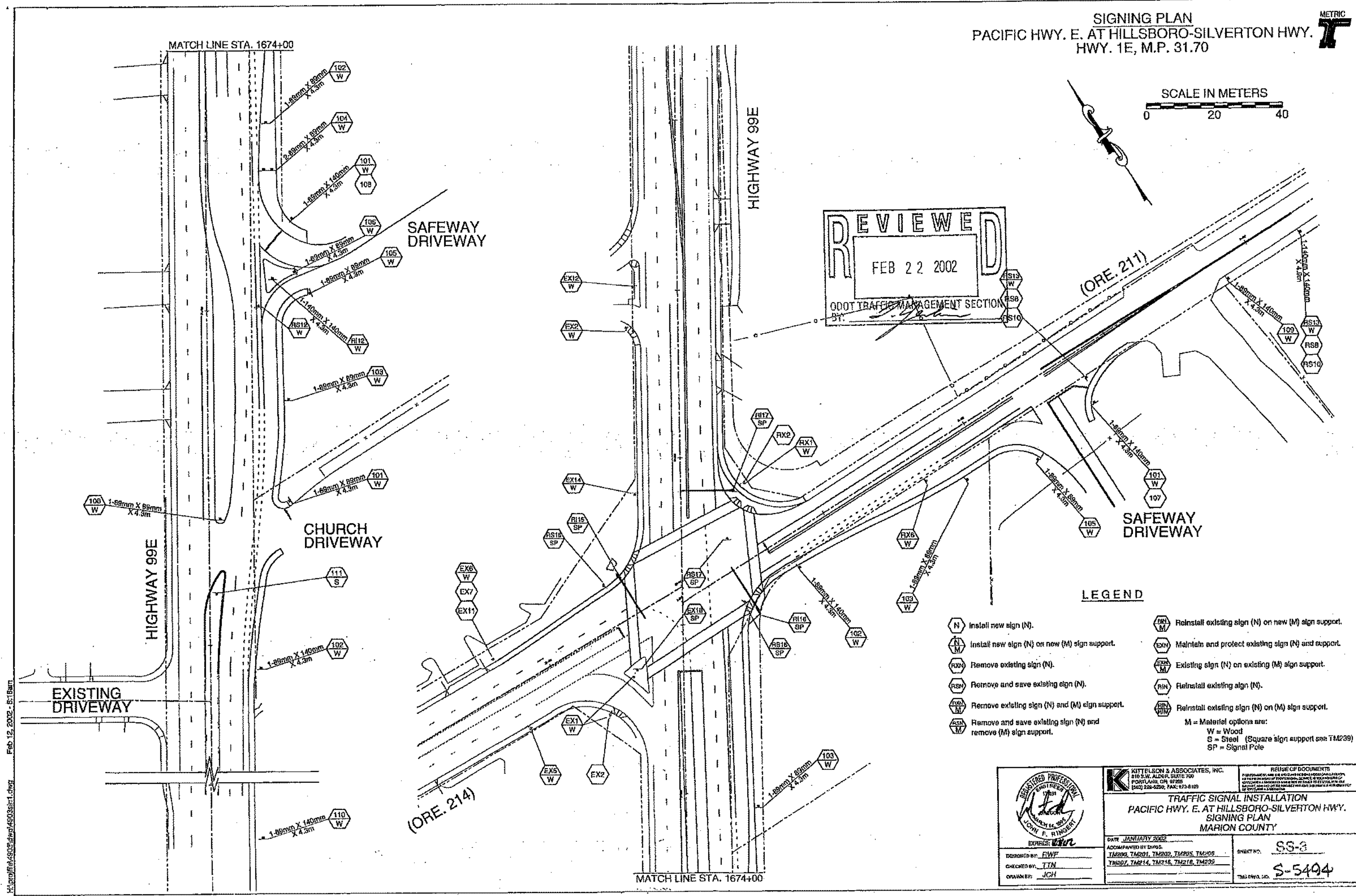
TRAFFIC SIGNAL INSTALLATION
 PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
 STRIPING LEGEND
 MARION COUNTY

DATE: JANUARY 2002
 SHEET NO. SS-2
TPAS Dwg. No. ST. 204

SIGNING PLAN
 PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
 HWY. 1E, M.P. 31.70



REVIEWED
 FEB 22 2002
 ODOT TRAFFIC MANAGEMENT SECTION
 BY: *[Signature]*



LEGEND

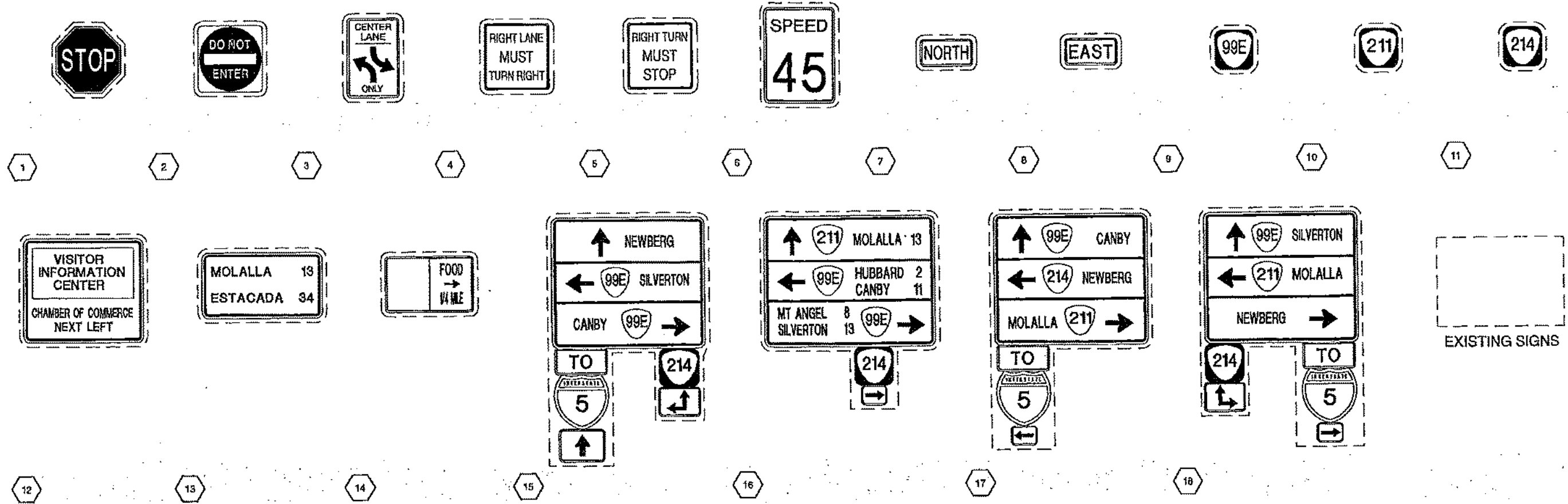
- | | | | |
|--------|--|--------|--|
| (N) | Install new sign (N). | (RM) | Reinstall existing sign (N) on new (M) sign support. |
| (N/M) | Install new sign (N) on new (M) sign support. | (EXN) | Maintain and protect existing sign (N) and support. |
| (RXN) | Remove existing sign (N). | (EM) | Existing sign (N) on existing (M) sign support. |
| (RSN) | Remove and save existing sign (N). | (RIN) | Reinstall existing sign (N). |
| (RM/M) | Remove existing sign (N) and (M) sign support. | (RM/M) | Reinstall existing sign (N) on (M) sign support. |
| (SM/M) | Remove and save existing sign (N) and remove (M) sign support. | | |
- M = Material options are:
 W = Wood
 S = Steel (Square sign support see TM239)
 SP = Signal Pole

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	TRAFFIC SIGNAL INSTALLATION PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. SIGNING PLAN MARION COUNTY	
DATE: JANUARY 2002 ACCOMPANIED BY DWGS: TM200, TM201, TM202, TM205, TM206, TM207, TM214, TM216, TM218, TM209	SHEET NO.: SS-3	THIS DWG. NO.: S-5494
DESIGNED BY: EWF CHECKED BY: TTN DRAWN BY: JCH		

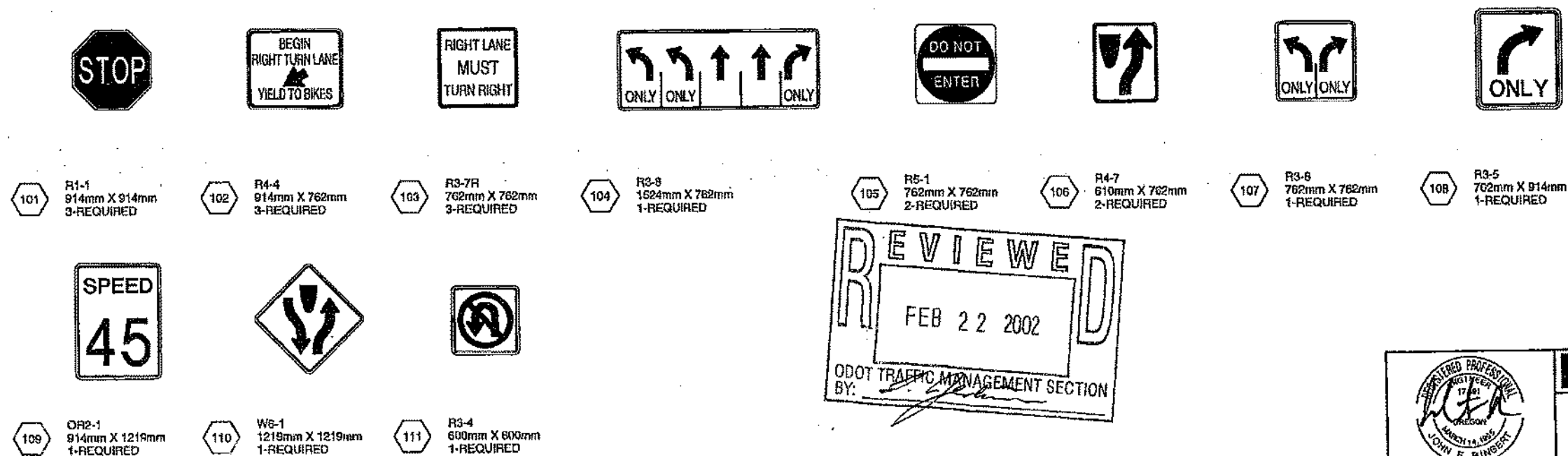
Feb 12, 2002 - 8:10am
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EXISTING SIGNING

SIGNING LEGEND
 PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
 HWY. 1E, M.P. 31.70



PROPOSED SIGNING



REVIEWED
 FEB 22 2002
 ODOT TRAFFIC MANAGEMENT SECTION
 BY: *[Signature]*

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	TRAFFIC SIGNAL INSTALLATION PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. SIGNING LEGEND MARION COUNTY	
DESIGNED BY: <u>AWF</u> CHECKED BY: <u>TTN</u> DRAWN BY: <u>JCH</u>	DATE: <u>JANUARY 2002</u>	SHEET NO. <u>SS-4</u> TMS Draw. No. <u>55495</u>

METRIC

SIGNAL PLAN PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. HWY. 1E, M.P. 31.70

HILLSBORO-SILVERTON HWY.
(ORE. 214)

WOODBURN-ESTACADA HWY.
(ORE. 211)

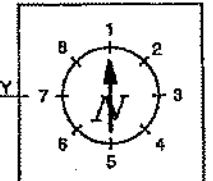
PACIFIC HWY. EAST
(99E)



CONSTRUCTION NOTES

- 1 CONTRACTOR SHALL COORDINATE WITH PGE FOR POWER SOURCE. TRANSFORMER ON POLE NO. 420.
- 2 CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, AND MODIFICATION OF EXISTING POLE NO. 4167 WITH PGE. (SEE SHEET TS-5)

ORIENTATION LOOKING DOWN ON POLE



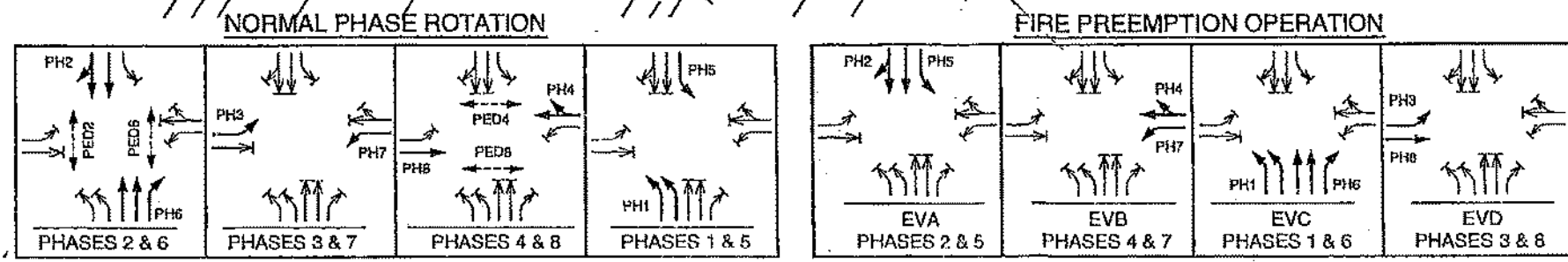
REVIEWED
FEB 22 2002
ODOT TRAFFIC MANAGEMENT SECTION
BY: *[Signature]*

POLE ENTRANCE CHART

POLE NO.	1	2	3	4	5	6
LUMINAIRE ARM	2.0	5.0	-	7.5	-	-
MAST ARM	-	5.0	-	7.5	1.5	EX
PED. SIGNAL CLAM SHELL	-	-	1.0,7.5	3.0,5.0	4.5	EX
PEDESTRIAN PB/SIGN	-	-	3.0,5.5	5.0,7.0	2.0,7.0	EX
TERMINAL CAB.	-	1.0	-	3.5	5.5	EX
VEHICLE SIGNAL	-	-	-	-	-	-

EX = EXISTING

NOTE: EQUIPMENT SHOWN IS SET BACK WHERE POSSIBLE FOR FUTURE WIDENING



KITTELSON & ASSOCIATES, INC.
810 S.W. ALDER, SUITE 700
PORTLAND, OR 97205
(503) 228-6200 FAX: 273-8168

TRAFFIC SIGNAL INSTALLATION
PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
MARION COUNTY

DATE: JANUARY 2002
DESIGNED BY: ASY
CHECKED BY: DMS
DRAWN BY: JCH

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SHEET NO. **TS-1**
12633

Feb 12, 2002 - 7:35am
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LEGEND

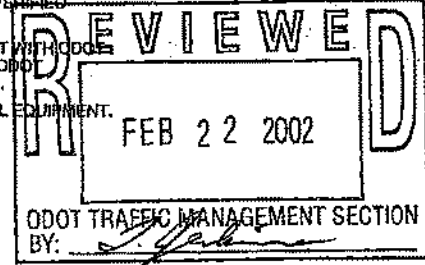
- RETAIN AND PROTECT EXISTING TRAFFIC SIGNAL MAST ARM POLE.
- RETAIN AND PROTECT EXISTING PHASE (PH) VEHICLE SIGNAL.
- RETAIN AND PROTECT EXISTING PEDESTRIAN SIGNAL, PUSHBUTTON AND INSTRUCTIONS.
- RETAIN AND PROTECT EXISTING TERMINAL CABINET.
- RETAIN AND PROTECT EXISTING REMOTE POWER POST.
- RETAIN AND PROTECT EXISTING (560mm X 305mm x 305mm) JUNCTION BOX.
- RETAIN AND PROTECT EXISTING WIRING.
- RETAIN AND PROTECT EXISTING (S)mm ELECTRICAL CONDUIT.
- RETAIN AND PROTECT EXISTING FIRE PRE-EMPTION DETECTOR UNIT.
- INSTALL MODEL 170 CONTROLLER IN MODEL 332 CABINET WITH RISER FRAME, ORIENT FRONT (LOUVERED) DOOR AS SHOWN.
- INSTALL (L) METER TRAFFIC SIGNAL MAST ARM.
- INSTALL PEDESTRIAN SIGNAL PEDESTAL WITH FRANGIBLE BASE.
- INSTALL SPECIAL (NON-STANDARD) TRAFFIC SIGNAL MAST ARM POLE WITH LUMINAIRE POLE EXTENSION (10.7 METER MOUNTING HEIGHTS).
- INSTALL (L) METER LUMINAIRE ARM.
- INSTALL PHASE (PH) VEHICLE SIGNAL WITH LED'S.
- INSTALL PHASE (PH) PEDESTRIAN SIGNAL WITH LED'S, PUSHBUTTON AND INSTRUCTION DECAL.
- INSTALL ALUMINUM RIGHT ARROW "ONLY" SIGN.
- INSTALL TERMINAL CABINET.
- INSTALL 440mm x 265mm x 305mm (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX.
- INSTALL 560 MM x 305 MM x 305 MM (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX.
- INSTALL 560 MM x 305 MM x 305 MM (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX WITH CONCRETE APRON.
- INSTALL 760 MM x 430 MM x 305 MM (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX.
- INSTALL (N) NO. 8 TYPE THWN (SIGNAL SYSTEM COMMON).
- INSTALL (N) NO. (G) TYPE THWN WIRES.
- INSTALL (N) NO. (G) TYPE XHW WIRES.
- INSTALL PHONE DROP (SEE SPECIAL PROVISIONS).
- INCLUDES 3 SPARE WIRES FOR PHASE (PH) AS PER TABLE.
- INSTALL CONDUIT AND WIRE AS REQUIRED BY POWER COMPANY.
- INSTALL (S) mm ELECTRICAL CONDUIT.
- DETECTOR CONDUIT (SEE DETECTOR PLAN).
- INTERCONNECT CONDUIT (SEE INTERCONNECT PLAN).
- INSTALL CHANNEL (CH), (N) BARREL FIRE PRE-EMPTION DETECTOR UNIT.
- INSTALL CHANNEL (CH) FIRE PRE-EMPTION DETECTOR FEEDER CABLE.
- INSTALL 250 WATT HIGH PRESSURE SODIUM LUMINAIRE, M-C-III, 120/240 DUAL-VOLT MAG-REGULATOR BALLAST.
- INSTALL PHOTOELECTRIC CELL ON POLE (6m-11m ABOVE POLE BASE).
- INSTALL LUMINAIRE POLE (10.7m MOUNTING HT.).
- INSTALL SERVICE CABINET, 120 VOLT, FOR BOTH SIGNAL AND ILLUMINATION CIRCUITS.
- INSTALL 120 VOLT METER BASE.

ABBREVIATIONS

- T = TYPE SHOWN
- PH = PHASE SHOWN
- X = NUMBER OF CABLES SHOWN
- E = ELEVATOR PLUMBIZER
- H = HEIGHT SHOWN
- L = LENGTH SHOWN
- N = NUMBER SHOWN
- G = AWG SIZE SHOWN
- S = SIZE SHOWN
- A = STANDARD PLUMBIZER
- CH = CHANNEL SHOWN
- 2 = 305 MM R, 305 MM Y, 305 MM G
- 3 = 305 MM RLTA, 305 MM YLTA, 305 MM GLTA
- TOP = TOP MOUNT
- m = METER
- mm = MILLIMETER

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 1996 METRIC OREGON DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE ODOT STANDARD DRAWINGS AND SPECIAL PROVISIONS.
2. THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED FOR THE SIGNAL OPERATIONS SHOWN ON THIS PLAN.
3. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF EXISTING UTILITIES AND COORDINATE THE WORK WITH THE UTILITY COMPANIES AND AGENCIES TO ELIMINATE AND CONFLICTS.
4. THE CONTRACTOR SHALL CONTACT PGE TO LOCATE THE POWER SOURCE IN THE FIELD AND COORDINATE WITH PGE FOR POWER SERVICE CONNECTION.
5. LOCATION OF EXISTING EQUIPMENT IS APPROXIMATE AND SHALL BE VERIFIED BY CONTRACTOR.
6. CONTRACTOR SHALL COORDINATE ALL SALVAGED SIGNAL EQUIPMENT WITH ODOT 48 HOURS PRIOR TO DELIVERY. CONTACT IRV PATTON (503) 886-2706 ODOT REGION 2 HEADQUARTERS COMPOUND, 889 AIRPORT ROAD SE SALEM.
7. SEE SHEET SS-3 FOR SIGN REMOVAL AND REINSTALLATION ON SIGNAL EQUIPMENT.



Feb 12, 2002 - 8:17am

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	TRAFFIC SIGNAL INSTALLATION PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. MARION COUNTY	
DESIGNED BY: <u>ASY</u> CHECKED BY: <u>DMS</u> DRAWN BY: <u>JCH</u>	DATE: <u>JANUARY 2002</u>	SHEET NO. <u>TS-2</u> TMS Dwg. No. <u>12634</u>

LEGEND

- RETAIN AND PROTECT EXISTING (550mm x 305mm X 305mm) JUNCTION BOX.
- CONTROLLER (SEE SIGNAL PLAN).
- JUNCTION BOX (SEE SIGNAL PLAN).
- INSTALL 440mm x 285mm x 305mm (MIN. DIMENSION) PREGAST CONCRETE JUNCTION BOX.
- INSTALL 440 MM x 285 MM x 305 MM (MIN. DIMENSION) PREGAST CONCRETE JUNCTION BOX WITH CONCRETE APRON.
- INSTALL 150 MM MAX. SAND POCKET BLOCK-OUT WITH (S) MM CONDUIT TO JUNCTION BOX.
- INSTALL PHASE (PH) 1.2m DIAMOND OR 1.8m ROUND VEHICLE DETECTOR LOOP.
- INSTALL PHASE (PH) 0.07m DIAMOND BICYCLE DETECTOR LOOP.
- INSTALL (X) PHASE (PH) LOOP FEEDER CABLES.
- INSTALL (N) PAIR OF LOOP WIRES.
- INSTALL (S) mm ELECTRICAL CONDUIT.
- ELECTRICAL CONDUIT (SEE SIGNAL PLAN).
- INTERCONNECT CONDUIT (SEE INTERCONNECT PLAN).

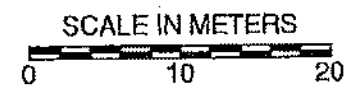
ABBREVIATIONS

- PH= PHASE SHOWN
- S = SIZE SHOWN
- X = NUMBER OF CABLES SHOWN
- N = NUMBER SHOWN
- m = METERS
- mm = MILLIMETERS

DESIGN APPROACH SPEEDS

STREET	APPROACH	DESIGN SPEED
PACIFIC HIGHWAY EAST (99E)	NORTHBOUND	45 MPH
	SOUTHBOUND	45 MPH
HILLSBORO-SILVERTON HWY. (214)	EASTBOUND	35 MPH
WOODBURN-ESTACADA HWY. (211)	WESTBOUND	45 MPH

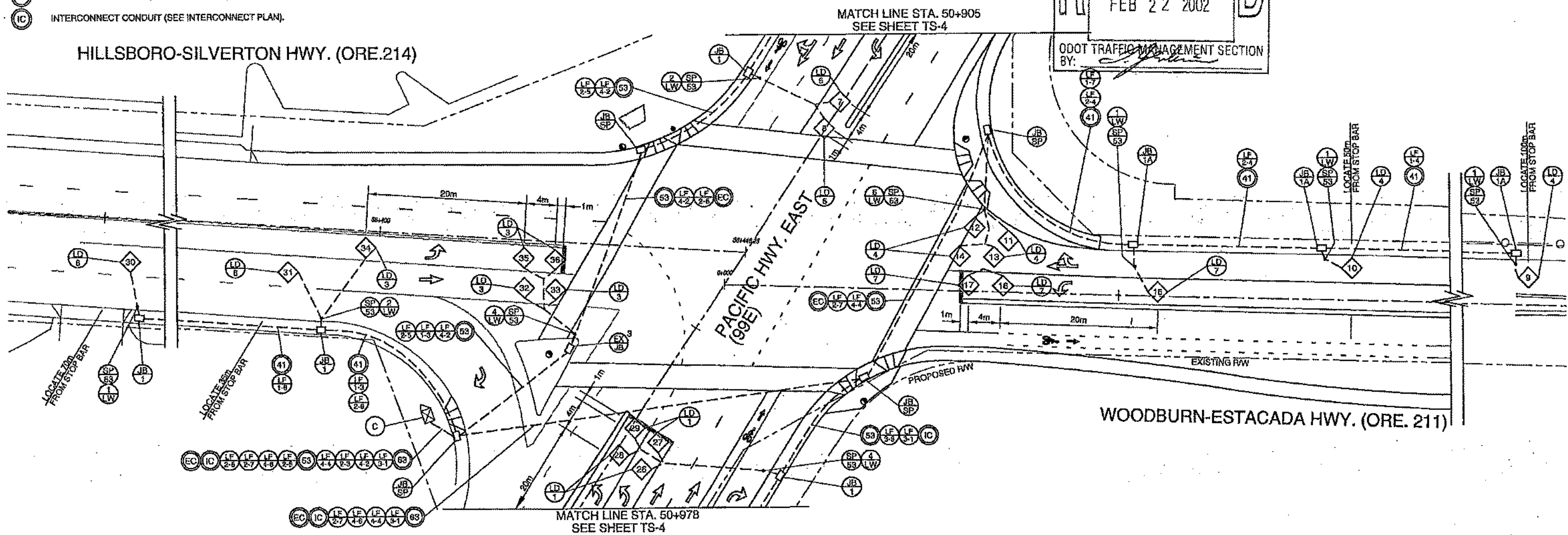
DETECTOR PLAN
PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
HWY. 1E, M.P. 31.70



REVIEWED

FEB 22 2002

ODOT TRAFFIC MANAGEMENT SECTION BY: *[Signature]*



GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO 1995 OREGON DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL LOOPS ARE TO BE INDIVIDUALLY WOUND CLOCKWISE AND SERIES WIRED AT JUNCTION BOXES OR CONTROLLER, AS SHOWN ON THE LOOP DETECTOR WIRING DIAGRAM.
3. SEE ODOT DRAWING NO. TM418 FOR LOOP DETECTOR DETAILS. ALL DETECTOR LOOPS TO BE CENTERED IN TRAFFIC LANES UNLESS SHOWN OTHERWISE.

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	TRAFFIC SIGNAL INSTALLATION PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. MARION COUNTY DATE: JANUARY 2002	
DESIGNED BY: <u>ARY</u> CHECKED BY: <u>DMS</u> DRAWN BY: <u>JCH</u>	SHEET NO. TS-3 <i>THIS DRAWING NO. 12635</i>	

Feb 14, 2002 - 4:38pm H:\proj\4903\dwg\4903DET1.dwg



DETECTOR PLAN
 PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
 HWY. 1E, M.P. 31.70

LOOP DETECTOR WIRING DIAGRAM

	PHASE	SLOT
1		12U
2		12L
3	S	13U
4	BIKE	13L
5		J1
6		J9U
7	S	16U
8		16L
9		17U
10	S	18
11	S	J5
12	S	J9L
13	S	J2U
14	S	J2L
15		J3U
16	S	J3L
17	S	J1
18	S	18U
19	S	J6U
20	S	J7U
21	S	J8
22	S	15
23	S	19L
24	S	
25	S	
26	S	
27	S	
28	S	
29	S	
30	S	
31	S	
32	S	
33	S	
34	S	
35	S	
36	S	

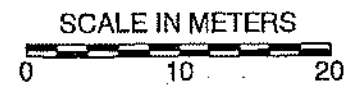
CONTROLLER CABINET

TRANSFER TO 17L

TRANSFER TO J7L

S = SPLICE

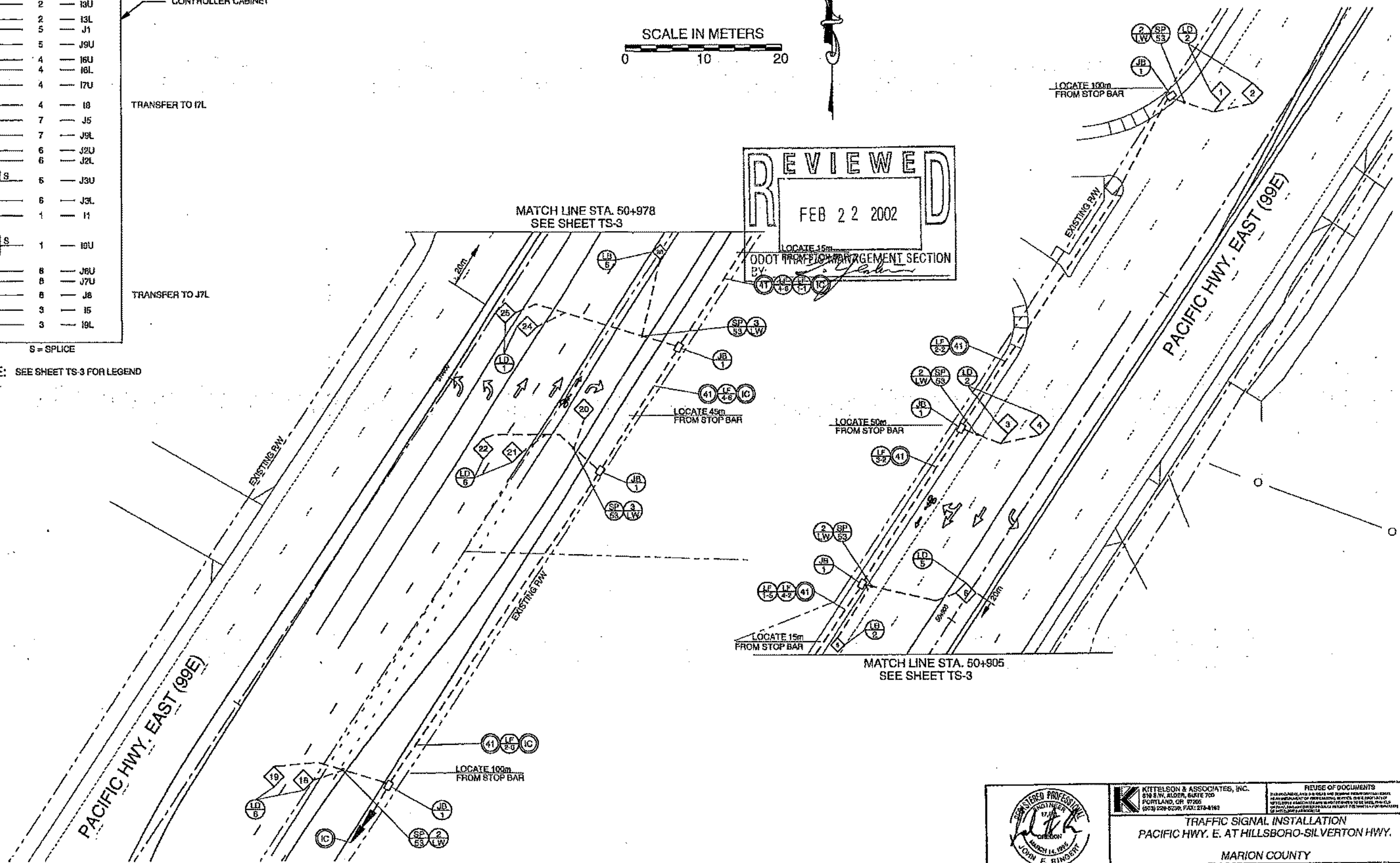
NOTE: SEE SHEET TS-3 FOR LEGEND



REVIEWED
 FEB 22 2002
 ODOT TRAFFIC MANAGEMENT SECTION
 BY: *[Signature]*

MATCH LINE STA. 50+978
 SEE SHEET TS-3

MATCH LINE STA. 50+905
 SEE SHEET TS-3



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	TRAFFIC SIGNAL INSTALLATION PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. MARION COUNTY	
DESIGNED BY: <u>ASY</u> CHECKED BY: <u>DMS</u> DRAWN BY: <u>JCH</u>	DATE: <u>JANUARY 2002</u>	SHEET NO. <u>TS-4</u> <i>Trs Dwg. No. 12636</i>



REMOVAL PLAN
 PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
 HWY. 1E, M.P. 31.70

LEGEND

- | | | | |
|--|---|--|--|
| | RETAIN AND PROTECT EXISTING TRAFFIC SIGNAL MAST ARM POLE. | | REMOVE EXISTING SERVICE CABINET. |
| | RETAIN AND PROTECT EXISTING PHASE (PH) VEHICLE SIGNAL. | | REMOVE EXISTING TERMINAL CABINET. |
| | RETAIN AND PROTECT EXISTING (580mm X 305mm X 305mm) JUNCTION BOX. | | REMOVE EXISTING JUNCTION BOX. |
| | RETAIN AND PROTECT EXISTING REMOTE POWER POST. | | REMOVE EXISTING WIRING. |
| | RETAIN AND PROTECT EXISTING FIRE PRE-EMPTION DETECTOR UNIT. | | REMOVE EXISTING FIRE PRE-EMPTION DETECTOR UNIT. |
| | REMOVE AND SALVAGE EXISTING TRAFFIC SIGNAL MAST ARM POLE. | | ABANDON EXISTING PHASE (PH) VEHICLE DETECTOR LOOP. |
| | REMOVE AND SALVAGE EXISTING PHASE (PH) VEHICLE SIGNAL. | | ABANDON EXISTING ELECTRICAL CONDUIT. |
| | REMOVE AND SALVAGE EXISTING OVERHEAD SIGN. | | ABANDON EXISTING INTERCONNECT CONDUIT. |
| | REMOVE EXISTING CONTROLLER AND 332 CABINET. | | ABANDON EXISTING DETECTOR CONDUIT. |
| | REMOVE EXISTING PEDESTRIAN SIGNAL PEDESTAL. | | |
| | REMOVE EXISTING PEDESTRIAN PUSHBUTTON AND INSTRUCTION SIGN. | | |
| | REMOVE EXISTING PEDESTRIAN SIGNAL, PUSHBUTTON AND INSTRUCTIONS. | | |
| | REMOVE EXISTING METER BASE. | | |

ABBREVIATIONS

PH= PHASE SHOWN

POLE NO. 2
 STA 1671+01, 51 RT

POLE NO. 1
 STA 1671+28, 72 RT

POLE NO. 3
 STA 1670+76, 45 LT

POLE NO. 6
 STA 1671+99, 45 RT

POLE NO. 4
 STA 1671+35, 64 LT

POLE NO. 5
 STA 1671+58, 49 LT

HILLSBORO-SILVERTON HWY.
 (ORE. 214)

WOODBURN-ESTACADA HWY. (ORE. 211)

PACIFIC HWY. EAST
 (99E)



REVIEWED
 FEB 22 2002
 ODOT TRAFFIC MANAGEMENT SECTION

CONSTRUCTION NOTES

- 1. CONTRACTOR SHALL COORDINATE RELOCATION OF PGE POLE NO. 4167 WITH PGE.

GENERAL NOTES

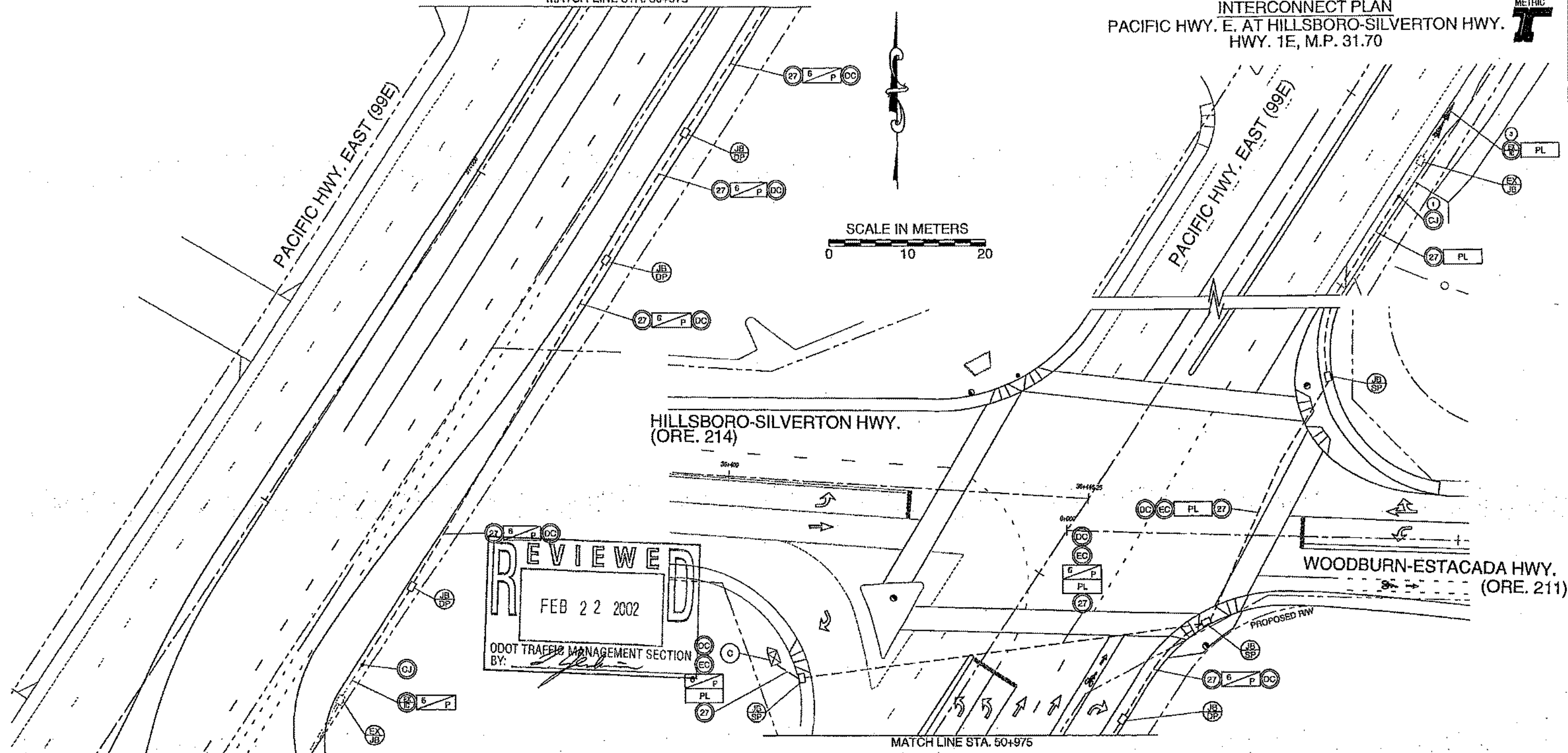
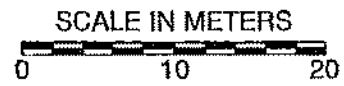
- 1. CONTRACTOR SHALL COORDINATE ALL SALVAGED SIGNAL EQUIPMENT WITH ODOT 48 HOURS PRIOR TO DELIVERY. CONTACT: IRV PATTON (503) 988-2706 ODOT REGION 2 HEADQUARTERS COMPOUND 885 AIRPORT ROAD SE, SALEM.

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	TRAFFIC SIGNAL REMOVAL PLAN PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. MARION COUNTY	
DESIGNED BY: ASY CHECKED BY: DMS DRAWN BY: JCH	DATE: JANUARY 2002	SHEET NO. TS-5 TMS Dwg. No. 12637

MATCH LINE STA. 50+975

INTERCONNECT PLAN PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY. HWY. 1E, M.P. 31.70



REVIEWED
FEB 22 2002
ODOT TRAFFIC MANAGEMENT SECTION
BY: *[Signature]*

LEGEND

- RETAIN AND PROTECT EXISTING (440mm X 265mm X 305mm) JUNCTION BOX.
- RETAIN AND PROTECT EXISTING WIRING.
- RETAIN AND PROTECT EXISTING INTERCONNECT CONDUIT.
- REINSTALL EXISTING WIRING.
- CONTROLLER (SEE SIGNAL PLAN).
- JUNCTION BOX (SEE SIGNAL PLAN).

- JUNCTION BOX (SEE DETECTOR PLAN).
- SPLICE NEW ELECTRICAL CONDUIT TO EXISTING ELECTRICAL CONDUIT.
- INSTALL (S) mm ELECTRICAL CONDUIT.
- ELECTRICAL CONDUIT (SEE SIGNAL PLAN).
- DETECTOR CONDUIT (SEE DETECTOR PLAN).
- INSTALL (N) TWISTED PAIR INTERCONNECT CABLE.
- INSTALL POLY PULL LINE (1KN MIN. STRENGTH).

ABBREVIATIONS

S = SIZE SHOWN
N = NUMBER SHOWN

CONSTRUCTION NOTES

- 1 SPLICE CONDUIT
- 2 REMOVE AND REPULL NEW 6 PAIR INTERCONNECT WIRE TO SIGNAL AT HARDCASTLE AVE APPROXIMATELY 2600' SOUTH.
- 3 APPROXIMATELY 1500 FEET

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HARDCASTLE AVE

MT. HOOD AVE

HILLSBORO-SILVERTON HWY.
(ORE. 214)

WOODBURN-ESTACADA HWY.
(ORE. 211)

MATCH LINE STA. 50+975



DESIGNED BY: ASY
CHECKED BY: DMS
DRAWN BY: JCH

KITTELSON & ASSOCIATES, INC.
610 S.W. ALDER, SUITE 700
PORTLAND, OR 97202
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TRAFFIC SIGNAL INSTALLATION
PACIFIC HWY. E. AT HILLSBORO-SILVERTON HWY.
MARION COUNTY

DATE: JANUARY 2002

SHEET NO. **TS-6**

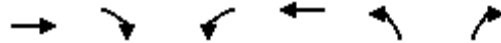
Trms. Dwg. No. **12638**

APPENDIX H
**OPERATIONS
CALCULATIONS**

HCM Unsignalized Intersection Capacity Analysis

1: Butteville Rd & OR 219

11/03/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→	↘	↙	←	↘	↙
Traffic Volume (veh/h)	107	51	60	320	88	133
Future Volume (Veh/h)	107	51	60	320	88	133
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	134	64	75	400	110	166
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			198			166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			198			166
tC, single (s)			4.2			6.2
tC, 2 stage (s)						
tF (s)			2.3			3.3
p0 queue free %			94			81
cM capacity (veh/h)			1339			873
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	198	475	276			
Volume Left	0	75	110			
Volume Right	64	0	166			
cSH	1700	1339	569			
Volume to Capacity	0.12	0.06	0.48			
Queue Length 95th (ft)	0	4	66			
Control Delay (s)	0.0	1.7	17.1			
Lane LOS			A			C
Approach Delay (s)	0.0	1.7	17.1			
Approach LOS			C			
Intersection Summary						
Average Delay			5.8			
Intersection Capacity Utilization			55.5%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM 6th TWSC
1: Butteville Rd & OR 219

11/03/2022

Intersection

Int Delay, s/veh 5.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	107	51	60	320	88	133
Future Vol, veh/h	107	51	60	320	88	133
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	80	80	80	80	80	80
Heavy Vehicles, %	12	9	8	5	3	4
Mvmt Flow	134	64	75	400	110	166

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	198
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.18
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.272
Pot Cap-1 Maneuver	-	-	1339
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1339
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

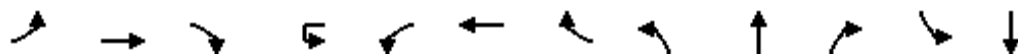
Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	564	-	-	1339	-
HCM Lane V/C Ratio	0.49	-	-	0.056	-
HCM Control Delay (s)	17.4	-	-	7.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.7	-	-	0.2	-

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	27	224	3	21	61	344	21	1	1	32	220	5
Future Volume (vph)	27	224	3	21	61	344	21	1	1	32	220	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.98
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3107	1458		1429	3137	1417	1630	909		1533	1507
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3107	1458		1429	3137	1417	1630	909		1533	1507
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	32	264	4	25	72	405	25	1	1	38	259	6
RTOR Reduction (vph)	0	0	2	0	0	0	10	0	35	0	0	5
Lane Group Flow (vph)	32	264	2	0	97	405	15	1	4	0	142	138
Confl. Peds. (#/hr)										1	1	
Heavy Vehicles (%)	2%	7%	2%	0%	22%	6%	5%	2%	2%	64%	3%	25%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	3.2	18.1	23.9		8.4	23.3	37.7	5.8	5.8		14.4	14.4
Effective Green, g (s)	3.2	18.6	23.9		8.4	23.8	37.7	5.8	5.8		14.4	14.4
Actuated g/C Ratio	0.05	0.29	0.38		0.13	0.38	0.60	0.09	0.09		0.23	0.23
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	82	914	551		189	1181	845	149	83		349	343
v/s Ratio Prot	0.02	c0.08	0.00		c0.07	c0.13	0.00	0.00	c0.00		c0.09	0.09
v/s Ratio Perm			0.00				0.01					
v/c Ratio	0.39	0.29	0.00		0.51	0.34	0.02	0.01	0.05		0.41	0.40
Uniform Delay, d1	29.1	17.2	12.2		25.5	14.1	5.2	26.1	26.2		20.8	20.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2	0.3	0.0		1.8	0.3	0.0	0.0	0.2		0.6	0.6
Delay (s)	31.3	17.5	12.2		27.3	14.4	5.2	26.1	26.4		21.3	21.3
Level of Service	C	B	B		C	B	A	C	C		C	C
Approach Delay (s)		18.9				16.3			26.4			21.3
Approach LOS		B				B			C			C

Intersection Summary

HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 2: Woodland Avenue & OR 219/OR 214

11/03/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	17
Future Volume (vph)	17
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	20
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (vph)	0	379	122	0	446	392	0	0	0	197	0	111
Future Volume (vph)	0	379	122	0	446	392	0	0	0	197	0	111
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3137	1271		3050	1305				2906		1305
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3137	1271		3050	1305				2906		1305
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)	0	408	131	0	480	422	0	0	0	212	0	119
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	99
Lane Group Flow (vph)	0	408	131	0	480	422	0	0	0	212	0	20
Heavy Vehicles (%)	0%	6%	17%	0%	9%	14%	0%	0%	0%	11%	0%	14%
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		44.7	64.0		44.7	64.0				10.3		10.3
Effective Green, g (s)		45.2	64.0		45.2	64.0				10.8		10.8
Actuated g/C Ratio		0.71	1.00		0.71	1.00				0.17		0.17
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			6.0					2.5		2.5
Lane Grp Cap (vph)		2215	1271		2154	1305				490		220
v/s Ratio Prot		0.13			0.16					0.07		
v/s Ratio Perm			0.10			c0.32						0.02
v/c Ratio		0.18	0.10		0.22	0.32				0.43		0.09
Uniform Delay, d1		3.2	0.0		3.3	0.0				23.9		22.5
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.2		0.1	0.7				0.4		0.1
Delay (s)		3.4	0.2		3.4	0.7				24.3		22.6
Level of Service		A	A		A	A				C		C
Approach Delay (s)		2.6			2.1			0.0			23.7	
Approach LOS		A			A			A			C	

Intersection Summary		
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.37	A
Actuated Cycle Length (s)	64.0	Sum of lost time (s)
Intersection Capacity Utilization	27.5%	8.0
Analysis Period (min)	15	ICU Level of Service
		A
c Critical Lane Group		

HCM 6th Signalized Intersection Summary

3: OR 214 & I-5 SB Ramp

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	379	122	0	446	392	0	0	0	197	0	111
Future Volume (veh/h)	0	379	122	0	446	392	0	0	0	197	0	111
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1668	1518	0	1627	1559				1600	0	1559
Adj Flow Rate, veh/h	0	408	0	0	480	0				212	0	119
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	6	17	0	9	14				11	0	14
Cap, veh/h	0	2301		0	2245					440	0	197
Arrive On Green	0.00	0.73	0.00	0.00	0.73	0.00				0.15	0.00	0.15
Sat Flow, veh/h	0	3253	1286	0	3173	1321				2956	0	1321
Grp Volume(v), veh/h	0	408	0	0	480	0				212	0	119
Grp Sat Flow(s),veh/h/ln	0	1585	1286	0	1546	1321				1478	0	1321
Q Serve(g_s), s	0.0	2.6	0.0	0.0	3.2	0.0				4.2	0.0	5.4
Cycle Q Clear(g_c), s	0.0	2.6	0.0	0.0	3.2	0.0				4.2	0.0	5.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2301		0	2245					440	0	197
V/C Ratio(X)	0.00	0.18		0.00	0.21					0.48	0.00	0.60
Avail Cap(c_a), veh/h	0	2301		0	2245					1108	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.95	0.00	0.00	0.89	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	2.8	0.0	0.0	2.8	0.0				25.0	0.0	25.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0				0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.0	0.0	0.5	0.0				1.4	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.9	0.0	0.0	3.0	0.0				25.6	0.0	27.7
LnGrp LOS	A	A		A	A					C	A	C
Approach Vol, veh/h		408			480						331	
Approach Delay, s/veh		2.9			3.0						26.3	
Approach LOS		A			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		50.5		13.5		50.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		7.4		0.0						
Green Ext Time (p_c), s		0.0		1.7		0.0						

Intersection Summary

HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

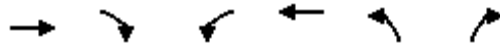
Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/03/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	385	199	0	635	201	520
Future Volume (vph)	385	199	0	635	201	520
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frt	1.00	0.85		1.00	0.92	0.85
Flt Protected	1.00	1.00		1.00	0.98	1.00
Satd. Flow (prot)	3050	1403		2942	2916	1314
Flt Permitted	1.00	1.00		1.00	0.98	1.00
Satd. Flow (perm)	3050	1403		2942	2916	1314
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	418	216	0	690	218	565
RTOR Reduction (vph)	0	117	0	0	165	164
Lane Group Flow (vph)	418	99	0	690	336	118
Heavy Vehicles (%)	9%	6%	0%	13%	6%	3%
Turn Type	NA	Perm		NA	Prot	Prot
Protected Phases	2			6	8	8
Permitted Phases		2				
Actuated Green, G (s)	31.6	31.6		31.6	28.5	28.5
Effective Green, g (s)	32.1	32.1		32.1	29.2	29.2
Actuated g/C Ratio	0.46	0.46		0.46	0.42	0.42
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1398	643		1349	1216	548
v/s Ratio Prot	0.14			c0.23	c0.12	0.09
v/s Ratio Perm		0.07				
v/c Ratio	0.30	0.15		0.51	0.28	0.21
Uniform Delay, d1	11.9	11.0		13.4	13.4	13.1
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.5		0.9	0.1	0.1
Delay (s)	12.4	11.5		14.3	13.5	13.2
Level of Service	B	B		B	B	B
Approach Delay (s)	12.1			14.3	13.4	
Approach LOS	B			B	B	

Intersection Summary

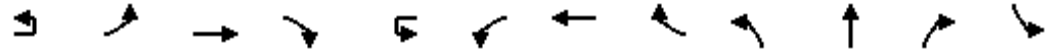
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/03/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↗	↘	↙
Traffic Volume (vph)	39	51	726	51	5	104	607	13	318	20	126	11
Future Volume (vph)	39	51	726	51	5	104	607	13	318	20	126	11
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (prot)		1644	2995	1261		1544	2965		1490	1494	1377	1630
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		1644	2995	1261		1544	2965		1490	1494	1377	1630
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)	42	55	781	55	5	112	653	14	342	22	135	12
RTOR Reduction (vph)	0	0	0	34	0	0	1	0	0	0	107	0
Lane Group Flow (vph)	0	97	781	21	0	117	666	0	181	183	28	12
Heavy Vehicles (%)	0%	2%	11%	18%	0%	8%	12%	2%	6%	11%	8%	2%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split
Protected Phases	5	5	2		1	1	6		7	7		4
Permitted Phases				2							7	
Actuated Green, G (s)		6.3	28.5	28.5		9.0	31.2		15.1	15.1	15.1	6.3
Effective Green, g (s)		6.3	29.0	29.0		9.0	31.7		15.6	15.6	15.6	6.8
Actuated g/C Ratio		0.08	0.38	0.38		0.12	0.41		0.20	0.20	0.20	0.09
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)		135	1136	478		181	1230		304	305	281	145
v/s Ratio Prot		0.06	c0.26			c0.08	c0.22		0.12	c0.12		0.01
v/s Ratio Perm				0.02							0.02	
v/c Ratio		0.72	0.69	0.04		0.65	0.54		0.60	0.60	0.10	0.08
Uniform Delay, d1		34.2	19.9	15.0		32.2	16.9		27.5	27.6	24.7	31.9
Progression Factor		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		15.6	2.7	0.1		6.8	1.2		2.6	2.7	0.1	0.2
Delay (s)		49.8	22.6	15.1		39.0	18.0		30.2	30.2	24.8	32.1
Level of Service		D	C	B		D	B		C	C	C	C
Approach Delay (s)			25.0			21.2			28.7			
Approach LOS			C			C			C			
Intersection Summary												
HCM 2000 Control Delay			24.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			76.4			Sum of lost time (s)				16.5		
Intersection Capacity Utilization			56.0%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/03/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	16	29
Future Volume (vph)	16	29
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1636	1261
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1636	1261
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	17	31
RTOR Reduction (vph)	0	28
Lane Group Flow (vph)	17	3
Heavy Vehicles (%)	7%	18%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	6.3	6.3
Effective Green, g (s)	6.8	6.8
Actuated g/C Ratio	0.09	0.09
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	145	112
v/s Ratio Prot	c0.01	
v/s Ratio Perm		0.00
v/c Ratio	0.12	0.02
Uniform Delay, d1	32.0	31.8
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	32.3	31.8
Level of Service	C	C
Approach Delay (s)	32.0	
Approach LOS	C	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/03/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations	⬆	⬆	⬆			⬆	⬆		⬆	⬆		⬆
Traffic Volume (vph)	3	27	844	6	1	1	755	14	6	6	8	2
Future Volume (vph)	3	27	844	6	1	1	755	14	6	6	8	2
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95				1.00	0.95	1.00	1.00		1.00
Frpb, 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	1.00	1.00				1.00	1.00	1.00	0.92		1.00
Flt Protected	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (prot)	1513	1533	3134				1646	2991	1630	1571		1630
Flt Permitted	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (perm)	1513	1533	3134				1646	2991	1630	1571		1630
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)	3	30	927	7	1	1	830	15	7	7	9	2
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	8	0	0
Lane Group Flow (vph)	3	30	934	0	0	2	844	0	7	8	0	2
Confl. Peds. (#/hr)		1						1				
Heavy Vehicles (%)	0%	3%	6%	2%	0%	2%	11%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	4.9	4.9	71.5				1.1	67.7	1.3	7.7		3.2
Effective Green, g (s)	4.9	4.9	72.0				1.1	68.2	1.3	7.7		3.2
Actuated g/C Ratio	0.05	0.05	0.72				0.01	0.68	0.01	0.08		0.03
Clearance Time (s)	4.0	4.0	4.5				4.0	4.5	4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2				2.5	6.2	2.5	2.5		2.5
Lane Grp Cap (vph)	74	75	2256				18	2039	21	120		52
v/s Ratio Prot	0.00	c0.02	c0.30				0.00	0.28	c0.00	0.00		0.00
v/s Ratio Perm												
v/c Ratio	0.04	0.40	0.41				0.11	0.41	0.33	0.06		0.04
Uniform Delay, d1	45.3	46.1	5.6				49.0	7.0	48.9	42.8		46.9
Progression Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	2.5	0.6				2.0	0.6	6.7	0.2		0.2
Delay (s)	45.5	48.7	6.1				51.0	7.7	55.6	43.0		47.1
Level of Service	D	D	A				D	A	E	D		D
Approach Delay (s)			7.6					7.8		46.8		
Approach LOS			A					A		D		
Intersection Summary												
HCM 2000 Control Delay			9.4				HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			37.6%				ICU Level of Service		A			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/03/2022



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	3	59
Future Volume (vph)	3	59
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frbp, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1470	
Flt Permitted	1.00	
Satd. Flow (perm)	1470	
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	3	65
RTOR Reduction (vph)	59	0
Lane Group Flow (vph)	9	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	9.6	
Effective Green, g (s)	9.6	
Actuated g/C Ratio	0.10	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	141	
v/s Ratio Prot	c0.01	
v/s Ratio Perm		
v/c Ratio	0.07	
Uniform Delay, d1	41.1	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	41.3	
Level of Service	D	
Approach Delay (s)	41.4	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/03/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	122	510	174	41	303	54	254	140	60	63	139	119	
Future Volume (vph)	122	510	174	41	303	54	254	140	60	63	139	119	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00	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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1599	1522	1403	1409	1471	1377	1539	1683	1305	1511	1620	1262	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1599	1522	1403	1409	1471	1377	1539	1683	1305	1511	1620	1262	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	133	554	189	45	329	59	276	152	65	68	151	129	
RTOR Reduction (vph)	0	0	93	0	0	38	0	0	46	0	0	109	
Lane Group Flow (vph)	133	554	96	45	329	21	276	152	19	68	151	20	
Confl. Peds. (#/hr)	8					8	2					2	
Heavy Vehicles (%)	4%	15%	6%	18%	19%	4%	8%	4%	14%	10%	8%	15%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	12.3	44.2	44.2	5.3	37.2	37.2	22.3	30.0	30.0	7.3	15.0	15.0	
Effective Green, g (s)	12.8	45.2	45.2	5.8	38.2	38.2	22.8	31.0	31.0	7.8	16.0	16.0	
Actuated g/C Ratio	0.12	0.43	0.43	0.05	0.36	0.36	0.22	0.29	0.29	0.07	0.15	0.15	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	193	650	599	77	531	497	331	493	382	111	244	190	
v/s Ratio Prot	c0.08	c0.36		0.03	0.22		c0.18	0.09		0.04	c0.09		
v/s Ratio Perm			0.07			0.02			0.01			0.02	
v/c Ratio	0.69	0.85	0.16	0.58	0.62	0.04	0.83	0.31	0.05	0.61	0.62	0.10	
Uniform Delay, d1	44.6	27.3	18.6	48.8	27.8	21.9	39.7	29.1	26.8	47.5	42.0	38.7	
Progression 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	
Incremental Delay, d2	9.0	10.4	0.1	9.0	1.8	0.0	16.0	0.3	0.0	8.3	4.0	0.2	
Delay (s)	53.6	37.7	18.7	57.9	29.7	22.0	55.7	29.3	26.9	55.8	46.0	38.9	
Level of Service	D	D	B	E	C	C	E	C	C	E	D	D	
Approach Delay (s)		36.0			31.5			43.8			45.3		
Approach LOS		D			C			D			D		
Intersection Summary													
HCM 2000 Control Delay			38.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.81										
Actuated Cycle Length (s)			105.8									Sum of lost time (s)	16.0
Intersection Capacity Utilization			70.7%									ICU Level of Service	C
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary
 7: Settlemier St/Boones Ferry Rd & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	510	174	41	303	54	254	140	60	63	139	119
Future Volume (veh/h)	122	510	174	41	303	54	254	140	60	63	139	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1695	1545	1668	1504	1491	1695	1641	1695	1559	1614	1641	1545
Adj Flow Rate, veh/h	133	554	189	45	329	59	276	152	65	68	151	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	15	6	18	19	4	8	4	14	10	8	15
Cap, veh/h	173	650	589	65	534	509	327	473	367	92	213	169
Arrive On Green	0.11	0.42	0.42	0.05	0.36	0.36	0.21	0.28	0.28	0.06	0.13	0.13
Sat Flow, veh/h	1615	1545	1400	1433	1491	1421	1563	1695	1316	1537	1641	1299
Grp Volume(v), veh/h	133	554	189	45	329	59	276	152	65	68	151	129
Grp Sat Flow(s),veh/h/ln	1615	1545	1400	1433	1491	1421	1563	1695	1316	1537	1641	1299
Q Serve(g_s), s	6.6	26.6	7.4	2.5	14.9	2.3	13.9	5.8	3.1	3.6	7.2	7.9
Cycle Q Clear(g_c), s	6.6	26.6	7.4	2.5	14.9	2.3	13.9	5.8	3.1	3.6	7.2	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	650	589	65	534	509	327	473	367	92	213	169
V/C Ratio(X)	0.77	0.85	0.32	0.70	0.62	0.12	0.84	0.32	0.18	0.74	0.71	0.76
Avail Cap(c_a), veh/h	283	1036	939	140	883	842	514	599	465	225	280	222
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	21.5	15.9	38.6	21.7	17.6	31.2	23.4	22.4	37.9	34.2	34.5
Incr Delay (d2), s/veh	5.2	3.3	0.2	9.5	0.9	0.1	6.1	0.3	0.2	8.2	4.5	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.3	2.3	1.0	5.0	0.7	5.7	2.3	1.0	1.5	3.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	24.8	16.1	48.1	22.5	17.7	37.3	23.7	22.6	46.2	38.7	43.9
LnGrp LOS	D	C	B	D	C	B	D	C	C	D	D	D
Approach Vol, veh/h		876			433			493			348	
Approach Delay, s/veh		25.4			24.5			31.1			42.1	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	38.5	21.2	14.7	12.8	33.4	8.9	26.9				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	7.5	54.0	26.5	13.0	13.9	47.6	11.5	28.0				
Max Q Clear Time (g_c+I1), s	4.5	28.6	15.9	9.2	8.6	16.9	5.6	7.8				
Green Ext Time (p_c), s	0.0	5.0	0.8	0.3	0.2	4.7	0.0	0.3				

Intersection Summary												
HCM 6th Ctrl Delay											29.2	
HCM 6th LOS											C	

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	166	77	117	213	71	135	476	65	55	260	99
Future Volume (vph)	131	166	77	117	213	71	135	476	65	55	260	99
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		3.5	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1511	1446	1219	1421	1474		2932	2917	1181	1385	2748	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1511	1446	1219	1421	1474		2932	2917	1181	1385	2748	
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)	144	182	85	129	234	78	148	523	71	60	286	109
RTOR Reduction (vph)	0	0	61	0	11	0	0	0	49	0	32	0
Lane Group Flow (vph)	144	182	24	129	301	0	148	523	22	60	363	0
Heavy Vehicles (%)	10%	21%	22%	17%	16%	9%	10%	14%	26%	20%	16%	16%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	14.0	24.6	24.6	13.5	24.1		14.6	25.2	25.2	7.1	17.7	
Effective Green, g (s)	13.5	24.6	24.6	13.0	24.1		14.6	26.9	26.9	6.6	19.4	
Actuated g/C Ratio	0.15	0.28	0.28	0.15	0.28		0.17	0.31	0.31	0.08	0.22	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	234	408	344	212	407		491	900	364	104	612	
v/s Ratio Prot	c0.10	0.13		0.09	c0.20		0.05	c0.18		0.04	c0.13	
v/s Ratio Perm			0.02						0.02			
v/c Ratio	0.62	0.45	0.07	0.61	0.74		0.30	0.58	0.06	0.58	0.59	
Uniform Delay, d1	34.4	25.7	22.9	34.7	28.6		31.8	25.4	21.2	38.9	30.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.1	0.6	0.1	4.1	6.5		0.3	0.8	0.1	6.2	1.3	
Delay (s)	38.4	26.2	22.9	38.8	35.2		32.0	26.1	21.2	45.1	31.6	
Level of Service	D	C	C	D	D		C	C	C	D	C	
Approach Delay (s)		29.8			36.2			26.9			33.4	
Approach LOS		C			D			C			C	

Intersection Summary

HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	87.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	166	77	117	213	71	135	476	65	55	260	99
Future Volume (veh/h)	131	166	77	117	213	71	135	476	65	55	260	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1463	1450	1518	1532	1627	1614	1559	1395	1477	1532	1532
Adj Flow Rate, veh/h	144	182	0	129	234	78	148	523	71	60	286	109
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	10	21	22	17	16	9	10	14	26	20	16	16
Cap, veh/h	192	412		147	284	95	305	928	370	51	454	169
Arrive On Green	0.12	0.28	0.00	0.10	0.26	0.26	0.10	0.31	0.31	0.04	0.22	0.19
Sat Flow, veh/h	1537	1463	1229	1446	1099	366	2981	2962	1182	1407	2075	773
Grp Volume(v), veh/h	144	182	0	129	0	312	148	523	71	60	199	196
Grp Sat Flow(s),veh/h/ln	1537	1463	1229	1446	0	1466	1491	1481	1182	1407	1455	1392
Q Serve(g_s), s	5.4	6.1	0.0	5.3	0.0	12.0	2.8	8.8	2.6	2.2	7.4	7.7
Cycle Q Clear(g_c), s	5.4	6.1	0.0	5.3	0.0	12.0	2.8	8.8	2.6	2.2	7.4	7.7
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	192	412		147	0	379	305	928	370	51	319	305
V/C Ratio(X)	0.75	0.44		0.88	0.00	0.82	0.49	0.56	0.19	1.17	0.62	0.64
Avail Cap(c_a), veh/h	564	1202		502	0	1175	582	1632	651	258	797	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.3	17.7	0.0	26.5	0.0	20.9	25.4	17.1	15.0	28.9	21.2	21.7
Incr Delay (d2), s/veh	4.4	0.6	0.0	11.7	0.0	3.4	0.9	0.4	0.2	105.1	1.5	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	1.9	0.0	2.1	0.0	3.8	0.9	2.5	0.6	2.2	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	18.2	0.0	38.3	0.0	24.4	26.3	17.5	15.2	134.0	22.6	23.4
LnGrp LOS	C	B		D	A	C	C	B	B	F	C	C
Approach Vol, veh/h		326			441			742			455	
Approach Delay, s/veh		23.3			28.4			19.1			37.7	
Approach LOS		C			C			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	17.1	11.5	19.5	6.2	22.8	10.1	20.9				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	11.7	* 31	22.5	48.0	11.5	31.3	21.3	49.2				
Max Q Clear Time (g_c+I1), s	4.8	9.7	8.4	14.0	4.2	10.8	7.3	8.1				
Green Ext Time (p_c), s	0.2	1.7	0.4	1.5	0.1	6.2	0.2	1.9				

Intersection Summary

HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	16	17	315	72	22
Future Volume (Veh/h)	70	16	17	315	72	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	74	17	18	332	76	23
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	456	88	99			
vC1, stage 1 conf vol	88					
vC2, stage 2 conf vol	369					
vCu, unblocked vol	456	88	99			
tC, single (s)	6.6	6.3	4.1			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.4	2.2			
p0 queue free %	88	98	99			
cM capacity (veh/h)	629	941	1494			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	74	17	18	332	99	
Volume Left	74	0	18	0	0	
Volume Right	0	17	0	0	23	
cSH	629	941	1494	1700	1700	
Volume to Capacity	0.12	0.02	0.01	0.20	0.06	
Queue Length 95th (ft)	10	1	1	0	0	
Control Delay (s)	11.5	8.9	7.4	0.0	0.0	
Lane LOS	B	A	A			
Approach Delay (s)	11.0		0.4		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			28.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 9: Evergreen Rd & Stacey Allison Wy

11/03/2022

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑	↗	
Traffic Vol, veh/h	70	16	17	315	72	22
Future Vol, veh/h	70	16	17	315	72	22
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	19	13	2	2	2	18
Mvmt Flow	74	17	18	332	76	23

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	457	88	99	0	0
Stage 1	88	-	-	-	-
Stage 2	369	-	-	-	-
Critical Hdwy	6.59	6.33	4.12	-	-
Critical Hdwy Stg 1	5.59	-	-	-	-
Critical Hdwy Stg 2	5.59	-	-	-	-
Follow-up Hdwy	3.671	3.417	2.218	-	-
Pot Cap-1 Maneuver	531	941	1494	-	-
Stage 1	894	-	-	-	-
Stage 2	663	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	525	941	1494	-	-
Mov Cap-2 Maneuver	570	-	-	-	-
Stage 1	883	-	-	-	-
Stage 2	663	-	-	-	-




















Approach	EB	NB	SB
HCM Control Delay, s	11.7	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1494	-	570	941	-	-
HCM Lane V/C Ratio	0.012	-	0.129	0.018	-	-
HCM Control Delay (s)	7.4	-	12.3	8.9	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

10: Evergreen Rd & Hayes St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	9	1	29	21	110	1	211	58	40	39	3
Future Volume (vph)	13	9	1	29	21	110	1	211	58	40	39	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	15	10	1	33	24	124	1	237	65	45	44	3
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	26	181	1	302	45	47						
Volume Left (vph)	15	33	1	0	45	0						
Volume Right (vph)	1	124	0	65	0	3						
Hadj (s)	0.13	-0.34	0.53	-0.12	0.53	0.01						
Departure Headway (s)	5.3	4.6	5.7	5.0	5.9	5.3						
Degree Utilization, x	0.04	0.23	0.00	0.42	0.07	0.07						
Capacity (veh/h)	616	727	612	696	582	639						
Control Delay (s)	8.5	8.9	7.5	10.4	8.1	7.5						
Approach Delay (s)	8.5	8.9	10.4		7.8							
Approach LOS	A	A	B		A							
Intersection Summary												
Delay			9.5									
Level of Service			A									
Intersection Capacity Utilization			39.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM 6th AWSC
 10: Evergreen Rd & Hayes St

11/03/2022

Intersection

Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	13	9	1	29	21	110	1	211	58	40	39	3
Future Vol, veh/h	13	9	1	29	21	110	1	211	58	40	39	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	15	10	1	33	24	124	1	237	65	45	44	3
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.5	9	11.2	8.7
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	57%	18%	100%	0%
Vol Thru, %	0%	78%	39%	13%	0%	93%
Vol Right, %	0%	22%	4%	69%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	269	23	160	40	42
LT Vol	1	0	13	29	40	0
Through Vol	0	211	9	21	0	39
RT Vol	0	58	1	110	0	3
Lane Flow Rate	1	302	26	180	45	47
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.002	0.417	0.038	0.229	0.073	0.069
Departure Headway (Hd)	5.618	4.963	5.252	4.586	5.81	5.272
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	635	722	678	780	614	676
Service Time	3.366	2.711	3.31	2.625	3.567	3.03
HCM Lane V/C Ratio	0.002	0.418	0.038	0.231	0.073	0.07
HCM Control Delay	8.4	11.2	8.5	9	9	8.4
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0	2.1	0.1	0.9	0.2	0.2

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	28	102	1	21	46	116	419	5	39	268	42
Future Volume (Veh/h)	38	28	102	1	21	46	116	419	5	39	268	42
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	46	34	124	1	26	56	141	511	6	48	327	51
Pedestrians		2			7			10				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1273	
pX, platoon unblocked												
vC, conflicting volume	1316	1256	364	1402	1279	521	380			524		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1316	1256	364	1402	1279	521	380			524		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.3			2.2		
p0 queue free %	48	76	81	98	81	90	88			95		
cM capacity (veh/h)	88	140	666	65	135	544	1144			1021		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	46	158	83	658	426							
Volume Left	46	0	1	141	48							
Volume Right	0	124	56	6	51							
cSH	88	368	267	1144	1021							
Volume to Capacity	0.52	0.43	0.31	0.12	0.05							
Queue Length 95th (ft)	57	52	32	11	4							
Control Delay (s)	83.4	21.9	24.5	3.0	1.4							
Lane LOS	F	C	C	A	A							
Approach Delay (s)	35.8		24.5	3.0	1.4							
Approach LOS	E		C									
Intersection Summary												
Average Delay			8.7									
Intersection Capacity Utilization			70.6%		ICU Level of Service					C		
Analysis Period (min)			15									

HCM 6th TWSC
11: Settlemier St & Hayes St

11/03/2022

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	28	102	1	21	46	116	419	5	39	268	42
Future Vol, veh/h	38	28	102	1	21	46	116	419	5	39	268	42
Conflicting Peds, #/hr	0	0	10	10	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	5	5	5	6	6	6	8	8	8	5	5	5
Mvmt Flow	46	34	124	1	26	56	141	511	6	48	327	51

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1288	1257	365	1341	1279	521	380	0	0	524	0	0
Stage 1	451	451	-	803	803	-	-	-	-	-	-	-
Stage 2	837	806	-	538	476	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.16	6.56	6.26	4.18	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.16	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.16	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.554	4.054	3.354	2.272	-	-	2.245	-	-
Pot Cap-1 Maneuver	139	169	673	127	163	548	1146	-	-	1027	-	-
Stage 1	582	566	-	371	390	-	-	-	-	-	-	-
Stage 2	357	391	-	520	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	88	130	665	68	126	544	1144	-	-	1020	-	-
Mov Cap-2 Maneuver	88	130	-	68	126	-	-	-	-	-	-	-
Stage 1	480	531	-	305	320	-	-	-	-	-	-	-
Stage 2	244	321	-	368	516	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	37.1		25.7		1.8		1	
HCM LOS	E		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1144	-	-	88	353	256	1020	-	-
HCM Lane V/C Ratio	0.124	-	-	0.527	0.449	0.324	0.047	-	-
HCM Control Delay (s)	8.6	0	-	84.4	23.3	25.7	8.7	0	-
HCM Lane LOS	A	A	-	F	C	D	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	2.3	2.2	1.4	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	1	1	11	5	6
Future Volume (Veh/h)	12	1	1	11	5	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	14	1	1	13	6	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	24	10	13			
vC1, stage 1 conf vol	10					
vC2, stage 2 conf vol	15					
vCu, unblocked vol	24	10	13			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	979	1072	1606			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	15	1	13	13		
Volume Left	14	1	0	0		
Volume Right	1	0	0	7		
cSH	985	1606	1700	1700		
Volume to Capacity	0.02	0.00	0.01	0.01		
Queue Length 95th (ft)	1	0	0	0		
Control Delay (s)	8.7	7.2	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	8.7	0.5		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/03/2022

Intersection

Int Delay, s/veh 3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	1	1	11	5	6
Future Vol, veh/h	12	1	1	11	5	6
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	5	5	2
Mvmt Flow	14	1	1	13	6	7

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	25	10	13
Stage 1	10	-	-
Stage 2	15	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	991	1071	1606
Stage 1	1013	-	-
Stage 2	1008	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	990	1071	1606
Mov Cap-2 Maneuver	913	-	-
Stage 1	1012	-	-
Stage 2	1008	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1606	-	923	-	-
HCM Lane V/C Ratio	0.001	-	0.017	-	-
HCM Control Delay (s)	7.2	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage (veh)					2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol	0					
vC2, stage 2 conf vol	0					
vCu, unblocked vol	0	0	0			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)	5.5					
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1003	1062	1572			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM 6th TWSC
 13: Evergreen Rd & North Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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, %	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	1001	1061	1571	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1001	1061	1571	-	-	-
Mov Cap-2 Maneuver	915	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1003	1062	1572			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
14: Evergreen Rd & South Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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, %	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1	1	1	0	0
Stage 1	1	-	-	-	-
Stage 2	0	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-
Pot Cap-1 Maneuver	1001	1061	1571	-	-
Stage 1	1002	-	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	1001	1061	1571	-	-
Mov Cap-2 Maneuver	1001	-	-	-	-
Stage 1	1002	-	-	-	-
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis
 15: Parr Rd & Industrial Road & Evergreen Rd

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	93	0	0	0	0	125	0	0	0
Future Volume (vph)	0	0	0	93	0	0	0	0	125	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	109	0	0	0	0	147	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	109	147	0								
Volume Left (vph)	0	109	0	0								
Volume Right (vph)	0	0	147	0								
Hadj (s)	0.00	0.30	-0.57	0.00								
Departure Headway (s)	4.3	4.5	3.6	4.3								
Degree Utilization, x	0.00	0.14	0.15	0.00								
Capacity (veh/h)	808	777	966	816								
Control Delay (s)	7.3	8.2	7.2	7.3								
Approach Delay (s)	0.0	8.2	7.2	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.6									
Level of Service			A									
Intersection Capacity Utilization			20.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/03/2022

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	93	0	0	0	0	125	0	0	0
Future Vol, veh/h	0	0	0	93	0	0	0	0	125	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	0	0	0	109	0	0	0	0	147	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	8.2	7.4	0
HCM LOS	-	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	100%
Vol Right, %	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	0	93	0
LT Vol	0	0	93	0
Through Vol	0	0	0	0
RT Vol	125	0	0	0
Lane Flow Rate	147	0	109	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.15	0	0.136	0
Departure Headway (Hd)	3.66	4.296	4.46	4.257
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	966	0	802	0
Service Time	1.736	2.369	2.498	2.353
HCM Lane V/C Ratio	0.152	0	0.136	0
HCM Control Delay	7.4	7.4	8.2	7.4
HCM Lane LOS	A	N	A	N
HCM 95th-tile Q	0.5	0	0.5	0

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
16: Industrial Road & East Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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, %	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1 1
Stage 1	-	-	-	-	1 -
Stage 2	-	-	-	-	0 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1571	-	-	-	1001 1061
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001 1061
Mov Cap-2 Maneuver	-	-	-	-	1001 -
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
17: Industrial Road & West Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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, %	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1 1
Stage 1	-	-	-	-	1 -
Stage 2	-	-	-	-	0 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1571	-	-	-	1001 1061
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001 1061
Mov Cap-2 Maneuver	-	-	-	-	1001 -
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	1	124	89	3	5	4
Future Volume (Veh/h)	1	124	89	3	5	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	1	175	125	4	7	6
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	130				305	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130				305	128
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1448				686	921
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	176	129	13			
Volume Left	1	0	7			
Volume Right	0	4	6			
cSH	1448	1700	777			
Volume to Capacity	0.00	0.08	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	0.0	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		18.0%		ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	124	89	3	5	4
Future Vol, veh/h	1	124	89	3	5	4
Conflicting Peds, #/hr	1	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	71	71	71	71	71	71
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	1	175	125	4	7	6





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	130	0	-	0	305 128
Stage 1	-	-	-	-	128 -
Stage 2	-	-	-	-	177 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1449	-	-	-	687 922
Stage 1	-	-	-	-	898 -
Stage 2	-	-	-	-	854 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1448	-	-	-	685 921
Mov Cap-2 Maneuver	-	-	-	-	685 -
Stage 1	-	-	-	-	896 -
Stage 2	-	-	-	-	853 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	773
HCM Lane V/C Ratio	0.001	-	-	-	0.016
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	41	37	43	24	50	2	58	119	25	3	88	53
Future Volume (vph)	41	37	43	24	50	2	58	119	25	3	88	53
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	47	42	49	27	57	2	66	135	28	3	100	60
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	47	91	27	59	201	28	103	60				
Volume Left (vph)	47	0	27	0	66	0	3	0				
Volume Right (vph)	0	49	0	2	0	28	0	60				
Hadj (s)	0.58	-0.34	0.53	0.01	0.26	-0.63	0.10	-0.63				
Departure Headway (s)	6.2	5.3	6.2	5.7	5.5	4.6	5.4	4.7				
Degree Utilization, x	0.08	0.13	0.05	0.09	0.31	0.04	0.16	0.08				
Capacity (veh/h)	547	642	544	595	628	738	629	724				
Control Delay (s)	8.5	7.9	8.3	8.0	9.8	6.6	8.2	6.9				
Approach Delay (s)	8.1		8.1		9.4		7.8					
Approach LOS	A		A		A		A					
Intersection Summary												
Delay			8.5									
Level of Service			A									
Intersection Capacity Utilization			32.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/03/2022

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↶	↷		↶	↷
Traffic Vol, veh/h	41	37	43	24	50	2	58	119	25	3	88	53
Future Vol, veh/h	41	37	43	24	50	2	58	119	25	3	88	53
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	5	3	2	2	2	2	5	6	4	2	5	4
Mvmt Flow	47	42	49	27	57	2	66	135	28	3	100	60
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.1	9.1	10.3	8.7
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	33%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	67%	0%	0%	46%	0%	96%	97%	0%
Vol Right, %	0%	100%	0%	54%	0%	4%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	25	41	80	24	52	91	53
LT Vol	58	0	41	0	24	0	3	0
Through Vol	119	0	0	37	0	50	88	0
RT Vol	0	25	0	43	0	2	0	53
Lane Flow Rate	201	28	47	91	27	59	103	60
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.308	0.037	0.08	0.133	0.047	0.093	0.155	0.079
Departure Headway (Hd)	5.519	4.668	6.192	5.274	6.203	5.671	5.403	4.733
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	648	762	576	675	574	628	660	752
Service Time	3.279	2.427	3.961	3.043	3.978	3.446	3.166	2.495
HCM Lane V/C Ratio	0.31	0.037	0.082	0.135	0.047	0.094	0.156	0.08
HCM Control Delay	10.7	7.6	9.5	8.9	9.3	9	9.2	7.9
HCM Lane LOS	B	A	A	A	A	A	A	A
HCM 95th-tile Q	1.3	0.1	0.3	0.5	0.1	0.3	0.5	0.3

HCM Unsignalized Intersection Capacity Analysis
 22: Butteville Rd & Parr Rd

11/03/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	22	147	25	27	70
Future Volume (Veh/h)	17	22	147	25	27	70
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	24	163	28	30	78
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	315	177			191	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	315	177			191	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	97	97			98	
cM capacity (veh/h)	663	856			1371	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	43	191	108			
Volume Left	19	0	30			
Volume Right	24	28	0			
cSH	758	1700	1371			
Volume to Capacity	0.06	0.11	0.02			
Queue Length 95th (ft)	4	0	2			
Control Delay (s)	10.0	0.0	2.3			
Lane LOS	B		A			
Approach Delay (s)	10.0	0.0	2.3			
Approach LOS	B					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization		29.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/03/2022

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	22	147	25	27	70
Future Vol, veh/h	17	22	147	25	27	70
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	90	90	90	90	90	90
Heavy Vehicles, %	2	6	2	2	4	3
Mvmt Flow	19	24	163	28	30	78

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	315	177	0	0	191
Stage 1	177	-	-	-	-
Stage 2	138	-	-	-	-
Critical Hdwy	6.42	6.26	-	-	4.14
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.354	-	-	2.236
Pot Cap-1 Maneuver	678	856	-	-	1371
Stage 1	854	-	-	-	-
Stage 2	889	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	662	856	-	-	1371
Mov Cap-2 Maneuver	662	-	-	-	-
Stage 1	854	-	-	-	-
Stage 2	869	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	759	1371
HCM Lane V/C Ratio	-	-	0.057	0.022
HCM Control Delay (s)	-	-	10	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

HCM Unsignalized Intersection Capacity Analysis
 1: Butteville Rd & OR 219

11/03/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized		MOYes				MOYes
Traffic Volume (veh/h)	126	93	416	380	96	184
Future Volume (veh/h)	126	93	416	380	96	184
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	143	106	473	432	109	209
Approach Volume (veh/h)	143			905	109	
Crossing Volume (veh/h)	473			109	143	
High Capacity (veh/h)	954			1272	1238	
High v/c (veh/h)	0.15			0.71	0.09	
Low Capacity (veh/h)	773			1058	1028	
Low v/c (veh/h)	0.19			0.86	0.11	
Intersection Summary						
Maximum v/c High			0.71			
Maximum v/c Low			0.86			
Intersection Capacity Utilization			56.6%		ICU Level of Service	B

HCM 6th Roundabout
1: Butteville Rd & OR 219

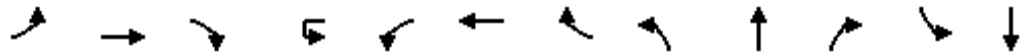
11/03/2022

Intersection				
Intersection Delay, s/veh	5.5			
Intersection LOS	A			
Approach	EB	WB	NB	
Entry Lanes	0	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	0	905	318	
Demand Flow Rate, veh/h	0	965	329	
Vehicles Circulating, veh/h	511	112	160	
Vehicles Exiting, veh/h	566	160	511	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	7.0	1.3	
Approach LOS	-	A	A	
Lane	Left	Right	Left	Bypass
Designated Moves	L	TR	L	R
Assumed Moves	L	TR	L	R
RT Channelized				Free
Lane Util	0.530	0.470	1.000	
Follow-Up Headway, s	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.328	217
Entry Flow, veh/h	511	454	112	1820
Cap Entry Lane, veh/h	1218	1291	1240	0.962
Entry HV Adj Factor	0.926	0.952	0.973	209
Flow Entry, veh/h	473	432	109	1750
Cap Entry, veh/h	1127	1230	1206	0.119
V/C Ratio	0.420	0.352	0.090	0.0
Control Delay, s/veh	7.6	6.3	3.7	A
LOS	A	A	A	0
95th %tile Queue, veh	2	2	0	

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	34	277	3	22	63	720	46	1	1	33	335	5
Future Volume (vph)	34	277	3	22	63	720	46	1	1	33	335	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3107	1458		1429	3137	1417	1630	909		1533	1498
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3107	1458		1429	3137	1417	1630	909		1533	1498
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	39	315	3	25	72	818	52	1	1	38	381	6
RTOR Reduction (vph)	0	0	2	0	0	0	15	0	35	0	0	8
Lane Group Flow (vph)	39	315	1	0	97	818	37	1	4	0	221	206
Confl. Peds. (#/hr)										1	1	
Heavy Vehicles (%)	2%	7%	2%	0%	22%	6%	5%	2%	2%	64%	3%	25%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	4.2	24.9	30.9		9.2	29.9	49.8	6.0	6.0		19.9	19.9
Effective Green, g (s)	4.2	25.4	30.9		9.2	30.4	49.8	6.0	6.0		19.9	19.9
Actuated g/C Ratio	0.05	0.33	0.40		0.12	0.40	0.65	0.08	0.08		0.26	0.26
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	89	1031	588		171	1246	922	127	71		398	389
v/s Ratio Prot	0.02	c0.10	0.00		0.07	c0.26	0.01	0.00	c0.00		c0.14	0.14
v/s Ratio Perm			0.00				0.02					
v/c Ratio	0.44	0.31	0.00		0.57	0.66	0.04	0.01	0.06		0.56	0.53
Uniform Delay, d1	35.0	19.0	13.6		31.8	18.8	4.8	32.5	32.6		24.5	24.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.5	0.3	0.0		3.5	1.4	0.0	0.0	0.2		1.3	1.0
Delay (s)	37.5	19.2	13.6		35.2	20.2	4.8	32.5	32.9		25.8	25.3
Level of Service	D	B	B		D	C	A	C	C		C	C
Approach Delay (s)		21.2				20.9			32.9			25.6
Approach LOS		C				C			C			C

Intersection Summary

HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	76.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/03/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.88
Adj. Flow (vph)	48
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (vph)	0	512	163	0	760	553	0	0	0	294	0	220
Future Volume (vph)	0	512	163	0	760	553	0	0	0	294	0	220
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3137	1271		3050	1305				2906		1305
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3137	1271		3050	1305				2906		1305
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)	0	551	175	0	817	595	0	0	0	316	0	237
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	101
Lane Group Flow (vph)	0	551	175	0	817	595	0	0	0	316	0	136
Heavy Vehicles (%)	0%	6%	17%	0%	9%	14%	0%	0%	0%	11%	0%	14%
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		42.9	64.0		42.9	64.0				12.1		12.1
Effective Green, g (s)		43.4	64.0		43.4	64.0				12.6		12.6
Actuated g/C Ratio		0.68	1.00		0.68	1.00				0.20		0.20
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			6.0					2.5		2.5
Lane Grp Cap (vph)		2127	1271		2068	1305				572		256
v/s Ratio Prot		0.18			0.27					0.11		
v/s Ratio Perm			0.14			c0.46						0.10
v/c Ratio		0.26	0.14		0.40	0.46				0.55		0.53
Uniform Delay, d1		4.0	0.0		4.5	0.0				23.2		23.0
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.3	0.2		0.4	1.2				0.9		1.6
Delay (s)		4.3	0.2		4.9	1.2				24.1		24.7
Level of Service		A	A		A	A				C		C
Approach Delay (s)		3.3			3.3			0.0			24.3	
Approach LOS		A			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			7.6		HCM 2000 Level of Service					A		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			64.0		Sum of lost time (s)					8.0		
Intersection Capacity Utilization			44.3%		ICU Level of Service					A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary
 3: OR 214 & I-5 SB Ramp

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	512	163	0	760	553	0	0	0	294	0	220
Future Volume (veh/h)	0	512	163	0	760	553	0	0	0	294	0	220
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1668	1518	0	1627	1559				1600	0	1559
Adj Flow Rate, veh/h	0	551	0	0	817	0				316	0	237
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	6	17	0	9	14				11	0	14
Cap, veh/h	0	1999		0	1950					722	0	323
Arrive On Green	0.00	0.63	0.00	0.00	0.63	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	3253	1286	0	3173	1321				2956	0	1321
Grp Volume(v), veh/h	0	551	0	0	817	0				316	0	237
Grp Sat Flow(s),veh/h/ln	0	1585	1286	0	1546	1321				1478	0	1321
Q Serve(g_s), s	0.0	5.0	0.0	0.0	8.5	0.0				5.8	0.0	10.6
Cycle Q Clear(g_c), s	0.0	5.0	0.0	0.0	8.5	0.0				5.8	0.0	10.6
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1999		0	1950					722	0	323
V/C Ratio(X)	0.00	0.28		0.00	0.42					0.44	0.00	0.73
Avail Cap(c_a), veh/h	0	1999		0	1950					1108	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.92	0.00	0.00	0.72	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.3	0.0	0.0	5.9	0.0				20.5	0.0	22.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.4	0.0				0.3	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	0.0	0.0	2.0	0.0				1.9	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.6	0.0	0.0	6.3	0.0				20.8	0.0	24.7
LnGrp LOS	A	A		A	A					C	A	C
Approach Vol, veh/h		551			817						553	
Approach Delay, s/veh		5.6			6.3						22.4	
Approach LOS		A			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		44.4		19.6		44.4						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		12.6		0.0						
Green Ext Time (p_c), s		0.0		2.6		0.0						

Intersection Summary

HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

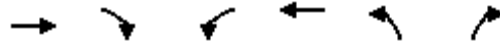
Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/03/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	543	266	0	943	361	584
Future Volume (vph)	543	266	0	943	361	584
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frt	1.00	0.85		1.00	0.93	0.85
Flt Protected	1.00	1.00		1.00	0.97	1.00
Satd. Flow (prot)	3050	1403		2942	2947	1314
Flt Permitted	1.00	1.00		1.00	0.97	1.00
Satd. Flow (perm)	3050	1403		2942	2947	1314
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	590	289	0	1025	392	635
RTOR Reduction (vph)	0	149	0	0	161	161
Lane Group Flow (vph)	590	140	0	1025	536	169
Heavy Vehicles (%)	9%	6%	0%	13%	6%	3%
Turn Type	NA	Perm		NA	Prot	Prot
Protected Phases	2			6	8	8
Permitted Phases		2				
Actuated Green, G (s)	33.3	33.3		33.3	26.8	26.8
Effective Green, g (s)	33.8	33.8		33.8	27.5	27.5
Actuated g/C Ratio	0.48	0.48		0.48	0.39	0.39
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1472	677		1420	1157	516
v/s Ratio Prot	0.19			c0.35	c0.18	0.13
v/s Ratio Perm		0.10				
v/c Ratio	0.40	0.21		0.72	0.46	0.33
Uniform Delay, d1	11.6	10.4		14.4	15.8	14.8
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.7		2.6	0.2	0.3
Delay (s)	12.4	11.1		17.0	16.0	15.1
Level of Service	B	B		B	B	B
Approach Delay (s)	12.0			17.0	15.7	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/03/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (vph)	40	53	828	177	5	125	802	13	719	21	168	11
Future Volume (vph)	40	53	828	177	5	125	802	13	719	21	168	11
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	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
Flpb, ped/bikes		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		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.95	1.00	0.95
Satd. Flow (prot)		1644	2995	1261		1543	2965		1490	1494	1377	1630
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.95	1.00	0.95
Satd. Flow (perm)		1644	2995	1261		1543	2965		1490	1494	1377	1630
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)	43	57	890	190	5	134	862	14	773	23	181	12
RTOR Reduction (vph)	0	0	0	123	0	0	1	0	0	0	126	0
Lane Group Flow (vph)	0	100	890	67	0	139	875	0	394	402	55	12
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	2%	11%	18%	0%	8%	12%	2%	6%	11%	8%	2%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split
Protected Phases	5	5	2		1	1	6		7	7		4
Permitted Phases				2								7
Actuated Green, G (s)		8.1	32.1	32.1		8.5	32.5		27.6	27.6	27.6	6.9
Effective Green, g (s)		8.1	32.6	32.6		8.5	33.0		28.1	28.1	28.1	7.4
Actuated g/C Ratio		0.09	0.35	0.35		0.09	0.36		0.30	0.30	0.30	0.08
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)		143	1054	443		141	1056		452	453	417	130
v/s Ratio Prot		0.06	c0.30			c0.09	0.30		0.26	c0.27		0.01
v/s Ratio Perm				0.05								0.04
v/c Ratio		0.70	0.84	0.15		0.99	0.83		0.87	0.89	0.13	0.09
Uniform Delay, d1		41.1	27.7	20.5		42.0	27.2		30.5	30.7	23.4	39.5
Progression Factor		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		12.9	7.3	0.5		70.9	6.5		16.5	18.5	0.1	0.2
Delay (s)		53.9	35.0	21.0		112.9	33.7		47.1	49.2	23.5	39.7
Level of Service		D	D	C		F	C		D	D	C	D
Approach Delay (s)			34.4				44.5			43.6		
Approach LOS			C				D			D		

Intersection Summary

HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/03/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	16	30
Future Volume (vph)	16	30
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frbp, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1636	1261
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1636	1261
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	17	32
RTOR Reduction (vph)	0	29
Lane Group Flow (vph)	17	3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	7%	18%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	6.9	6.9
Effective Green, g (s)	7.4	7.4
Actuated g/C Ratio	0.08	0.08
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	130	100
v/s Ratio Prot	c0.01	
v/s Ratio Perm		0.00
v/c Ratio	0.13	0.03
Uniform Delay, d1	39.6	39.3
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	39.9	39.4
Level of Service	D	D
Approach Delay (s)	39.6	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/03/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	3	28	959	11	1	1	958	14	22	13	8	2
Future Volume (vph)	3	28	959	11	1	1	958	14	22	13	8	2
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95				1.00	0.95	1.00	1.00		1.00
Frpb, 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	1.00	1.00				1.00	1.00	1.00	0.94		1.00
Flt Protected	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (prot)	1513	1533	3132				1646	2992	1630	1615		1630
Flt Permitted	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (perm)	1513	1533	3132				1646	2992	1630	1615		1630
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)	3	31	1054	12	1	1	1053	15	24	14	9	2
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	8	0	0
Lane Group Flow (vph)	3	31	1066	0	0	2	1067	0	24	15	0	2
Confl. Peds. (#/hr)		1						1				
Confl. Bikes (#/hr)				1								
Heavy Vehicles (%)	0%	3%	6%	2%	0%	2%	11%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	4.9	4.9	69.2				1.1	65.4	3.2	10.0		3.2
Effective Green, g (s)	4.9	4.9	69.7				1.1	65.9	3.2	10.0		3.2
Actuated g/C Ratio	0.05	0.05	0.70				0.01	0.66	0.03	0.10		0.03
Clearance Time (s)	4.0	4.0	4.5				4.0	4.5	4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2				2.5	6.2	2.5	2.5		2.5
Lane Grp Cap (vph)	74	75	2183				18	1971	52	161		52
v/s Ratio Prot	0.00	c0.02	c0.34				0.00	c0.36	c0.01	c0.01		0.00
v/s Ratio Perm												
v/c Ratio	0.04	0.41	0.49				0.11	0.54	0.46	0.09		0.04
Uniform Delay, d1	45.3	46.2	7.0				49.0	9.0	47.6	40.9		46.9
Progression Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	2.7	0.8				2.0	1.1	4.7	0.2		0.2
Delay (s)	45.5	48.8	7.7				51.0	10.1	52.2	41.1		47.1
Level of Service	D	D	A				D	B	D	D		D
Approach Delay (s)			9.0				10.2		46.8			
Approach LOS			A				B		D			
Intersection Summary												
HCM 2000 Control Delay			11.3				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			43.9%				ICU Level of Service		A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/03/2022



Movement	SBT	SBR
Lane Configurations	3	1
Traffic Volume (vph)	3	61
Future Volume (vph)	3	61
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frbp, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1469	
Flt Permitted	1.00	
Satd. Flow (perm)	1469	
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	3	67
RTOR Reduction (vph)	60	0
Lane Group Flow (vph)	10	0
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	10.0	
Effective Green, g (s)	10.0	
Actuated g/C Ratio	0.10	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	146	
v/s Ratio Prot	0.01	
v/s Ratio Perm		
v/c Ratio	0.07	
Uniform Delay, d1	40.8	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	40.9	
Level of Service	D	
Approach Delay (s)	41.1	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘	
Traffic Volume (vph)	142	605	194	55	394	66	321	151	103	95	160	151	
Future Volume (vph)	142	605	194	55	394	66	321	151	103	95	160	151	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00	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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1599	1522	1403	1409	1471	1374	1539	1683	1305	1511	1620	1262	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1599	1522	1403	1409	1471	1374	1539	1683	1305	1511	1620	1262	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	154	658	211	60	428	72	349	164	112	103	174	164	
RTOR Reduction (vph)	0	0	85	0	0	45	0	0	81	0	0	142	
Lane Group Flow (vph)	154	658	126	60	428	27	349	164	31	103	174	22	
Confl. Peds. (#/hr)	8					8	2					2	
Heavy Vehicles (%)	4%	15%	6%	18%	19%	4%	8%	4%	14%	10%	8%	15%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	13.1	51.5	51.5	5.7	44.1	44.1	26.9	31.3	31.3	10.6	15.0	15.0	
Effective Green, g (s)	13.6	52.5	52.5	6.2	45.1	45.1	27.4	32.3	32.3	11.1	16.0	16.0	
Actuated g/C Ratio	0.12	0.44	0.44	0.05	0.38	0.38	0.23	0.27	0.27	0.09	0.14	0.14	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	184	676	623	73	561	524	357	460	356	142	219	170	
v/s Ratio Prot	c0.10	c0.43		0.04	0.29		c0.23	0.10		0.07	c0.11		
v/s Ratio Perm			0.09			0.02			0.02			0.02	
v/c Ratio	0.84	0.97	0.20	0.82	0.76	0.05	0.98	0.36	0.09	0.73	0.79	0.13	
Uniform Delay, d1	51.2	32.1	20.0	55.4	31.8	23.0	45.0	34.5	31.9	52.0	49.5	44.9	
Progression 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	
Incremental Delay, d2	26.4	27.9	0.1	49.1	5.8	0.0	41.2	0.3	0.1	15.8	17.2	0.3	
Delay (s)	77.5	60.0	20.1	104.5	37.7	23.1	86.2	34.9	32.0	67.8	66.7	45.2	
Level of Service	E	E	C	F	D	C	F	C	C	E	E	D	
Approach Delay (s)		54.4			43.0			63.0			59.0		
Approach LOS		D			D			E			E		
Intersection Summary													
HCM 2000 Control Delay			54.8									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.95										
Actuated Cycle Length (s)			118.1									Sum of lost time (s)	16.0
Intersection Capacity Utilization			81.3%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

7: Settlemier St/Boones Ferry Rd & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	605	194	55	394	66	321	151	103	95	160	151
Future Volume (veh/h)	142	605	194	55	394	66	321	151	103	95	160	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1695	1545	1668	1504	1491	1695	1641	1695	1559	1614	1641	1545
Adj Flow Rate, veh/h	154	658	211	60	428	72	349	164	112	103	174	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	15	6	18	19	4	8	4	14	10	8	15
Cap, veh/h	185	700	635	78	586	559	365	457	355	130	198	157
Arrive On Green	0.11	0.45	0.45	0.05	0.39	0.39	0.23	0.27	0.27	0.08	0.12	0.12
Sat Flow, veh/h	1615	1545	1401	1433	1491	1422	1563	1695	1316	1537	1641	1299
Grp Volume(v), veh/h	154	658	211	60	428	72	349	164	112	103	174	164
Grp Sat Flow(s),veh/h/ln	1615	1545	1401	1433	1491	1422	1563	1695	1316	1537	1641	1299
Q Serve(g_s), s	10.8	46.9	11.2	4.8	28.3	3.7	25.5	9.1	7.9	7.6	12.1	14.0
Cycle Q Clear(g_c), s	10.8	46.9	11.2	4.8	28.3	3.7	25.5	9.1	7.9	7.6	12.1	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	700	635	78	586	559	365	457	355	130	198	157
V/C Ratio(X)	0.83	0.94	0.33	0.77	0.73	0.13	0.96	0.36	0.32	0.79	0.88	1.04
Avail Cap(c_a), veh/h	201	734	666	99	626	597	365	457	355	159	198	157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	30.2	20.4	54.0	29.9	22.5	43.8	34.2	33.7	52.0	50.0	50.9
Incr Delay (d2), s/veh	22.6	19.4	0.2	21.5	3.8	0.1	35.9	0.4	0.4	18.0	32.3	83.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	20.4	3.7	2.2	10.5	1.3	13.5	3.8	2.6	3.6	6.7	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	49.5	20.6	75.5	33.7	22.5	79.6	34.5	34.1	70.0	82.3	134.8
LnGrp LOS	E	D	C	E	C	C	E	C	C	E	F	F
Approach Vol, veh/h		1023			560			625			441	
Approach Delay, s/veh		47.0			36.8			59.6			98.9	
Approach LOS		D			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	56.4	31.0	18.0	17.3	49.5	13.8	35.2				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	7.5	54.0	26.5	13.0	13.9	47.6	11.5	28.0				
Max Q Clear Time (g_c+I1), s	6.8	48.9	27.5	16.0	12.8	30.3	9.6	11.1				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	5.1	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	56.5
HCM 6th LOS	E
























Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	235	92	136	284	88	143	490	72	62	268	146
Future Volume (vph)	193	235	92	136	284	88	143	490	72	62	268	146
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1511	1446	1219	1421	1476		2932	2917	1181	1385	2715	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1511	1446	1219	1421	1476		2932	2917	1181	1385	2715	
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)	203	247	97	143	299	93	151	516	76	65	282	154
RTOR Reduction (vph)	0	0	63	0	10	0	0	0	55	0	60	0
Lane Group Flow (vph)	203	247	34	143	382	0	151	516	21	65	376	0
Heavy Vehicles (%)	10%	21%	22%	17%	16%	9%	10%	14%	26%	20%	16%	16%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	18.4	35.2	35.2	15.1	31.9		14.7	26.8	26.8	7.5	19.6	
Effective Green, g (s)	17.9	35.2	35.2	14.6	31.9		14.2	28.5	28.5	7.0	21.3	
Actuated g/C Ratio	0.18	0.35	0.35	0.14	0.31		0.14	0.28	0.28	0.07	0.21	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	266	502	423	204	464		411	820	332	95	570	
v/s Ratio Prot	c0.13	c0.17		0.10	c0.26		0.05	c0.18		0.05	c0.14	
v/s Ratio Perm			0.03						0.02			
v/c Ratio	0.76	0.49	0.08	0.70	0.82		0.37	0.63	0.06	0.68	0.66	
Uniform Delay, d1	39.7	26.0	22.2	41.3	32.1		39.5	31.8	26.6	46.1	36.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.7	0.6	0.1	9.7	11.1		0.4	1.3	0.1	17.0	2.5	
Delay (s)	51.4	26.6	22.2	50.9	43.2		39.9	33.1	26.7	63.1	39.1	
Level of Service	D	C	C	D	D		D	C	C	E	D	
Approach Delay (s)		35.0			45.3			33.8			42.3	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			38.6				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			101.3			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			65.4%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	235	92	136	284	88	143	490	72	62	268	146
Future Volume (veh/h)	193	235	92	136	284	88	143	490	72	62	268	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1463	1450	1518	1532	1627	1614	1559	1395	1477	1532	1532
Adj Flow Rate, veh/h	203	247	0	143	299	93	151	516	76	65	282	154
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	21	22	17	16	9	10	14	26	20	16	16
Cap, veh/h	235	504		164	342	106	226	826	330	67	406	216
Arrive On Green	0.15	0.34	0.00	0.11	0.30	0.30	0.08	0.28	0.28	0.05	0.22	0.20
Sat Flow, veh/h	1537	1463	1229	1446	1120	348	2981	2962	1182	1407	1836	975
Grp Volume(v), veh/h	203	247	0	143	0	392	151	516	76	65	222	214
Grp Sat Flow(s),veh/h/ln	1537	1463	1229	1446	0	1469	1491	1481	1182	1407	1455	1356
Q Serve(g_s), s	9.6	9.9	0.0	7.2	0.0	18.8	3.7	11.3	3.7	3.4	10.4	10.9
Cycle Q Clear(g_c), s	9.6	9.9	0.0	7.2	0.0	18.8	3.7	11.3	3.7	3.4	10.4	10.9
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	235	504		164	0	448	226	826	330	67	322	300
V/C Ratio(X)	0.86	0.49		0.87	0.00	0.88	0.67	0.62	0.23	0.97	0.69	0.71
Avail Cap(c_a), veh/h	455	969		405	0	949	449	1315	525	208	642	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	19.2	0.0	32.4	0.0	24.5	33.4	23.4	20.6	35.3	26.6	27.4
Incr Delay (d2), s/veh	6.9	0.5	0.0	10.2	0.0	4.2	2.5	0.6	0.3	36.4	2.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	3.2	0.0	2.8	0.0	6.3	1.3	3.6	1.0	1.8	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	19.8	0.0	42.6	0.0	28.7	36.0	24.0	20.9	71.7	28.5	29.7
LnGrp LOS	D	B		D	A	C	D	C	C	E	C	C
Approach Vol, veh/h		450			535			743			501	
Approach Delay, s/veh		27.8			32.4			26.1			34.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	20.5	15.4	26.7	7.6	24.7	12.4	29.6				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	11.7	* 31	22.5	48.0	11.5	31.3	21.3	49.2				
Max Q Clear Time (g_c+I1), s	5.7	12.9	11.6	20.8	5.4	13.3	9.2	11.9				
Green Ext Time (p_c), s	0.2	1.8	0.5	1.8	0.1	5.7	0.2	2.7				

Intersection Summary

HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	97	16	18	727	203	34
Future Volume (Veh/h)	97	16	18	727	203	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	102	17	19	765	214	36
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1036	232	250			
vC1, stage 1 conf vol	232					
vC2, stage 2 conf vol	804					
vCu, unblocked vol	1036	232	250			
tC, single (s)	6.6	6.3	4.1			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.4	2.2			
p0 queue free %	73	98	99			
cM capacity (veh/h)	384	781	1316			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	102	17	19	765	250	
Volume Left	102	0	19	0	0	
Volume Right	0	17	0	0	36	
cSH	384	781	1316	1700	1700	
Volume to Capacity	0.27	0.02	0.01	0.45	0.15	
Queue Length 95th (ft)	26	2	1	0	0	
Control Delay (s)	17.7	9.7	7.8	0.0	0.0	
Lane LOS	C	A	A			
Approach Delay (s)	16.6		0.2		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			54.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 9: Evergreen Rd & Stacey Allison Wy

11/03/2022

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↶	↷	↷
Traffic Vol, veh/h	97	16	18	727	203	34
Future Vol, veh/h	97	16	18	727	203	34
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	19	13	2	2	2	19
Mvmt Flow	102	17	19	765	214	36



















Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1036	232	250	0	-	0
Stage 1	232	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Critical Hdwy	6.59	6.33	4.12	-	-	-
Critical Hdwy Stg 1	5.59	-	-	-	-	-
Critical Hdwy Stg 2	5.59	-	-	-	-	-
Follow-up Hdwy	3.671	3.417	2.218	-	-	-
Pot Cap-1 Maneuver	238	781	1316	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	235	781	1316	-	-	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	412	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1316	-	335	781	-	-
HCM Lane V/C Ratio	0.014	-	0.305	0.022	-	-
HCM Control Delay (s)	7.8	-	20.4	9.7	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	1.3	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis
 10: Evergreen Rd & Hayes St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	9	1	33	22	132	1	601	68	41	169	3
Future Volume (vph)	13	9	1	33	22	132	1	601	68	41	169	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	15	10	1	37	25	148	1	675	76	46	190	3
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	26	210	1	751	46	193						
Volume Left (vph)	15	37	1	0	46	0						
Volume Right (vph)	1	148	0	76	0	3						
Hadj (s)	0.13	-0.35	0.53	-0.04	0.53	0.04						
Departure Headway (s)	6.9	5.9	6.1	5.6	6.5	6.0						
Degree Utilization, x	0.05	0.34	0.00	1.16	0.08	0.32						
Capacity (veh/h)	486	585	574	653	534	578						
Control Delay (s)	10.2	12.0	7.9	107.8	8.9	10.7						
Approach Delay (s)	10.2	12.0	107.7		10.4							
Approach LOS	B	B	F		B							
Intersection Summary												
Delay			70.3									
Level of Service			F									
Intersection Capacity Utilization			57.7%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/03/2022

Intersection	
Intersection Delay, s/veh	71.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	13	9	1	33	22	132	1	601	68	41	169	3
Future Vol, veh/h	13	9	1	33	22	132	1	601	68	41	169	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	15	10	1	37	25	148	1	675	76	46	190	3
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0


















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.8	12.6	109.3	11.6
HCM LOS	B	B	F	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	57%	18%	100%	0%
Vol Thru, %	0%	90%	39%	12%	0%	98%
Vol Right, %	0%	10%	4%	71%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	669	23	187	41	172
LT Vol	1	0	13	33	41	0
Through Vol	0	601	9	22	0	169
RT Vol	0	68	1	132	0	3
Lane Flow Rate	1	752	26	210	46	193
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.002	1.161	0.05	0.345	0.084	0.325
Departure Headway (Hd)	6.14	5.562	7.379	6.314	6.776	6.271
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	585	654	488	574	532	578
Service Time	3.85	3.272	5.379	4.314	4.476	3.971
HCM Lane V/C Ratio	0.002	1.15	0.053	0.366	0.086	0.334
HCM Control Delay	8.9	109.5	10.8	12.6	10.1	12
HCM Lane LOS	A	F	B	B	B	B
HCM 95th-tile Q	0	24.5	0.2	1.5	0.3	1.4

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	41	105	1	25	57	120	526	15	41	319	44
Future Volume (Veh/h)	42	41	105	1	25	57	120	526	15	41	319	44
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	49	48	122	1	29	66	140	612	17	48	371	51
Pedestrians		2			7			10				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)												
Median type								None				None
Median storage (veh)												
Upstream signal (ft)												1273
pX, platoon unblocked	0.97	0.97	0.97	0.97	0.97		0.97					
vC, conflicting volume	1476	1410	408	1556	1428	628	424			636		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1475	1408	373	1558	1425	628	389			636		
tC, single (s)	7.1	6.7	6.3	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.2	3.4	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	18	53	81	97	73	86	88			95		
cM capacity (veh/h)	60	102	628	39	108	473	1130			941		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	49	170	96	769	470							
Volume Left	49	0	1	140	48							
Volume Right	0	122	66	17	51							
cSH	60	255	221	1130	941							
Volume to Capacity	0.82	0.67	0.43	0.12	0.05							
Queue Length 95th (ft)	92	107	51	11	4							
Control Delay (s)	179.3	43.4	33.1	3.0	1.5							
Lane LOS	F	E	D	A	A							
Approach Delay (s)	73.8		33.1	3.0	1.5							
Approach LOS	F		D									
Intersection Summary												
Average Delay			14.4									
Intersection Capacity Utilization			80.3%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM 6th TWSC
11: Settlemier St & Hayes St

11/03/2022

Intersection												
Int Delay, s/veh	14.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	41	105	1	25	57	120	526	15	41	319	44
Future Vol, veh/h	42	41	105	1	25	57	120	526	15	41	319	44
Conflicting Peds, #/hr	0	0	10	10	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	20	10	2	2	6	2	9	3	2	6	3
Mvmt Flow	49	48	122	1	29	66	140	612	17	48	371	51

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1443	1411	409	1496	1428	628	424	0	0	636	0	0
Stage 1	495	495	-	908	908	-	-	-	-	-	-	-
Stage 2	948	916	-	588	520	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.7	6.3	7.12	6.52	6.26	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.7	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.7	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.18	3.39	3.518	4.018	3.354	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	109	127	625	101	135	476	1135	-	-	947	-	-
Stage 1	555	517	-	330	354	-	-	-	-	-	-	-
Stage 2	312	328	-	495	532	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	60	95	618	40	101	473	1133	-	-	941	-	-
Mov Cap-2 Maneuver	60	95	-	40	101	-	-	-	-	-	-	-
Stage 1	448	481	-	265	284	-	-	-	-	-	-	-
Stage 2	195	263	-	331	495	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	77		35.7		1.6		0.9	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1133	-	-	60	243	211	941	-	-
HCM Lane V/C Ratio	0.123	-	-	0.814	0.699	0.457	0.051	-	-
HCM Control Delay (s)	8.6	0	-	177.2	48.2	35.7	9	0	-
HCM Lane LOS	A	A	-	F	E	E	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	3.6	4.6	2.2	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	1	1	11	5	45
Future Volume (Veh/h)	121	1	1	11	5	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	142	1	1	13	6	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	48	32	59			
vC1, stage 1 conf vol	32					
vC2, stage 2 conf vol	15					
vCu, unblocked vol	48	32	59			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	100	100			
cM capacity (veh/h)	961	1041	1545			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	143	1	13	59		
Volume Left	142	1	0	0		
Volume Right	1	0	0	53		
cSH	962	1545	1700	1700		
Volume to Capacity	0.15	0.00	0.01	0.03		
Queue Length 95th (ft)	13	0	0	0		
Control Delay (s)	9.4	7.3	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	9.4	0.5		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			17.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/03/2022

Intersection						
Int Delay, s/veh	6.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	121	1	1	11	5	45
Future Vol, veh/h	121	1	1	11	5	45
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	20	20	2
Mvmt Flow	142	1	1	13	6	53

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	48	33	59	0	0
Stage 1	33	-	-	-	-
Stage 2	15	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	962	1041	1545	-	-
Stage 1	989	-	-	-	-
Stage 2	1008	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	961	1041	1545	-	-
Mov Cap-2 Maneuver	893	-	-	-	-
Stage 1	988	-	-	-	-
Stage 2	1008	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1545	-	894	-	-
HCM Lane V/C Ratio	0.001	-	0.161	-	-
HCM Control Delay (s)	7.3	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None TWLTL					
Median storage (veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol	0					
vC2, stage 2 conf vol	0					
vCu, unblocked vol	0	0	0			
tC, single (s)	6.6	6.4	4.3			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.5	2.4			
p0 queue free %	100	100	100			
cM capacity (veh/h)	978	1034	1513			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM 6th TWSC
 13: Evergreen Rd & North Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	20	20	20	10	10	20
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.6	6.4	4.3	-	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.38	-	-	-
Pot Cap-1 Maneuver	977	1033	1511	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	977	1033	1511	-	-	-
Mov Cap-2 Maneuver	892	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1511	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM 6th TWSC
 14: Evergreen Rd & South Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	10	10	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

15: Parr Rd & Industrial Road & Evergreen Rd

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	130	0	0	0	0	132	0	0	0
Future Volume (vph)	0	0	0	130	0	0	0	0	132	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	153	0	0	0	0	155	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	153	155	0								
Volume Left (vph)	0	153	0	0								
Volume Right (vph)	0	0	155	0								
Hadj (s)	0.00	0.30	-0.57	0.00								
Departure Headway (s)	4.4	4.5	3.7	4.4								
Degree Utilization, x	0.00	0.19	0.16	0.00								
Capacity (veh/h)	793	763	930	787								
Control Delay (s)	7.4	8.6	7.4	7.4								
Approach Delay (s)	0.0	8.6	7.4	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.0									
Level of Service			A									
Intersection Capacity Utilization			23.4%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/03/2022

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	130	0	0	0	0	132	0	0	0
Future Vol, veh/h	0	0	0	130	0	0	0	0	132	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	0	0	0	153	0	0	0	0	155	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	8.6	7.6	0
HCM LOS	-	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	100%
Vol Right, %	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	132	0	130	0
LT Vol	0	0	130	0
Through Vol	0	0	0	0
RT Vol	132	0	0	0
Lane Flow Rate	155	0	153	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.166	0	0.19	0
Departure Headway (Hd)	3.842	4.45	4.474	4.473
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	940	0	797	0
Service Time	1.842	2.45	2.529	2.478
HCM Lane V/C Ratio	0.165	0	0.192	0
HCM Control Delay	7.6	7.5	8.6	7.5
HCM Lane LOS	A	N	A	N
HCM 95th-tile Q	0.6	0	0.7	0

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
16: Industrial Road & East Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	0
Critical Hdwy	4.2	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.29	-	-	-	3.59
Pot Cap-1 Maneuver	1571	-	-	-	1001
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001
Mov Cap-2 Maneuver	-	-	-	-	1001
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	-

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				978	1034
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 17: Industrial Road & West Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	20	10	20	20	20
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1 1
Stage 1	-	-	-	-	1 -
Stage 2	-	-	-	-	0 -
Critical Hdwy	4.2	-	-	-	6.6 6.4
Critical Hdwy Stg 1	-	-	-	-	5.6 -
Critical Hdwy Stg 2	-	-	-	-	5.6 -
Follow-up Hdwy	2.29	-	-	-	3.68 3.48
Pot Cap-1 Maneuver	1571	-	-	-	977 1033
Stage 1	-	-	-	-	977 -
Stage 2	-	-	-	-	- -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	977 1033
Mov Cap-2 Maneuver	-	-	-	-	977 -
Stage 1	-	-	-	-	977 -
Stage 2	-	-	-	-	- -

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	1	131	126	7	5	4
Future Volume (Veh/h)	1	131	126	7	5	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	1	185	177	10	7	6
Pedestrians		2	6		1	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	188				376	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	188				376	185
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1379				621	855
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	186	187	13			
Volume Left	1	0	7			
Volume Right	0	10	6			
cSH	1379	1700	711			
Volume to Capacity	0.00	0.11	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.0	10.2			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			19.0%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	131	126	7	5	4
Future Vol, veh/h	1	131	126	7	5	4
Conflicting Peds, #/hr	1	0	0	0	6	2
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	71	71	71	71	71	71
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	1	185	177	10	7	6





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	0	376	185
Stage 1	-	-	-	183	-
Stage 2	-	-	-	193	-
Critical Hdwy	4.13	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	3.518	3.318
Pot Cap-1 Maneuver	1380	-	-	625	857
Stage 1	-	-	-	848	-
Stage 2	-	-	-	840	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1379	-	-	623	855
Mov Cap-2 Maneuver	-	-	-	623	-
Stage 1	-	-	-	846	-
Stage 2	-	-	-	839	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1379	-	-	-	708
HCM Lane V/C Ratio	0.001	-	-	-	0.018
HCM Control Delay (s)	7.6	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	82	39	45	25	63	2	71	123	26	3	91	73
Future Volume (vph)	82	39	45	25	63	2	71	123	26	3	91	73
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	93	44	51	28	72	2	81	140	30	3	103	83
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	93	95	28	74	221	30	106	83				
Volume Left (vph)	93	0	28	0	81	0	3	0				
Volume Right (vph)	0	51	0	2	0	30	0	83				
Hadj (s)	0.58	-0.33	0.53	0.02	0.28	-0.63	0.10	-0.63				
Departure Headway (s)	6.3	5.4	6.4	5.9	5.8	4.9	5.7	5.0				
Degree Utilization, x	0.16	0.14	0.05	0.12	0.36	0.04	0.17	0.11				
Capacity (veh/h)	532	620	522	567	598	697	598	684				
Control Delay (s)	9.4	8.1	8.5	8.5	10.7	6.9	8.6	7.4				
Approach Delay (s)	8.8		8.5		10.3		8.1					
Approach LOS	A		A		B		A					
Intersection Summary												
Delay			9.1									
Level of Service			A									
Intersection Capacity Utilization			36.2%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/03/2022

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	39	45	25	63	2	71	123	26	3	91	73
Future Vol, veh/h	82	39	45	25	63	2	71	123	26	3	91	73
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	5	3	2	2	2	2	5	6	4	2	5	4
Mvmt Flow	93	44	51	28	72	2	81	140	30	3	103	83
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.8	9.6	11.4	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	37%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	63%	0%	0%	46%	0%	97%	97%	0%
Vol Right, %	0%	100%	0%	54%	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	194	26	82	84	25	65	94	73
LT Vol	71	0	82	0	25	0	3	0
Through Vol	123	0	0	39	0	63	91	0
RT Vol	0	26	0	45	0	2	0	73
Lane Flow Rate	220	30	93	95	28	74	107	83
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.361	0.041	0.167	0.147	0.052	0.123	0.171	0.117
Departure Headway (Hd)	5.891	5.017	6.462	5.543	6.544	6.016	5.748	5.093
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	615	718	556	648	548	597	625	707
Service Time	3.592	2.719	4.187	3.268	4.273	3.745	3.472	2.8
HCM Lane V/C Ratio	0.358	0.042	0.167	0.147	0.051	0.124	0.171	0.117
HCM Control Delay	11.9	7.9	10.5	9.2	9.6	9.6	9.7	8.5
HCM Lane LOS	B	A	B	A	A	A	A	A
HCM 95th-tile Q	1.6	0.1	0.6	0.5	0.2	0.4	0.6	0.4

HCM Unsignalized Intersection Capacity Analysis

22: Butteville Rd & Parr Rd

11/03/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	57	178	26	31	91
Future Volume (Veh/h)	18	57	178	26	31	91
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	20	63	198	29	34	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	382	212			227	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	382	212			227	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	97	92			97	
cM capacity (veh/h)	605	818			1330	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	83	227	135			
Volume Left	20	0	34			
Volume Right	63	29	0			
cSH	754	1700	1330			
Volume to Capacity	0.11	0.13	0.03			
Queue Length 95th (ft)	9	0	2			
Control Delay (s)	10.4	0.0	2.1			
Lane LOS	B		A			
Approach Delay (s)	10.4	0.0	2.1			
Approach LOS	B					
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			33.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/03/2022

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	57	178	26	31	91
Future Vol, veh/h	18	57	178	26	31	91
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	90	90	90	90	90	90
Heavy Vehicles, %	2	6	2	2	4	3
Mvmt Flow	20	63	198	29	34	101

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	382	213	0	0	227
Stage 1	213	-	-	-	-
Stage 2	169	-	-	-	-
Critical Hdwy	6.42	6.26	-	-	4.14
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.354	-	-	2.236
Pot Cap-1 Maneuver	620	817	-	-	1330
Stage 1	823	-	-	-	-
Stage 2	861	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	603	817	-	-	1330
Mov Cap-2 Maneuver	603	-	-	-	-
Stage 1	823	-	-	-	-
Stage 2	838	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	753	1330
HCM Lane V/C Ratio	-	-	0.111	0.026
HCM Control Delay (s)	-	-	10.4	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

HCM Unsignalized Intersection Capacity Analysis
 1: Butteville Rd & OR 219

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized		MOYes				MOYes
Traffic Volume (veh/h)	138	93	420	389	96	190
Future Volume (veh/h)	138	93	420	389	96	190
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	157	106	477	442	109	216
Approach Volume (veh/h)	157			919	109	
Crossing Volume (veh/h)	477			109	157	
High Capacity (veh/h)	951			1272	1225	
High v/c (veh/h)	0.17			0.72	0.09	
Low Capacity (veh/h)	770			1058	1016	
Low v/c (veh/h)	0.20			0.87	0.11	
Intersection Summary						
Maximum v/c High			0.72			
Maximum v/c Low			0.87			
Intersection Capacity Utilization			58.0%	ICU Level of Service		B

HCM 6th Roundabout
1: Butteville Rd & OR 219

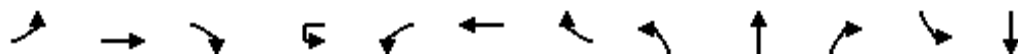
11/04/2022

Intersection				
Intersection Delay, s/veh	5.5			
Intersection LOS	A			
Approach	EB	WB	NB	
Entry Lanes	0	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	0	919	325	
Demand Flow Rate, veh/h	0	979	337	
Vehicles Circulating, veh/h	515	112	176	
Vehicles Exiting, veh/h	576	176	515	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	7.0	1.3	
Approach LOS	-	A	A	
Lane	Left	Right	Left	Bypass
Designated Moves	L	TR	L	R
Assumed Moves	L	TR	L	R
RT Channelized				Free
Lane Util	0.526	0.474	1.000	
Follow-Up Headway, s	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.328	225
Entry Flow, veh/h	515	464	112	1820
Cap Entry Lane, veh/h	1218	1291	1223	0.962
Entry HV Adj Factor	0.926	0.952	0.973	216
Flow Entry, veh/h	477	442	109	1750
Cap Entry, veh/h	1128	1230	1190	0.123
V/C Ratio	0.423	0.359	0.092	0.0
Control Delay, s/veh	7.6	6.4	3.8	A
LOS	A	A	A	0
95th %tile Queue, veh	2	2	0	

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	34	295	3	22	63	733	46	1	1	33	335	5
Future Volume (vph)	34	295	3	22	63	733	46	1	1	33	335	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3107	1458		1429	3137	1417	1630	909		1533	1498
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3107	1458		1429	3137	1417	1630	909		1533	1498
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	39	335	3	25	72	833	52	1	1	38	381	6
RTOR Reduction (vph)	0	0	2	0	0	0	15	0	35	0	0	8
Lane Group Flow (vph)	39	335	1	0	97	833	37	1	4	0	221	206
Confl. Peds. (#/hr)										1	1	
Heavy Vehicles (%)	2%	7%	2%	0%	22%	6%	5%	2%	2%	64%	3%	25%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	4.2	25.6	31.7		9.1	30.5	50.5	6.1	6.1		20.0	20.0
Effective Green, g (s)	4.2	26.1	31.7		9.1	31.0	50.5	6.1	6.1		20.0	20.0
Actuated g/C Ratio	0.05	0.34	0.41		0.12	0.40	0.65	0.08	0.08		0.26	0.26
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	88	1049	597		168	1258	925	128	71		396	387
v/s Ratio Prot	0.02	c0.11	0.00		0.07	c0.27	0.01	0.00	c0.00		c0.14	0.14
v/s Ratio Perm			0.00				0.02					
v/c Ratio	0.44	0.32	0.00		0.58	0.66	0.04	0.01	0.06		0.56	0.53
Uniform Delay, d1	35.4	19.0	13.5		32.3	18.9	4.8	32.8	32.9		24.8	24.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.6	0.3	0.0		3.9	1.5	0.0	0.0	0.2		1.4	1.1
Delay (s)	38.0	19.3	13.5		36.2	20.4	4.8	32.8	33.2		26.2	25.7
Level of Service	D	B	B		D	C	A	C	C		C	C
Approach Delay (s)		21.2				21.1			33.2			26.0
Approach LOS		C				C			C			C

Intersection Summary

HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	77.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/04/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.88
Adj. Flow (vph)	48
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (vph)	0	530	163	0	773	589	0	0	0	333	0	220
Future Volume (vph)	0	530	163	0	773	589	0	0	0	333	0	220
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3137	1271		3050	1305				2906		1305
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3137	1271		3050	1305				2906		1305
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)	0	570	175	0	831	633	0	0	0	358	0	237
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	570	175	0	831	633	0	0	0	358	0	141
Heavy Vehicles (%)	0%	6%	17%	0%	9%	14%	0%	0%	0%	11%	0%	14%
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		42.3	64.0		42.3	64.0				12.7		12.7
Effective Green, g (s)		42.8	64.0		42.8	64.0				13.2		13.2
Actuated g/C Ratio		0.67	1.00		0.67	1.00				0.21		0.21
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			6.0					2.5		2.5
Lane Grp Cap (vph)		2097	1271		2039	1305				599		269
v/s Ratio Prot		0.18			0.27					0.12		
v/s Ratio Perm			0.14			c0.49						0.11
v/c Ratio		0.27	0.14		0.41	0.49				0.60		0.52
Uniform Delay, d1		4.3	0.0		4.8	0.0				23.0		22.6
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.3	0.2		0.4	1.3				1.3		1.4
Delay (s)		4.6	0.2		5.2	1.3				24.3		24.0
Level of Service		A	A		A	A				C		C
Approach Delay (s)		3.6			3.5			0.0			24.2	
Approach LOS		A			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			7.9		HCM 2000 Level of Service					A		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			64.0		Sum of lost time (s)					8.0		
Intersection Capacity Utilization			44.7%		ICU Level of Service					A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	530	163	0	773	589	0	0	0	333	0	220
Future Volume (veh/h)	0	530	163	0	773	589	0	0	0	333	0	220
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1668	1518	0	1627	1559				1600	0	1559
Adj Flow Rate, veh/h	0	570	0	0	831	0				358	0	237
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	6	17	0	9	14				11	0	14
Cap, veh/h	0	1991		0	1943					729	0	326
Arrive On Green	0.00	0.63	0.00	0.00	0.63	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	3253	1286	0	3173	1321				2956	0	1321
Grp Volume(v), veh/h	0	570	0	0	831	0				358	0	237
Grp Sat Flow(s),veh/h/ln	0	1585	1286	0	1546	1321				1478	0	1321
Q Serve(g_s), s	0.0	5.2	0.0	0.0	8.7	0.0				6.6	0.0	10.5
Cycle Q Clear(g_c), s	0.0	5.2	0.0	0.0	8.7	0.0				6.6	0.0	10.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1991		0	1943					729	0	326
V/C Ratio(X)	0.00	0.29		0.00	0.43					0.49	0.00	0.73
Avail Cap(c_a), veh/h	0	1991		0	1943					1108	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.91	0.00	0.00	0.68	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.4	0.0	0.0	6.0	0.0				20.7	0.0	22.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.4	0.0				0.4	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.0	0.0	2.1	0.0				2.2	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.7	0.0	0.0	6.4	0.0				21.0	0.0	24.5
LnGrp LOS	A	A		A	A					C	A	C
Approach Vol, veh/h		570			831						595	
Approach Delay, s/veh		5.7			6.4						22.4	
Approach LOS		A			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		44.2		19.8		44.2						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		12.5		0.0						
Green Ext Time (p_c), s		0.0		2.7		0.0						

Intersection Summary

HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	599	266	0	993	361	630
Future Volume (vph)	599	266	0	993	361	630
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frt	1.00	0.85		1.00	0.93	0.85
Flt Protected	1.00	1.00		1.00	0.97	1.00
Satd. Flow (prot)	3050	1403		2942	2940	1314
Flt Permitted	1.00	1.00		1.00	0.97	1.00
Satd. Flow (perm)	3050	1403		2942	2940	1314
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	651	289	0	1079	392	685
RTOR Reduction (vph)	0	147	0	0	140	140
Lane Group Flow (vph)	651	142	0	1079	595	202
Heavy Vehicles (%)	9%	6%	0%	13%	6%	3%
Turn Type	NA	Perm		NA	Prot	Prot
Protected Phases	2			6	8	8
Permitted Phases		2				
Actuated Green, G (s)	33.9	33.9		33.9	26.2	26.2
Effective Green, g (s)	34.4	34.4		34.4	26.9	26.9
Actuated g/C Ratio	0.49	0.49		0.49	0.38	0.38
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1498	689		1445	1129	504
v/s Ratio Prot	0.21			c0.37	c0.20	0.15
v/s Ratio Perm		0.10				
v/c Ratio	0.43	0.21		0.75	0.53	0.40
Uniform Delay, d1	11.5	10.1		14.3	16.6	15.7
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	0.7		2.9	0.3	0.4
Delay (s)	12.4	10.7		17.2	17.0	16.1
Level of Service	B	B		B	B	B
Approach Delay (s)	11.9			17.2	16.7	
Approach LOS	B			B	B	

Intersection Summary

HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (vph)	40	53	828	280	5	131	802	13	800	21	172	11
Future Volume (vph)	40	53	828	280	5	131	802	13	800	21	172	11
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	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
Flpb, ped/bikes		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		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.95	1.00	0.95
Satd. Flow (prot)		1644	2995	1261		1543	2965		1490	1494	1377	1630
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.95	1.00	0.95
Satd. Flow (perm)		1644	2995	1261		1543	2965		1490	1494	1377	1630
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)	43	57	890	301	5	141	862	14	860	23	185	12
RTOR Reduction (vph)	0	0	0	196	0	0	1	0	0	0	126	0
Lane Group Flow (vph)	0	100	890	105	0	146	875	0	439	444	59	12
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	2%	11%	18%	0%	8%	12%	2%	6%	11%	8%	2%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split
Protected Phases	5	5	2		1	1	6		7	7		4
Permitted Phases				2								7
Actuated Green, G (s)		8.0	32.9	32.9		8.3	33.2		29.8	29.8	29.8	7.1
Effective Green, g (s)		8.0	33.4	33.4		8.3	33.7		30.3	30.3	30.3	7.6
Actuated g/C Ratio		0.08	0.35	0.35		0.09	0.35		0.32	0.32	0.32	0.08
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)		137	1046	440		133	1045		472	473	436	129
v/s Ratio Prot		0.06	c0.30			c0.09	0.30		0.29	c0.30		0.01
v/s Ratio Perm				0.08								0.04
v/c Ratio		0.73	0.85	0.24		1.10	0.84		0.93	0.94	0.13	0.09
Uniform Delay, d1		42.7	28.8	22.1		43.6	28.4		31.6	31.7	23.3	40.8
Progression Factor		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		16.6	7.8	0.8		106.7	7.0		25.1	26.4	0.1	0.2
Delay (s)		59.4	36.6	22.9		150.3	35.4		56.7	58.2	23.4	41.0
Level of Service		E	D	C		F	D		E	E	C	D
Approach Delay (s)			35.2			51.8			51.5			
Approach LOS			D			D			D			
Intersection Summary												
HCM 2000 Control Delay			45.3		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			95.6		Sum of lost time (s)					16.5		
Intersection Capacity Utilization			74.4%		ICU Level of Service					D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	16	30
Future Volume (vph)	16	30
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frbp, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1636	1261
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1636	1261
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	17	32
RTOR Reduction (vph)	0	29
Lane Group Flow (vph)	17	3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	7%	18%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	7.1	7.1
Effective Green, g (s)	7.6	7.6
Actuated g/C Ratio	0.08	0.08
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	130	100
v/s Ratio Prot	c0.01	
v/s Ratio Perm		0.00
v/c Ratio	0.13	0.03
Uniform Delay, d1	40.9	40.6
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	41.3	40.7
Level of Service	D	D
Approach Delay (s)	40.9	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations	⬅	↙	↔	↘	↙	↔	↗	↘	↖	↗	↘	↖
Traffic Volume (vph)	3	28	963	11	1	1	964	14	22	13	8	2
Future Volume (vph)	3	28	963	11	1	1	964	14	22	13	8	2
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95				1.00	0.95	1.00	1.00		1.00
Frpb, 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	1.00	1.00				1.00	1.00	1.00	0.94		1.00
Flt Protected	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (prot)	1513	1533	3132				1646	2992	1630	1615		1630
Flt Permitted	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (perm)	1513	1533	3132				1646	2992	1630	1615		1630
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)	3	31	1058	12	1	1	1059	15	24	14	9	2
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	8	0	0
Lane Group Flow (vph)	3	31	1070	0	0	2	1073	0	24	15	0	2
Confl. Peds. (#/hr)		1						1				
Confl. Bikes (#/hr)				1								
Heavy Vehicles (%)	0%	3%	6%	2%	0%	2%	11%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	4.9	4.9	69.2				1.1	65.4	3.2	10.0		3.2
Effective Green, g (s)	4.9	4.9	69.7				1.1	65.9	3.2	10.0		3.2
Actuated g/C Ratio	0.05	0.05	0.70				0.01	0.66	0.03	0.10		0.03
Clearance Time (s)	4.0	4.0	4.5				4.0	4.5	4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2				2.5	6.2	2.5	2.5		2.5
Lane Grp Cap (vph)	74	75	2183				18	1971	52	161		52
v/s Ratio Prot	0.00	c0.02	c0.34				0.00	c0.36	c0.01	c0.01		0.00
v/s Ratio Perm												
v/c Ratio	0.04	0.41	0.49				0.11	0.54	0.46	0.09		0.04
Uniform Delay, d1	45.3	46.2	7.0				49.0	9.1	47.6	40.9		46.9
Progression Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	2.7	0.8				2.0	1.1	4.7	0.2		0.2
Delay (s)	45.5	48.8	7.8				51.0	10.2	52.2	41.1		47.1
Level of Service	D	D	A				D	B	D	D		D
Approach Delay (s)			9.0				10.2		46.8			
Approach LOS			A				B		D			
Intersection Summary												
HCM 2000 Control Delay			11.4				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			44.1%				ICU Level of Service		A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	SBT	SBR
Lane Configurations	3	1
Traffic Volume (vph)	3	61
Future Volume (vph)	3	61
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1469	
Flt Permitted	1.00	
Satd. Flow (perm)	1469	
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	3	67
RTOR Reduction (vph)	60	0
Lane Group Flow (vph)	10	0
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	10.0	
Effective Green, g (s)	10.0	
Actuated g/C Ratio	0.10	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	146	
v/s Ratio Prot	0.01	
v/s Ratio Perm		
v/c Ratio	0.07	
Uniform Delay, d1	40.8	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	40.9	
Level of Service	D	
Approach Delay (s)	41.1	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	142	609	194	61	400	66	321	155	107	95	166	151	
Future Volume (vph)	142	609	194	61	400	66	321	155	107	95	166	151	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00	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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1599	1522	1403	1409	1471	1374	1539	1683	1305	1511	1620	1262	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1599	1522	1403	1409	1471	1374	1539	1683	1305	1511	1620	1262	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	154	662	211	66	435	72	349	168	116	103	180	164	
RTOR Reduction (vph)	0	0	84	0	0	44	0	0	84	0	0	141	
Lane Group Flow (vph)	154	662	127	66	435	28	349	168	32	103	180	23	
Confl. Peds. (#/hr)	8					8	2					2	
Heavy Vehicles (%)	4%	15%	6%	18%	19%	4%	8%	4%	14%	10%	8%	15%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	13.2	51.8	51.8	5.7	44.3	44.3	26.8	31.6	31.6	10.5	15.3	15.3	
Effective Green, g (s)	13.7	52.8	52.8	6.2	45.3	45.3	27.3	32.6	32.6	11.0	16.3	16.3	
Actuated g/C Ratio	0.12	0.45	0.45	0.05	0.38	0.38	0.23	0.27	0.27	0.09	0.14	0.14	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	184	677	624	73	561	524	354	462	358	140	222	173	
v/s Ratio Prot	c0.10	c0.44		0.05	0.30		c0.23	0.10		0.07	c0.11		
v/s Ratio Perm			0.09			0.02			0.02			0.02	
v/c Ratio	0.84	0.98	0.20	0.90	0.78	0.05	0.99	0.36	0.09	0.74	0.81	0.13	
Uniform Delay, d1	51.4	32.3	20.1	55.9	32.2	23.1	45.5	34.6	32.0	52.4	49.7	44.9	
Progression 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	
Incremental Delay, d2	26.4	28.8	0.1	72.7	6.4	0.0	43.7	0.4	0.1	17.1	19.2	0.2	
Delay (s)	77.7	61.1	20.2	128.6	38.6	23.1	89.1	35.0	32.0	69.5	68.9	45.2	
Level of Service	E	E	C	F	D	C	F	C	C	E	E	D	
Approach Delay (s)		55.2			47.0			64.3			60.3		
Approach LOS		E			D			E			E		
Intersection Summary													
HCM 2000 Control Delay			56.4									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.96										
Actuated Cycle Length (s)			118.6									Sum of lost time (s)	16.0
Intersection Capacity Utilization			81.9%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary
 7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	609	194	61	400	66	321	155	107	95	166	151
Future Volume (veh/h)	142	609	194	61	400	66	321	155	107	95	166	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1695	1545	1668	1504	1491	1695	1641	1695	1559	1614	1641	1545
Adj Flow Rate, veh/h	154	662	211	66	435	72	349	168	116	103	180	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	15	6	18	19	4	8	4	14	10	8	15
Cap, veh/h	185	700	635	85	594	567	361	451	350	130	196	155
Arrive On Green	0.11	0.45	0.45	0.06	0.40	0.40	0.23	0.27	0.27	0.08	0.12	0.12
Sat Flow, veh/h	1615	1545	1401	1433	1491	1422	1563	1695	1316	1537	1641	1299
Grp Volume(v), veh/h	154	662	211	66	435	72	349	168	116	103	180	164
Grp Sat Flow(s),veh/h/ln	1615	1545	1401	1433	1491	1422	1563	1695	1316	1537	1641	1299
Q Serve(g_s), s	10.9	47.9	11.3	5.3	29.0	3.8	25.9	9.4	8.3	7.7	12.7	14.0
Cycle Q Clear(g_c), s	10.9	47.9	11.3	5.3	29.0	3.8	25.9	9.4	8.3	7.7	12.7	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	700	635	85	594	567	361	451	350	130	196	155
V/C Ratio(X)	0.83	0.95	0.33	0.77	0.73	0.13	0.97	0.37	0.33	0.79	0.92	1.06
Avail Cap(c_a), veh/h	199	727	659	98	619	591	361	451	350	158	196	155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	30.6	20.6	54.2	29.9	22.3	44.6	35.0	34.6	52.6	50.9	51.5
Incr Delay (d2), s/veh	23.2	20.6	0.2	26.1	4.0	0.1	38.6	0.4	0.4	18.6	41.3	87.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	21.0	3.8	2.5	10.8	1.3	13.9	4.0	2.7	3.6	7.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	51.2	20.8	80.3	33.9	22.4	83.2	35.4	35.0	71.1	92.2	139.1
LnGrp LOS	E	D	C	F	C	C	F	D	C	E	F	F
Approach Vol, veh/h		1027			573			633			447	
Approach Delay, s/veh		48.3			37.8			61.7			104.6	
Approach LOS		D			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	57.0	31.0	18.0	17.4	50.6	13.9	35.1				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	7.5	54.0	26.5	13.0	13.9	47.6	11.5	28.0				
Max Q Clear Time (g_c+I1), s	7.3	49.9	27.9	16.0	12.9	31.0	9.7	11.4				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	5.1	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	58.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	237	92	136	287	88	143	490	72	62	268	149
Future Volume (vph)	195	237	92	136	287	88	143	490	72	62	268	149
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1511	1446	1219	1421	1476		2932	2917	1181	1385	2713	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1511	1446	1219	1421	1476		2932	2917	1181	1385	2713	
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)	205	249	97	143	302	93	151	516	76	65	282	157
RTOR Reduction (vph)	0	0	63	0	10	0	0	0	55	0	62	0
Lane Group Flow (vph)	205	249	34	143	385	0	151	516	21	65	377	0
Heavy Vehicles (%)	10%	21%	22%	17%	16%	9%	10%	14%	26%	20%	16%	16%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	18.6	35.6	35.6	15.1	32.1		14.7	26.8	26.8	7.5	19.6	
Effective Green, g (s)	18.1	35.6	35.6	14.6	32.1		14.2	28.5	28.5	7.0	21.3	
Actuated g/C Ratio	0.18	0.35	0.35	0.14	0.32		0.14	0.28	0.28	0.07	0.21	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	268	506	426	203	465		409	817	330	95	568	
v/s Ratio Prot	c0.14	c0.17		0.10	c0.26		0.05	c0.18		0.05	c0.14	
v/s Ratio Perm			0.03						0.02			
v/c Ratio	0.76	0.49	0.08	0.70	0.83		0.37	0.63	0.06	0.68	0.66	
Uniform Delay, d1	39.8	26.0	22.1	41.5	32.3		39.7	32.0	26.8	46.3	36.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.7	0.6	0.1	9.8	11.4		0.4	1.4	0.1	17.0	2.6	
Delay (s)	51.5	26.5	22.2	51.3	43.6		40.1	33.4	26.9	63.3	39.5	
Level of Service	D	C	C	D	D		D	C	C	E	D	
Approach Delay (s)		35.0			45.7			34.1			42.6	
Approach LOS		D			D			C			D	

Intersection Summary

HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	101.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	237	92	136	287	88	143	490	72	62	268	149
Future Volume (veh/h)	195	237	92	136	287	88	143	490	72	62	268	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1463	1450	1518	1532	1627	1614	1559	1395	1477	1532	1532
Adj Flow Rate, veh/h	205	249	0	143	302	93	151	516	76	65	282	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	21	22	17	16	9	10	14	26	20	16	16
Cap, veh/h	237	508		164	344	106	222	823	329	67	405	219
Arrive On Green	0.15	0.35	0.00	0.11	0.31	0.31	0.07	0.28	0.28	0.05	0.22	0.20
Sat Flow, veh/h	1537	1463	1229	1446	1123	346	2981	2962	1182	1407	1823	986
Grp Volume(v), veh/h	205	249	0	143	0	395	151	516	76	65	223	216
Grp Sat Flow(s),veh/h/ln	1537	1463	1229	1446	0	1469	1491	1481	1182	1407	1455	1354
Q Serve(g_s), s	9.8	10.0	0.0	7.3	0.0	19.1	3.7	11.4	3.7	3.5	10.6	11.1
Cycle Q Clear(g_c), s	9.8	10.0	0.0	7.3	0.0	19.1	3.7	11.4	3.7	3.5	10.6	11.1
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	237	508		164	0	450	222	823	329	67	323	301
V/C Ratio(X)	0.86	0.49		0.87	0.00	0.88	0.68	0.63	0.23	0.96	0.69	0.72
Avail Cap(c_a), veh/h	451	960		401	0	941	445	1304	520	206	637	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	19.2	0.0	32.7	0.0	24.7	33.8	23.7	20.9	35.6	26.8	27.6
Incr Delay (d2), s/veh	7.0	0.5	0.0	10.2	0.0	4.3	2.7	0.6	0.3	35.9	2.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	3.2	0.0	2.8	0.0	6.4	1.3	3.7	1.0	1.8	3.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	19.8	0.0	42.9	0.0	28.9	36.6	24.3	21.2	71.6	28.8	30.0
LnGrp LOS	D	B		D	A	C	D	C	C	E	C	C
Approach Vol, veh/h		454			538			743			504	
Approach Delay, s/veh		28.0			32.6			26.4			34.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	20.6	15.6	27.0	7.6	24.8	12.5	30.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	11.7	* 31	22.5	48.0	11.5	31.3	21.3	49.2				
Max Q Clear Time (g_c+I1), s	5.7	13.1	11.8	21.1	5.5	13.4	9.3	12.0				
Green Ext Time (p_c), s	0.2	1.8	0.5	1.9	0.1	5.7	0.2	2.7				

Intersection Summary

HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	97	16	18	812	311	34
Future Volume (Veh/h)	97	16	18	812	311	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	102	17	19	855	327	36
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1239	345	363			
vC1, stage 1 conf vol	345					
vC2, stage 2 conf vol	894					
vCu, unblocked vol	1239	345	363			
tC, single (s)	6.6	6.3	4.1			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.4	2.2			
p0 queue free %	70	97	98			
cM capacity (veh/h)	340	674	1196			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	102	17	19	855	363	
Volume Left	102	0	19	0	0	
Volume Right	0	17	0	0	36	
cSH	340	674	1196	1700	1700	
Volume to Capacity	0.30	0.03	0.02	0.50	0.21	
Queue Length 95th (ft)	31	2	1	0	0	
Control Delay (s)	20.0	10.5	8.1	0.0	0.0	
Lane LOS	C	B	A			
Approach Delay (s)	18.7		0.2		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			58.9%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM 6th TWSC
9: Evergreen Rd & Stacey Allison Wy

11/04/2022

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	97	16	18	812	311	34
Future Vol, veh/h	97	16	18	812	311	34
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	19	13	2	2	2	19
Mvmt Flow	102	17	19	855	327	36



















Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1239	345	363	0	-	0
Stage 1	345	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Critical Hdwy	6.59	6.33	4.12	-	-	-
Critical Hdwy Stg 1	5.59	-	-	-	-	-
Critical Hdwy Stg 2	5.59	-	-	-	-	-
Follow-up Hdwy	3.671	3.417	2.218	-	-	-
Pot Cap-1 Maneuver	179	674	1196	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	176	674	1196	-	-	-
Mov Cap-2 Maneuver	289	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	373	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.2	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1196	-	289	674	-	-
HCM Lane V/C Ratio	0.016	-	0.353	0.025	-	-
HCM Control Delay (s)	8.1	-	24.1	10.5	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	1.5	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis
 10: Evergreen Rd & Hayes St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	9	1	54	22	132	1	686	84	41	277	3
Future Volume (vph)	13	9	1	54	22	132	1	686	84	41	277	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	15	10	1	61	25	148	1	771	94	46	311	3
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	26	234	1	865	46	314						
Volume Left (vph)	15	61	1	0	46	0						
Volume Right (vph)	1	148	0	94	0	3						
Hadj (s)	0.13	-0.29	0.53	-0.04	0.53	0.04						
Departure Headway (s)	7.3	6.2	6.5	5.9	6.7	6.2						
Degree Utilization, x	0.05	0.40	0.00	1.41	0.09	0.54						
Capacity (veh/h)	444	553	543	617	523	568						
Control Delay (s)	10.7	13.4	8.3	210.9	9.1	15.1						
Approach Delay (s)	10.7	13.4	210.7		14.3							
Approach LOS	B	B	F		B							
Intersection Summary												
Delay			128.5									
Level of Service			F									
Intersection Capacity Utilization			65.2%		ICU Level of Service		C					
Analysis Period (min)			15									

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/04/2022

Intersection	
Intersection Delay, s/veh	130.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	13	9	1	54	22	132	1	686	84	41	277	3
Future Vol, veh/h	13	9	1	54	22	132	1	686	84	41	277	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	15	10	1	61	25	148	1	771	94	46	311	3
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.8	14.7	212.5	16.2
HCM LOS	B	B	F	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	57%	26%	100%	0%
Vol Thru, %	0%	89%	39%	11%	0%	99%
Vol Right, %	0%	11%	4%	63%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	770	23	208	41	280
LT Vol	1	0	13	54	41	0
Through Vol	0	686	9	22	0	277
RT Vol	0	84	1	132	0	3
Lane Flow Rate	1	865	26	234	46	315
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.002	1.413	0.053	0.403	0.086	0.543
Departure Headway (Hd)	6.463	5.878	8.355	7.04	7.171	6.669
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	556	623	431	514	503	544
Service Time	4.176	3.591	6.355	5.04	4.871	4.369
HCM Lane V/C Ratio	0.002	1.388	0.06	0.455	0.091	0.579
HCM Control Delay	9.2	212.8	11.8	14.7	10.5	17
HCM Lane LOS	A	F	B	B	B	C
HCM 95th-tile Q	0	39.7	0.2	1.9	0.3	3.2

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	45	109	1	30	57	125	526	15	41	319	56
Future Volume (Veh/h)	51	45	109	1	30	57	125	526	15	41	319	56
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	59	52	127	1	35	66	145	612	17	48	371	65
Pedestrians		2			7			10				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												1273
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	1496	1428	416	1580	1452	628	438			636		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1495	1425	373	1583	1450	628	396			636		
tC, single (s)	7.1	6.7	6.3	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.2	3.4	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	0	47	80	97	66	86	87			95		
cM capacity (veh/h)	53	98	624	34	103	473	1116			941		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	59	179	102	774	484							
Volume Left	59	0	1	145	48							
Volume Right	0	127	66	17	65							
cSH	53	244	201	1116	941							
Volume to Capacity	1.11	0.73	0.51	0.13	0.05							
Queue Length 95th (ft)	127	127	64	11	4							
Control Delay (s)	282.5	52.0	40.2	3.1	1.5							
Lane LOS	F	F	E	A	A							
Approach Delay (s)	109.2		40.2	3.1	1.5							
Approach LOS	F		E									
Intersection Summary												
Average Delay			20.8									
Intersection Capacity Utilization			82.9%			ICU Level of Service				E		
Analysis Period (min)			15									

HCM 6th TWSC
11: Settlemier St & Hayes St

11/04/2022

Intersection												
Int Delay, s/veh	21.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	45	109	1	30	57	125	526	15	41	319	56
Future Vol, veh/h	51	45	109	1	30	57	125	526	15	41	319	56
Conflicting Peds, #/hr	0	0	10	10	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	20	10	2	2	6	2	9	3	2	6	3
Mvmt Flow	59	52	127	1	35	66	145	612	17	48	371	65

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1463	1428	416	1517	1452	628	438	0	0	636	0	0
Stage 1	502	502	-	918	918	-	-	-	-	-	-	-
Stage 2	961	926	-	599	534	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.7	6.3	7.12	6.52	6.26	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.7	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.7	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.18	3.39	3.518	4.018	3.354	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	106	124	620	98	130	476	1122	-	-	947	-	-
Stage 1	550	513	-	326	350	-	-	-	-	-	-	-
Stage 2	307	324	-	488	524	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 53	92	613	35	96	473	1120	-	-	941	-	-
Mov Cap-2 Maneuver	~ 53	92	-	35	96	-	-	-	-	-	-	-
Stage 1	439	477	-	259	278	-	-	-	-	-	-	-
Stage 2	185	257	-	318	487	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	115.9		43.7		1.6		0.9	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	53	231	191	941	-	-
HCM Lane V/C Ratio	0.13	-	-	1.119	0.775	0.536	0.051	-	-
HCM Control Delay (s)	8.7	0	-	286.5	59.4	43.7	9	0	-
HCM Lane LOS	A	A	-	F	F	E	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	5.1	5.6	2.8	0.2	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	1	1	114	134	45
Future Volume (Veh/h)	121	1	1	114	134	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	142	1	1	134	158	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	320	184	211			
vC1, stage 1 conf vol	184					
vC2, stage 2 conf vol	136					
vCu, unblocked vol	320	184	211			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	100	100			
cM capacity (veh/h)	782	858	1360			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	143	1	134	211		
Volume Left	142	1	0	0		
Volume Right	1	0	0	53		
cSH	783	1360	1700	1700		
Volume to Capacity	0.18	0.00	0.08	0.12		
Queue Length 95th (ft)	17	0	0	0		
Control Delay (s)	10.6	7.6	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	10.6	0.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			24.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/04/2022

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	121	1	1	114	134	45
Future Vol, veh/h	121	1	1	114	134	45
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	20	20	2
Mvmt Flow	142	1	1	134	158	53

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	321	185	211	0	0
Stage 1	185	-	-	-	-
Stage 2	136	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	673	857	1360	-	-
Stage 1	847	-	-	-	-
Stage 2	890	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	672	857	1360	-	-
Mov Cap-2 Maneuver	702	-	-	-	-
Stage 1	846	-	-	-	-
Stage 2	890	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1360	-	703	-	-
HCM Lane V/C Ratio	0.001	-	0.204	-	-
HCM Control Delay (s)	7.6	-	11.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	0	0	85	112	20
Future Volume (Veh/h)	18	0	0	85	112	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	21	0	0	100	132	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage (veh)					2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	244	144	156			
vC1, stage 1 conf vol	144					
vC2, stage 2 conf vol	100					
vCu, unblocked vol	244	144	156			
tC, single (s)	6.6	6.4	4.3			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.5	2.4			
p0 queue free %	97	100	100			
cM capacity (veh/h)	788	858	1321			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	21	100	156			
Volume Left	21	0	0			
Volume Right	0	0	24			
cSH	788	1321	1700			
Volume to Capacity	0.03	0.00	0.09			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	9.7	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.7	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			17.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 13: Evergreen Rd & North Access

11/04/2022

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	18	0	0	85	112	20
Future Vol, veh/h	18	0	0	85	112	20
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	85	85	85	85	85	85
Heavy Vehicles, %	20	20	20	10	10	20
Mvmt Flow	21	0	0	100	132	24

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	244	144	156	0	0
Stage 1	144	-	-	-	-
Stage 2	100	-	-	-	-
Critical Hdwy	6.6	6.4	4.3	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.38	-	-
Pot Cap-1 Maneuver	707	858	1321	-	-
Stage 1	841	-	-	-	-
Stage 2	881	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	707	858	1321	-	-
Mov Cap-2 Maneuver	714	-	-	-	-
Stage 1	841	-	-	-	-
Stage 2	881	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1321	-	714	-	-
HCM Lane V/C Ratio	-	-	0.03	-	-
HCM Control Delay (s)	0	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	0	0	0	0	112
Future Volume (Veh/h)	85	0	0	0	0	112
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	100	0	0	0	0	132
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	66	66	132			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	66	66	132			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	100	100			
cM capacity (veh/h)	939	998	1453			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	100	0	132			
Volume Left	100	0	0			
Volume Right	0	0	132			
cSH	939	1700	1700			
Volume to Capacity	0.11	0.00	0.08			
Queue Length 95th (ft)	9	0	0			
Control Delay (s)	9.3	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.3	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization			19.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 14: Evergreen Rd & South Access

11/04/2022

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	0	0	0	0	112
Future Vol, veh/h	85	0	0	0	0	112
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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	10	10	2
Mvmt Flow	100	0	0	0	0	132

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	66	66	132	0	0
Stage 1	66	-	-	-	-
Stage 2	0	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	939	998	1453	-	-
Stage 1	957	-	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	939	998	1453	-	-
Mov Cap-2 Maneuver	939	-	-	-	-
Stage 1	957	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1453	-	939	-	-
HCM Lane V/C Ratio	-	-	0.106	-	-
HCM Control Delay (s)	0	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

HCM Unsignalized Intersection Capacity Analysis
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	130	0	0	0	0	132	0	0	0
Future Volume (vph)	0	0	0	130	0	0	0	0	132	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	153	0	0	0	0	155	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	153	155	0								
Volume Left (vph)	0	153	0	0								
Volume Right (vph)	0	0	155	0								
Hadj (s)	0.00	0.30	-0.57	0.00								
Departure Headway (s)	4.4	4.5	3.7	4.4								
Degree Utilization, x	0.00	0.19	0.16	0.00								
Capacity (veh/h)	793	763	930	787								
Control Delay (s)	7.4	8.6	7.4	7.4								
Approach Delay (s)	0.0	8.6	7.4	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.0									
Level of Service			A									
Intersection Capacity Utilization			23.4%	ICU Level of Service								A
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

Intersection

Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	130	0	0	0	0	132	0	0	0
Future Vol, veh/h	0	0	0	130	0	0	0	0	132	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	0	0	0	153	0	0	0	0	155	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	8.6	7.6	0
HCM LOS	-	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	100%
Vol Right, %	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	132	0	130	0
LT Vol	0	0	130	0
Through Vol	0	0	0	0
RT Vol	132	0	0	0
Lane Flow Rate	155	0	153	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.166	0	0.19	0
Departure Headway (Hd)	3.842	4.45	4.474	4.473
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	940	0	797	0
Service Time	1.842	2.45	2.529	2.478
HCM Lane V/C Ratio	0.165	0	0.192	0
HCM Control Delay	7.6	7.5	8.6	7.5
HCM Lane LOS	A	N	A	N
HCM 95th-tile Q	0.6	0	0.7	0

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.04	0.02			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
 16: Industrial Road & East Access

11/04/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	0
Critical Hdwy	4.2	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.29	-	-	-	3.59
Pot Cap-1 Maneuver	1571	-	-	-	1001
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001
Mov Cap-2 Maneuver	-	-	-	-	1001
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	-

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				978	1034
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.03	0.03			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
17: Industrial Road & West Access

11/04/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	20	10	20	20	20
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	0
Critical Hdwy	4.2	-	-	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.6
Critical Hdwy Stg 2	-	-	-	-	5.6
Follow-up Hdwy	2.29	-	-	-	3.68
Pot Cap-1 Maneuver	1571	-	-	-	977
Stage 1	-	-	-	-	977
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	977
Mov Cap-2 Maneuver	-	-	-	-	977
Stage 1	-	-	-	-	977
Stage 2	-	-	-	-	-

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	1	131	126	7	5	4
Future Volume (Veh/h)	1	131	126	7	5	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	1	185	177	10	7	6
Pedestrians		2	6		1	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	188				376	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	188				376	185
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1379				621	855
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	186	187	13			
Volume Left	1	0	7			
Volume Right	0	10	6			
cSH	1379	1700	711			
Volume to Capacity	0.00	0.11	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.0	10.2			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			19.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM 6th TWSC
20: Parr Rd & Stubb Rd

11/04/2022

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	131	126	7	5	4
Future Vol, veh/h	1	131	126	7	5	4
Conflicting Peds, #/hr	1	0	0	0	6	2
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	71	71	71	71	71	71
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	1	185	177	10	7	6





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	-	0	376 185
Stage 1	-	-	-	-	183 -
Stage 2	-	-	-	-	193 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1380	-	-	-	625 857
Stage 1	-	-	-	-	848 -
Stage 2	-	-	-	-	840 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1379	-	-	-	623 855
Mov Cap-2 Maneuver	-	-	-	-	623 -
Stage 1	-	-	-	-	846 -
Stage 2	-	-	-	-	839 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1379	-	-	-	708
HCM Lane V/C Ratio	0.001	-	-	-	0.018
HCM Control Delay (s)	7.6	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	82	39	45	25	63	2	71	128	26	3	95	73
Future Volume (vph)	82	39	45	25	63	2	71	128	26	3	95	73
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	93	44	51	28	72	2	81	145	30	3	108	83
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	93	95	28	74	226	30	111	83				
Volume Left (vph)	93	0	28	0	81	0	3	0				
Volume Right (vph)	0	51	0	2	0	30	0	83				
Hadj (s)	0.58	-0.33	0.53	0.02	0.28	-0.63	0.10	-0.63				
Departure Headway (s)	6.4	5.5	6.4	5.9	5.8	4.9	5.7	5.0				
Degree Utilization, x	0.16	0.14	0.05	0.12	0.36	0.04	0.18	0.11				
Capacity (veh/h)	530	617	518	564	598	696	598	682				
Control Delay (s)	9.4	8.2	8.6	8.5	10.9	6.9	8.7	7.4				
Approach Delay (s)	8.8		8.6		10.4		8.2					
Approach LOS	A		A		B		A					
Intersection Summary												
Delay			9.2									
Level of Service			A									
Intersection Capacity Utilization			36.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	39	45	25	63	2	71	128	26	3	95	73
Future Vol, veh/h	82	39	45	25	63	2	71	128	26	3	95	73
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	5	3	2	2	2	2	5	6	4	2	5	4
Mvmt Flow	93	44	51	28	72	2	81	145	30	3	108	83
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.9	9.6	11.5	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	36%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	64%	0%	0%	46%	0%	97%	97%	0%
Vol Right, %	0%	100%	0%	54%	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	199	26	82	84	25	65	98	73
LT Vol	71	0	82	0	25	0	3	0
Through Vol	128	0	0	39	0	63	95	0
RT Vol	0	26	0	45	0	2	0	73
Lane Flow Rate	226	30	93	95	28	74	111	83
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.371	0.041	0.168	0.148	0.052	0.124	0.178	0.117
Departure Headway (Hd)	5.899	5.03	6.491	5.572	6.575	6.047	5.761	5.09
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	716	554	644	545	593	624	705
Service Time	3.599	2.73	4.218	3.299	4.306	3.778	3.485	2.814
HCM Lane V/C Ratio	0.369	0.042	0.168	0.148	0.051	0.125	0.178	0.118
HCM Control Delay	12	7.9	10.5	9.3	9.7	9.6	9.7	8.5
HCM Lane LOS	B	A	B	A	A	A	A	A
HCM 95th-tile Q	1.7	0.1	0.6	0.5	0.2	0.4	0.6	0.4

HCM Unsignalized Intersection Capacity Analysis

22: Butteville Rd & Parr Rd

11/04/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	57	184	26	31	95
Future Volume (Veh/h)	18	57	184	26	31	95
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	20	63	204	29	34	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	392	218			233	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	392	218			233	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	97	92			97	
cM capacity (veh/h)	596	811			1323	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	83	233	140			
Volume Left	20	0	34			
Volume Right	63	29	0			
cSH	746	1700	1323			
Volume to Capacity	0.11	0.14	0.03			
Queue Length 95th (ft)	9	0	2			
Control Delay (s)	10.4	0.0	2.1			
Lane LOS	B		A			
Approach Delay (s)	10.4	0.0	2.1			
Approach LOS	B					
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			34.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/04/2022

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	57	184	26	31	95
Future Vol, veh/h	18	57	184	26	31	95
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	90	90	90	90	90	90
Heavy Vehicles, %	2	6	2	2	4	3
Mvmt Flow	20	63	204	29	34	106

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	393	219	0	0	233
Stage 1	219	-	-	-	-
Stage 2	174	-	-	-	-
Critical Hdwy	6.42	6.26	-	-	4.14
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.354	-	-	2.236
Pot Cap-1 Maneuver	611	811	-	-	1323
Stage 1	817	-	-	-	-
Stage 2	856	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	595	811	-	-	1323
Mov Cap-2 Maneuver	595	-	-	-	-
Stage 1	817	-	-	-	-
Stage 2	833	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	746	1323
HCM Lane V/C Ratio	-	-	0.112	0.026
HCM Control Delay (s)	-	-	10.4	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

HCM Unsignalized Intersection Capacity Analysis
 1: Butteville Rd & OR 219

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized		MOYes				MOYes
Traffic Volume (veh/h)	126	105	455	380	105	227
Future Volume (veh/h)	126	105	455	380	105	227
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	143	119	517	432	119	258
Approach Volume (veh/h)	143			949	119	
Crossing Volume (veh/h)	517			119	143	
High Capacity (veh/h)	921			1262	1238	
High v/c (veh/h)	0.16			0.75	0.10	
Low Capacity (veh/h)	743			1049	1028	
Low v/c (veh/h)	0.19			0.90	0.12	
Intersection Summary						
Maximum v/c High			0.75			
Maximum v/c Low			0.90			
Intersection Capacity Utilization			62.1%	ICU Level of Service		B

HCM 6th Roundabout
1: Butteville Rd & OR 219

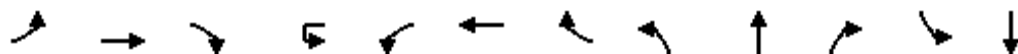
11/04/2022

Intersection				
Intersection Delay, s/veh	5.6			
Intersection LOS	A			
Approach	EB	WB	NB	
Entry Lanes	0	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	0	949	377	
Demand Flow Rate, veh/h	0	1012	391	
Vehicles Circulating, veh/h	558	123	160	
Vehicles Exiting, veh/h	577	160	558	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	7.4	1.2	
Approach LOS	-	A	A	
Lane	Left	Right	Left	Bypass
Designated Moves	L	TR	L	R
Assumed Moves	L	TR	L	R
RT Channelized				Free
Lane Util	0.551	0.449	1.000	
Follow-Up Headway, s	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.328	268
Entry Flow, veh/h	558	454	123	1820
Cap Entry Lane, veh/h	1205	1279	1240	0.962
Entry HV Adj Factor	0.927	0.952	0.967	258
Flow Entry, veh/h	517	432	119	1750
Cap Entry, veh/h	1117	1218	1199	0.147
V/C Ratio	0.463	0.355	0.099	0.0
Control Delay, s/veh	8.3	6.3	3.8	A
LOS	A	A	A	1
95th %tile Queue, veh	3	2	0	

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	34	320	3	22	63	759	46	1	1	33	335	5
Future Volume (vph)	34	320	3	22	63	759	46	1	1	33	335	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3107	1458		1429	3137	1417	1630	909		1533	1498
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3107	1458		1429	3137	1417	1630	909		1533	1498
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	39	364	3	25	72	862	52	1	1	38	381	6
RTOR Reduction (vph)	0	0	2	0	0	0	15	0	35	0	0	8
Lane Group Flow (vph)	39	364	1	0	97	863	37	1	4	0	221	206
Confl. Peds. (#/hr)										1	1	
Heavy Vehicles (%)	2%	7%	2%	0%	22%	6%	5%	2%	2%	64%	3%	25%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	4.2	27.7	33.8		9.1	32.6	52.5	6.1	6.1		19.9	19.9
Effective Green, g (s)	4.2	28.2	33.8		9.1	33.1	52.5	6.1	6.1		19.9	19.9
Actuated g/C Ratio	0.05	0.36	0.43		0.11	0.42	0.66	0.08	0.08		0.25	0.25
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	86	1104	621		163	1309	938	125	69		384	375
v/s Ratio Prot	0.02	c0.12	0.00		0.07	c0.28	0.01	0.00	c0.00		c0.14	0.14
v/s Ratio Perm			0.00				0.02					
v/c Ratio	0.45	0.33	0.00		0.60	0.66	0.04	0.01	0.06		0.58	0.55
Uniform Delay, d1	36.4	18.7	13.1		33.3	18.6	4.7	33.8	33.9		26.0	25.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.7	0.3	0.0		4.8	1.4	0.0	0.0	0.3		1.7	1.3
Delay (s)	39.2	18.9	13.1		38.2	20.0	4.7	33.8	34.2		27.7	27.1
Level of Service	D	B	B		D	B	A	C	C		C	C
Approach Delay (s)		20.8				20.9			34.2			27.4
Approach LOS		C				C			C			C

Intersection Summary

HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	79.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 2: Woodland Avenue & OR 219/OR 214

11/04/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.88
Adj. Flow (vph)	48
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (vph)	0	519	199	0	760	553	0	0	0	300	0	253
Future Volume (vph)	0	519	199	0	760	553	0	0	0	300	0	253
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3137	1271		3050	1305				2906		1305
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3137	1271		3050	1305				2906		1305
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)	0	558	214	0	817	595	0	0	0	323	0	272
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	100
Lane Group Flow (vph)	0	558	214	0	817	595	0	0	0	323	0	172
Heavy Vehicles (%)	0%	6%	17%	0%	9%	14%	0%	0%	0%	11%	0%	14%
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		42.1	64.0		42.1	64.0				12.9		12.9
Effective Green, g (s)		42.6	64.0		42.6	64.0				13.4		13.4
Actuated g/C Ratio		0.67	1.00		0.67	1.00				0.21		0.21
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			6.0					2.5		2.5
Lane Grp Cap (vph)		2088	1271		2030	1305				608		273
v/s Ratio Prot		0.18			0.27					0.11		
v/s Ratio Perm			0.17			c0.46						c0.13
v/c Ratio		0.27	0.17		0.40	0.46				0.53		0.63
Uniform Delay, d1		4.4	0.0		4.9	0.0				22.5		23.1
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.3	0.3		0.4	1.2				0.7		4.1
Delay (s)		4.7	0.3		5.3	1.2				23.2		27.2
Level of Service		A	A		A	A				C		C
Approach Delay (s)		3.5			3.5			0.0			25.0	
Approach LOS		A			A			A			C	

Intersection Summary

HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (veh/h)	0	519	199	0	760	553	0	0	0	300	0	253
Future Volume (veh/h)	0	519	199	0	760	553	0	0	0	300	0	253
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1668	1518	0	1627	1559				1600	0	1559
Adj Flow Rate, veh/h	0	558	0	0	817	0				323	0	272
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	6	17	0	9	14				11	0	14
Cap, veh/h	0	1921		0	1874					795	0	355
Arrive On Green	0.00	0.61	0.00	0.00	0.61	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3253	1286	0	3173	1321				2956	0	1321
Grp Volume(v), veh/h	0	558	0	0	817	0				323	0	272
Grp Sat Flow(s),veh/h/ln	0	1585	1286	0	1546	1321				1478	0	1321
Q Serve(g_s), s	0.0	5.4	0.0	0.0	9.1	0.0				5.7	0.0	12.1
Cycle Q Clear(g_c), s	0.0	5.4	0.0	0.0	9.1	0.0				5.7	0.0	12.1
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1921		0	1874					795	0	355
V/C Ratio(X)	0.00	0.29		0.00	0.44					0.41	0.00	0.77
Avail Cap(c_a), veh/h	0	1921		0	1874					1108	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.91	0.00	0.00	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.0	0.0	0.0	6.7	0.0				19.2	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.4	0.0				0.2	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	0.0	0.0	2.3	0.0				1.9	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.4	0.0	0.0	7.2	0.0				19.5	0.0	25.4
LnGrp LOS	A	A		A	A					B	A	C
Approach Vol, veh/h		558			817						595	
Approach Delay, s/veh		6.4			7.2						22.2	
Approach LOS		A			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		42.8		21.2		42.8						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		14.1		0.0						
Green Ext Time (p_c), s		0.0		2.6		0.0						

Intersection Summary

HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	549	273	0	943	367	624
Future Volume (vph)	549	273	0	943	367	624
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frt	1.00	0.85		1.00	0.93	0.85
Flt Protected	1.00	1.00		1.00	0.97	1.00
Satd. Flow (prot)	3050	1403		2942	2943	1314
Flt Permitted	1.00	1.00		1.00	0.97	1.00
Satd. Flow (perm)	3050	1403		2942	2943	1314
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	597	297	0	1025	399	678
RTOR Reduction (vph)	0	154	0	0	157	157
Lane Group Flow (vph)	597	143	0	1025	574	189
Heavy Vehicles (%)	9%	6%	0%	13%	6%	3%
Turn Type	NA	Perm		NA	Prot	Prot
Protected Phases	2			6	8	8
Permitted Phases		2				
Actuated Green, G (s)	33.1	33.1		33.1	27.0	27.0
Effective Green, g (s)	33.6	33.6		33.6	27.7	27.7
Actuated g/C Ratio	0.48	0.48		0.48	0.40	0.40
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1464	673		1412	1164	519
v/s Ratio Prot	0.20			c0.35	c0.19	0.14
v/s Ratio Perm		0.10				
v/c Ratio	0.41	0.21		0.73	0.49	0.36
Uniform Delay, d1	11.8	10.5		14.5	15.9	14.9
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.7		2.7	0.2	0.3
Delay (s)	12.6	11.3		17.2	16.1	15.2
Level of Service	B	B		B	B	B
Approach Delay (s)	12.2			17.2	15.8	
Approach LOS	B			B	B	

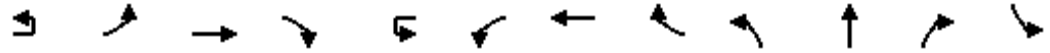
Intersection Summary

HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis
5: Evergreen Rd & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	
Lane Configurations		↔	↕	↗		↔	↕		↖	↗	↘	↙	
Traffic Volume (vph)	40	53	828	223	5	125	802	13	744	21	172	11	
Future Volume (vph)	40	53	828	223	5	125	802	13	744	21	172	11	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	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	
Flpb, ped/bikes		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		1.00	1.00	0.85	1.00	
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.95	1.00	0.95	
Satd. Flow (prot)		1644	2995	1261		1543	2965		1490	1494	1377	1630	
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.95	1.00	0.95	
Satd. Flow (perm)		1644	2995	1261		1543	2965		1490	1494	1377	1630	
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)	43	57	890	240	5	134	862	14	800	23	185	12	
RTOR Reduction (vph)	0	0	0	155	0	0	1	0	0	0	128	0	
Lane Group Flow (vph)	0	100	890	85	0	139	875	0	408	415	57	12	
Confl. Bikes (#/hr)								1					
Heavy Vehicles (%)	0%	2%	11%	18%	0%	8%	12%	2%	6%	11%	8%	2%	
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split	
Protected Phases	5	5	2		1	1	6		7	7		4	
Permitted Phases				2							7		
Actuated Green, G (s)		8.1	32.6	32.6		8.4	32.9		28.3	28.3	28.3	7.0	
Effective Green, g (s)		8.1	33.1	33.1		8.4	33.4		28.8	28.8	28.8	7.5	
Actuated g/C Ratio		0.09	0.35	0.35		0.09	0.36		0.31	0.31	0.31	0.08	
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)		141	1056	444		138	1055		457	458	422	130	
v/s Ratio Prot		0.06	c0.30			c0.09	0.30		0.27	c0.28		0.01	
v/s Ratio Perm				0.07								0.04	
v/c Ratio		0.71	0.84	0.19		1.01	0.83		0.89	0.91	0.13	0.09	
Uniform Delay, d1		41.7	28.0	21.1		42.7	27.6		31.0	31.2	23.5	40.0	
Progression Factor		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		14.1	7.3	0.6		78.5	6.5		19.3	21.2	0.1	0.2	
Delay (s)		55.8	35.2	21.7		121.2	34.1		50.3	52.4	23.6	40.2	
Level of Service		E	D	C		F	C		D	D	C	D	
Approach Delay (s)			34.2			46.0			46.3				
Approach LOS			C			D			D				
Intersection Summary													
HCM 2000 Control Delay			41.6		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			93.8		Sum of lost time (s)					16.5			
Intersection Capacity Utilization			72.3%		ICU Level of Service					C			
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	16	30
Future Volume (vph)	16	30
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1636	1261
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1636	1261
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	17	32
RTOR Reduction (vph)	0	29
Lane Group Flow (vph)	17	3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	7%	18%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	7.0	7.0
Effective Green, g (s)	7.5	7.5
Actuated g/C Ratio	0.08	0.08
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	130	100
v/s Ratio Prot	c0.01	
v/s Ratio Perm		0.00
v/c Ratio	0.13	0.03
Uniform Delay, d1	40.1	39.8
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	40.5	39.9
Level of Service	D	D
Approach Delay (s)	40.1	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations	⬅	↙	↔			↘	↕		↗	↖		↗
Traffic Volume (vph)	3	28	963	11	1	1	964	14	22	13	8	2
Future Volume (vph)	3	28	963	11	1	1	964	14	22	13	8	2
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95				1.00	0.95	1.00	1.00		1.00
Frpb, 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	1.00	1.00				1.00	1.00	1.00	0.94		1.00
Flt Protected	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (prot)	1513	1533	3132				1646	2992	1630	1615		1630
Flt Permitted	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (perm)	1513	1533	3132				1646	2992	1630	1615		1630
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)	3	31	1058	12	1	1	1059	15	24	14	9	2
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	8	0	0
Lane Group Flow (vph)	3	31	1070	0	0	2	1073	0	24	15	0	2
Confl. Peds. (#/hr)		1						1				
Confl. Bikes (#/hr)				1								
Heavy Vehicles (%)	0%	3%	6%	2%	0%	2%	11%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	4.9	4.9	69.2				1.1	65.4	3.2	10.0		3.2
Effective Green, g (s)	4.9	4.9	69.7				1.1	65.9	3.2	10.0		3.2
Actuated g/C Ratio	0.05	0.05	0.70				0.01	0.66	0.03	0.10		0.03
Clearance Time (s)	4.0	4.0	4.5				4.0	4.5	4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2				2.5	6.2	2.5	2.5		2.5
Lane Grp Cap (vph)	74	75	2183				18	1971	52	161		52
v/s Ratio Prot	0.00	c0.02	c0.34				0.00	c0.36	c0.01	c0.01		0.00
v/s Ratio Perm												
v/c Ratio	0.04	0.41	0.49				0.11	0.54	0.46	0.09		0.04
Uniform Delay, d1	45.3	46.2	7.0				49.0	9.1	47.6	40.9		46.9
Progression Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	2.7	0.8				2.0	1.1	4.7	0.2		0.2
Delay (s)	45.5	48.8	7.8				51.0	10.2	52.2	41.1		47.1
Level of Service	D	D	A				D	B	D	D		D
Approach Delay (s)			9.0				10.2		46.8			
Approach LOS			A				B		D			
Intersection Summary												
HCM 2000 Control Delay			11.4				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			44.1%				ICU Level of Service		A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	SBT	SBR
Lane Configurations	3	1
Traffic Volume (vph)	3	61
Future Volume (vph)	3	61
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1469	
Flt Permitted	1.00	
Satd. Flow (perm)	1469	
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	3	67
RTOR Reduction (vph)	60	0
Lane Group Flow (vph)	10	0
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	10.0	
Effective Green, g (s)	10.0	
Actuated g/C Ratio	0.10	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	146	
v/s Ratio Prot	0.01	
v/s Ratio Perm		
v/c Ratio	0.07	
Uniform Delay, d1	40.8	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	40.9	
Level of Service	D	
Approach Delay (s)	41.1	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	142	609	194	61	400	66	321	156	107	95	166	151	
Future Volume (vph)	142	609	194	61	400	66	321	156	107	95	166	151	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00	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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1599	1522	1403	1409	1471	1374	1539	1683	1305	1511	1620	1262	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1599	1522	1403	1409	1471	1374	1539	1683	1305	1511	1620	1262	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	154	662	211	66	435	72	349	170	116	103	180	164	
RTOR Reduction (vph)	0	0	84	0	0	44	0	0	84	0	0	141	
Lane Group Flow (vph)	154	662	127	66	435	28	349	170	32	103	180	23	
Confl. Peds. (#/hr)	8					8	2					2	
Heavy Vehicles (%)	4%	15%	6%	18%	19%	4%	8%	4%	14%	10%	8%	15%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	13.2	51.8	51.8	5.7	44.3	44.3	26.8	31.6	31.6	10.5	15.3	15.3	
Effective Green, g (s)	13.7	52.8	52.8	6.2	45.3	45.3	27.3	32.6	32.6	11.0	16.3	16.3	
Actuated g/C Ratio	0.12	0.45	0.45	0.05	0.38	0.38	0.23	0.27	0.27	0.09	0.14	0.14	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	184	677	624	73	561	524	354	462	358	140	222	173	
v/s Ratio Prot	c0.10	c0.44		0.05	0.30		c0.23	0.10		0.07	c0.11		
v/s Ratio Perm			0.09			0.02			0.02			0.02	
v/c Ratio	0.84	0.98	0.20	0.90	0.78	0.05	0.99	0.37	0.09	0.74	0.81	0.13	
Uniform Delay, d1	51.4	32.3	20.1	55.9	32.2	23.1	45.5	34.7	32.0	52.4	49.7	44.9	
Progression 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	
Incremental Delay, d2	26.4	28.8	0.1	72.7	6.4	0.0	43.7	0.4	0.1	17.1	19.2	0.2	
Delay (s)	77.7	61.1	20.2	128.6	38.6	23.1	89.1	35.1	32.0	69.5	68.9	45.2	
Level of Service	E	E	C	F	D	C	F	D	C	E	E	D	
Approach Delay (s)		55.2			47.0			64.2			60.3		
Approach LOS		E			D			E			E		
Intersection Summary													
HCM 2000 Control Delay			56.4									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.96										
Actuated Cycle Length (s)			118.6									Sum of lost time (s)	16.0
Intersection Capacity Utilization			81.9%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	609	194	61	400	66	321	156	107	95	166	151
Future Volume (veh/h)	142	609	194	61	400	66	321	156	107	95	166	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1695	1545	1668	1504	1491	1695	1641	1695	1559	1614	1641	1545
Adj Flow Rate, veh/h	154	662	211	66	435	72	349	170	116	103	180	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	15	6	18	19	4	8	4	14	10	8	15
Cap, veh/h	185	700	635	85	594	567	361	451	350	130	196	155
Arrive On Green	0.11	0.45	0.45	0.06	0.40	0.40	0.23	0.27	0.27	0.08	0.12	0.12
Sat Flow, veh/h	1615	1545	1401	1433	1491	1422	1563	1695	1316	1537	1641	1299
Grp Volume(v), veh/h	154	662	211	66	435	72	349	170	116	103	180	164
Grp Sat Flow(s),veh/h/ln	1615	1545	1401	1433	1491	1422	1563	1695	1316	1537	1641	1299
Q Serve(g_s), s	10.9	47.9	11.3	5.3	29.0	3.8	25.9	9.6	8.3	7.7	12.7	14.0
Cycle Q Clear(g_c), s	10.9	47.9	11.3	5.3	29.0	3.8	25.9	9.6	8.3	7.7	12.7	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	700	635	85	594	567	361	451	350	130	196	155
V/C Ratio(X)	0.83	0.95	0.33	0.77	0.73	0.13	0.97	0.38	0.33	0.79	0.92	1.06
Avail Cap(c_a), veh/h	199	727	659	98	619	591	361	451	350	158	196	155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	30.6	20.6	54.2	29.9	22.3	44.6	35.0	34.6	52.6	50.9	51.5
Incr Delay (d2), s/veh	23.2	20.6	0.2	26.1	4.0	0.1	38.6	0.4	0.4	18.6	41.3	87.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	21.0	3.8	2.5	10.8	1.3	13.9	4.1	2.7	3.6	7.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	51.2	20.8	80.3	33.9	22.4	83.2	35.4	35.0	71.1	92.2	139.1
LnGrp LOS	E	D	C	F	C	C	F	D	C	E	F	F
Approach Vol, veh/h		1027			573			635			447	
Approach Delay, s/veh		48.3			37.8			61.6			104.6	
Approach LOS		D			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	57.0	31.0	18.0	17.4	50.6	13.9	35.1				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	7.5	54.0	26.5	13.0	13.9	47.6	11.5	28.0				
Max Q Clear Time (g_c+I1), s	7.3	49.9	27.9	16.0	12.9	31.0	9.7	11.6				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	5.1	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	58.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	237	92	136	287	88	143	490	72	62	268	149
Future Volume (vph)	195	237	92	136	287	88	143	490	72	62	268	149
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1511	1446	1219	1421	1476		2932	2917	1181	1385	2713	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1511	1446	1219	1421	1476		2932	2917	1181	1385	2713	
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)	205	249	97	143	302	93	151	516	76	65	282	157
RTOR Reduction (vph)	0	0	63	0	10	0	0	0	55	0	62	0
Lane Group Flow (vph)	205	249	34	143	385	0	151	516	21	65	377	0
Heavy Vehicles (%)	10%	21%	22%	17%	16%	9%	10%	14%	26%	20%	16%	16%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	18.6	35.6	35.6	15.1	32.1		14.7	26.8	26.8	7.5	19.6	
Effective Green, g (s)	18.1	35.6	35.6	14.6	32.1		14.2	28.5	28.5	7.0	21.3	
Actuated g/C Ratio	0.18	0.35	0.35	0.14	0.32		0.14	0.28	0.28	0.07	0.21	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	268	506	426	203	465		409	817	330	95	568	
v/s Ratio Prot	c0.14	c0.17		0.10	c0.26		0.05	c0.18		0.05	c0.14	
v/s Ratio Perm			0.03						0.02			
v/c Ratio	0.76	0.49	0.08	0.70	0.83		0.37	0.63	0.06	0.68	0.66	
Uniform Delay, d1	39.8	26.0	22.1	41.5	32.3		39.7	32.0	26.8	46.3	36.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.7	0.6	0.1	9.8	11.4		0.4	1.4	0.1	17.0	2.6	
Delay (s)	51.5	26.5	22.2	51.3	43.6		40.1	33.4	26.9	63.3	39.5	
Level of Service	D	C	C	D	D		D	C	C	E	D	
Approach Delay (s)		35.0			45.7			34.1			42.6	
Approach LOS		D			D			C			D	

Intersection Summary

HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	101.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	237	92	136	287	88	143	490	72	62	268	149
Future Volume (veh/h)	195	237	92	136	287	88	143	490	72	62	268	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1463	1450	1518	1532	1627	1614	1559	1395	1477	1532	1532
Adj Flow Rate, veh/h	205	249	0	143	302	93	151	516	76	65	282	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	21	22	17	16	9	10	14	26	20	16	16
Cap, veh/h	237	508		164	344	106	222	823	329	67	405	219
Arrive On Green	0.15	0.35	0.00	0.11	0.31	0.31	0.07	0.28	0.28	0.05	0.22	0.20
Sat Flow, veh/h	1537	1463	1229	1446	1123	346	2981	2962	1182	1407	1823	986
Grp Volume(v), veh/h	205	249	0	143	0	395	151	516	76	65	223	216
Grp Sat Flow(s),veh/h/ln	1537	1463	1229	1446	0	1469	1491	1481	1182	1407	1455	1354
Q Serve(g_s), s	9.8	10.0	0.0	7.3	0.0	19.1	3.7	11.4	3.7	3.5	10.6	11.1
Cycle Q Clear(g_c), s	9.8	10.0	0.0	7.3	0.0	19.1	3.7	11.4	3.7	3.5	10.6	11.1
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	237	508		164	0	450	222	823	329	67	323	301
V/C Ratio(X)	0.86	0.49		0.87	0.00	0.88	0.68	0.63	0.23	0.96	0.69	0.72
Avail Cap(c_a), veh/h	451	960		401	0	941	445	1304	520	206	637	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	19.2	0.0	32.7	0.0	24.7	33.8	23.7	20.9	35.6	26.8	27.6
Incr Delay (d2), s/veh	7.0	0.5	0.0	10.2	0.0	4.3	2.7	0.6	0.3	35.9	2.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	3.2	0.0	2.8	0.0	6.4	1.3	3.7	1.0	1.8	3.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	19.8	0.0	42.9	0.0	28.9	36.6	24.3	21.2	71.6	28.8	30.0
LnGrp LOS	D	B		D	A	C	D	C	C	E	C	C
Approach Vol, veh/h		454			538			743			504	
Approach Delay, s/veh		28.0			32.6			26.4			34.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	20.6	15.6	27.0	7.6	24.8	12.5	30.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	11.7	* 31	22.5	48.0	11.5	31.3	21.3	49.2				
Max Q Clear Time (g_c+I1), s	5.7	13.1	11.8	21.1	5.5	13.4	9.3	12.0				
Green Ext Time (p_c), s	0.2	1.8	0.5	1.9	0.1	5.7	0.2	2.7				

Intersection Summary

HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	97	16	18	756	255	34
Future Volume (Veh/h)	97	16	18	756	255	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	102	17	19	796	268	36
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1121	286	304			
vC1, stage 1 conf vol	286					
vC2, stage 2 conf vol	835					
vCu, unblocked vol	1121	286	304			
tC, single (s)	6.6	6.3	4.1			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.4	2.2			
p0 queue free %	72	98	98			
cM capacity (veh/h)	367	728	1257			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	102	17	19	796	304	
Volume Left	102	0	19	0	0	
Volume Right	0	17	0	0	36	
cSH	367	728	1257	1700	1700	
Volume to Capacity	0.28	0.02	0.02	0.47	0.18	
Queue Length 95th (ft)	28	2	1	0	0	
Control Delay (s)	18.5	10.1	7.9	0.0	0.0	
Lane LOS	C	B	A			
Approach Delay (s)	17.3		0.2		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			55.7%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM 6th TWSC
 9: Evergreen Rd & Stacey Allison Wy

11/04/2022

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	97	16	18	756	255	34
Future Vol, veh/h	97	16	18	756	255	34
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	19	13	2	2	2	19
Mvmt Flow	102	17	19	796	268	36

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1121	286	304	0	-	0
Stage 1	286	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Critical Hdwy	6.59	6.33	4.12	-	-	-
Critical Hdwy Stg 1	5.59	-	-	-	-	-
Critical Hdwy Stg 2	5.59	-	-	-	-	-
Follow-up Hdwy	3.671	3.417	2.218	-	-	-
Pot Cap-1 Maneuver	211	728	1257	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	208	728	1257	-	-	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	398	-	-	-	-	-



















Approach	EB	NB	SB
HCM Control Delay, s	20.1	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1257	-	316	728	-	-
HCM Lane V/C Ratio	0.015	-	0.323	0.023	-	-
HCM Control Delay (s)	7.9	-	21.7	10.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

10: Evergreen Rd & Hayes St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	9	1	33	22	132	1	630	68	41	221	3
Future Volume (vph)	13	9	1	33	22	132	1	630	68	41	221	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	15	10	1	37	25	148	1	708	76	46	248	3
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	26	210	1	784	46	251						
Volume Left (vph)	15	37	1	0	46	0						
Volume Right (vph)	1	148	0	76	0	3						
Hadj (s)	0.13	-0.35	0.53	-0.03	0.53	0.04						
Departure Headway (s)	7.0	6.0	6.2	5.7	6.5	6.1						
Degree Utilization, x	0.05	0.35	0.00	1.23	0.08	0.42						
Capacity (veh/h)	470	572	564	645	534	579						
Control Delay (s)	10.4	12.3	8.0	136.0	8.9	12.2						
Approach Delay (s)	10.4	12.3	135.9		11.7							
Approach LOS	B	B	F		B							
Intersection Summary												
Delay			85.7									
Level of Service			F									
Intersection Capacity Utilization			59.3%	ICU Level of Service	B							
Analysis Period (min)			15									

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/04/2022

Intersection	
Intersection Delay, s/veh	87.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	13	9	1	33	22	132	1	630	68	41	221	3
Future Vol, veh/h	13	9	1	33	22	132	1	630	68	41	221	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	15	10	1	37	25	148	1	708	76	46	248	3
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0


















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.1	13.1	137.4	13.2
HCM LOS	B	B	F	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	57%	18%	100%	0%
Vol Thru, %	0%	90%	39%	12%	0%	99%
Vol Right, %	0%	10%	4%	71%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	698	23	187	41	224
LT Vol	1	0	13	33	41	0
Through Vol	0	630	9	22	0	221
RT Vol	0	68	1	132	0	3
Lane Flow Rate	1	784	26	210	46	252
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.002	1.233	0.051	0.351	0.084	0.425
Departure Headway (Hd)	6.237	5.662	7.691	6.552	6.856	6.354
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	576	643	469	553	526	571
Service Time	3.949	3.373	5.691	4.552	4.556	4.054
HCM Lane V/C Ratio	0.002	1.219	0.055	0.38	0.087	0.441
HCM Control Delay	9	137.6	11.1	13.1	10.2	13.7
HCM Lane LOS	A	F	B	B	B	B
HCM 95th-tile Q	0	28.7	0.2	1.6	0.3	2.1

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	41	105	1	25	57	120	535	15	41	331	44
Future Volume (Veh/h)	42	41	105	1	25	57	120	535	15	41	331	44
Sign Control	Stop				Stop		Free				Free	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	49	48	122	1	29	66	140	622	17	48	385	51
Pedestrians	2				7		10					
Lane Width (ft)	12.0				12.0		12.0					
Walking Speed (ft/s)	3.5				3.5		3.5					
Percent Blockage	0				1		1					
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)											1273	
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	1500	1434	422	1580	1452	638	438			646		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1499	1432	380	1583	1450	638	396			646		
tC, single (s)	7.1	6.7	6.3	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.2	3.4	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	13	51	80	97	72	86	87			95		
cM capacity (veh/h)	56	97	618	36	104	467	1116			933		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	49	170	96	779	484							
Volume Left	49	0	1	140	48							
Volume Right	0	122	66	17	51							
cSH	56	246	214	1116	933							
Volume to Capacity	0.87	0.69	0.45	0.13	0.05							
Queue Length 95th (ft)	97	113	53	11	4							
Control Delay (s)	201.5	46.9	34.9	3.0	1.5							
Lane LOS	F	E	D	A	A							
Approach Delay (s)	81.5		34.9	3.0	1.5							
Approach LOS	F		D									
Intersection Summary												
Average Delay			15.4									
Intersection Capacity Utilization			81.4%		ICU Level of Service			D				
Analysis Period (min)			15									

HCM 6th TWSC
 11: Settlemier St & Hayes St

11/04/2022

Intersection												
Int Delay, s/veh	15.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	41	105	1	25	57	120	535	15	41	331	44
Future Vol, veh/h	42	41	105	1	25	57	120	535	15	41	331	44
Conflicting Peds, #/hr	0	0	10	10	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	20	10	2	2	6	2	9	3	2	6	3
Mvmt Flow	49	48	122	1	29	66	140	622	17	48	385	51

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1467	1435	423	1520	1452	638	438	0	0	646	0	0
Stage 1	509	509	-	918	918	-	-	-	-	-	-	-
Stage 2	958	926	-	602	534	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.7	6.3	7.12	6.52	6.26	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.7	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.7	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.18	3.39	3.518	4.018	3.354	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	105	122	614	97	130	469	1122	-	-	939	-	-
Stage 1	545	510	-	326	350	-	-	-	-	-	-	-
Stage 2	308	324	-	486	524	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	56	91	607	37	97	466	1120	-	-	933	-	-
Mov Cap-2 Maneuver	56	91	-	37	97	-	-	-	-	-	-	-
Stage 1	438	474	-	261	280	-	-	-	-	-	-	-
Stage 2	191	259	-	322	487	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	86	37.6	1.6	0.9
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	56	234	204	933	-	-
HCM Lane V/C Ratio	0.125	-	-	0.872	0.726	0.473	0.051	-	-
HCM Control Delay (s)	8.7	0	-	201.9	52.6	37.6	9.1	0	-
HCM Lane LOS	A	A	-	F	F	E	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	3.9	4.9	2.3	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	1	1	52	64	45
Future Volume (Veh/h)	121	1	1	52	64	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	142	1	1	61	75	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	164	102	128			
vC1, stage 1 conf vol	102					
vC2, stage 2 conf vol	63					
vCu, unblocked vol	164	102	128			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	100	100			
cM capacity (veh/h)	878	954	1458			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	143	1	61	128		
Volume Left	142	1	0	0		
Volume Right	1	0	0	53		
cSH	879	1458	1700	1700		
Volume to Capacity	0.16	0.00	0.04	0.08		
Queue Length 95th (ft)	14	0	0	0		
Control Delay (s)	9.9	7.5	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	9.9	0.1		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			20.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/04/2022

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	121	1	1	52	64	45
Future Vol, veh/h	121	1	1	52	64	45
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	20	20	2
Mvmt Flow	142	1	1	61	75	53

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	165	102	128	0	0
Stage 1	102	-	-	-	-
Stage 2	63	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	826	953	1458	-	-
Stage 1	922	-	-	-	-
Stage 2	960	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	825	953	1458	-	-
Mov Cap-2 Maneuver	804	-	-	-	-
Stage 1	921	-	-	-	-
Stage 2	960	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1458	-	805	-	-
HCM Lane V/C Ratio	0.001	-	0.178	-	-
HCM Control Delay (s)	7.5	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	0	5	35	51	8
Future Volume (Veh/h)	6	0	5	35	51	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	0	6	41	60	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage (veh)					2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	118	64	69			
vC1, stage 1 conf vol	64					
vC2, stage 2 conf vol	53					
vCu, unblocked vol	118	64	69			
tC, single (s)	6.6	6.4	4.3			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.5	2.4			
p0 queue free %	99	100	100			
cM capacity (veh/h)	869	951	1425			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	7	47	69			
Volume Left	7	6	0			
Volume Right	0	0	9			
cSH	869	1425	1700			
Volume to Capacity	0.01	0.00	0.04			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.2	1.0	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.2	1.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			16.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 13: Evergreen Rd & North Access

11/04/2022

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	0	5	35	51	8
Future Vol, veh/h	6	0	5	35	51	8
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	85	85	85	85	85	85
Heavy Vehicles, %	20	20	20	10	10	20
Mvmt Flow	7	0	6	41	60	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	118	65	69	0	0
Stage 1	65	-	-	-	-
Stage 2	53	-	-	-	-
Critical Hdwy	6.6	6.4	4.3	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.38	-	-
Pot Cap-1 Maneuver	836	951	1425	-	-
Stage 1	914	-	-	-	-
Stage 2	925	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	833	951	1425	-	-
Mov Cap-2 Maneuver	799	-	-	-	-
Stage 1	910	-	-	-	-
Stage 2	925	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1425	-	799	-	-
HCM Lane V/C Ratio	0.004	-	0.009	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	34	36	26	21	30
Future Volume (Veh/h)	14	34	36	26	21	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	16	40	42	31	25	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	158	42	60			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	158	42	60			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	96	97			
cM capacity (veh/h)	811	1028	1544			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	56	73	60			
Volume Left	16	42	0			
Volume Right	40	0	35			
cSH	955	1544	1700			
Volume to Capacity	0.06	0.03	0.04			
Queue Length 95th (ft)	5	2	0			
Control Delay (s)	9.0	4.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.0	4.3	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			20.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 14: Evergreen Rd & South Access

11/04/2022

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	14	34	36	26	21	30
Future Vol, veh/h	14	34	36	26	21	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	10	10	2
Mvmt Flow	16	40	42	31	25	35

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	158	43	60	0	0
Stage 1	43	-	-	-	-
Stage 2	115	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	833	1027	1544	-	-
Stage 1	979	-	-	-	-
Stage 2	910	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	810	1027	1544	-	-
Mov Cap-2 Maneuver	810	-	-	-	-
Stage 1	952	-	-	-	-
Stage 2	910	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1544	-	953	-	-
HCM Lane V/C Ratio	0.027	-	0.059	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	8	32	130	12	24	28	29	132	16	25	15
Future Volume (vph)	9	8	32	130	12	24	28	29	132	16	25	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	11	9	38	153	14	28	33	34	155	19	29	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	58	195	222	66								
Volume Left (vph)	11	153	33	19								
Volume Right (vph)	38	28	155	18								
Hadj (s)	-0.22	0.16	-0.33	-0.05								
Departure Headway (s)	4.6	4.8	4.3	4.7								
Degree Utilization, x	0.07	0.26	0.26	0.09								
Capacity (veh/h)	715	706	795	702								
Control Delay (s)	8.0	9.5	8.8	8.2								
Approach Delay (s)	8.0	9.5	8.8	8.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.9									
Level of Service			A									
Intersection Capacity Utilization			37.2%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

Intersection

Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	8	32	130	12	24	28	29	132	16	25	15
Future Vol, veh/h	9	8	32	130	12	24	28	29	132	16	25	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	11	9	38	153	14	28	33	34	155	19	29	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	9.5	8.9	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	18%	78%	29%
Vol Thru, %	15%	16%	7%	45%
Vol Right, %	70%	65%	14%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	49	166	56
LT Vol	28	9	130	16
Through Vol	29	8	12	25
RT Vol	132	32	24	15
Lane Flow Rate	222	58	195	66
Geometry Grp	1	1	1	1
Degree of Util (X)	0.265	0.072	0.259	0.086
Departure Headway (Hd)	4.287	4.516	4.78	4.692
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	838	790	750	762
Service Time	2.315	2.561	2.818	2.729
HCM Lane V/C Ratio	0.265	0.073	0.26	0.087
HCM Control Delay	8.9	7.9	9.5	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.2	1	0.3

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	30	38	16	19	0
Future Volume (Veh/h)	0	30	38	16	19	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	35	45	19	22	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	64				90	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64				90	54
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				98	100
cM capacity (veh/h)	1489				892	990
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	35	64	22			
Volume Left	0	0	22			
Volume Right	0	19	0			
cSH	1489	1700	892			
Volume to Capacity	0.00	0.04	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
16: Industrial Road & East Access

11/04/2022

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	30	38	16	19	0
Future Vol, veh/h	0	30	38	16	19	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	35	45	19	22	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	64	0	-	0	90
Stage 1	-	-	-	-	55
Stage 2	-	-	-	-	35
Critical Hdwy	4.2	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.29	-	-	-	3.59
Pot Cap-1 Maneuver	1489	-	-	-	891
Stage 1	-	-	-	-	947
Stage 2	-	-	-	-	967
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1489	-	-	-	891
Mov Cap-2 Maneuver	-	-	-	-	891
Stage 1	-	-	-	-	947
Stage 2	-	-	-	-	967

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	891
HCM Lane V/C Ratio	-	-	-	-	0.025
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	38	30	0
Future Volume (Veh/h)	0	0	0	38	30	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	45	35	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	45				22	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45				22	22
tC, single (s)	4.2				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	100				96	100
cM capacity (veh/h)	1513				950	1005
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	45	35			
Volume Left	0	0	35			
Volume Right	0	45	0			
cSH	1700	1700	950			
Volume to Capacity	0.00	0.03	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
17: Industrial Road & West Access

11/04/2022

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	38	30	0
Future Vol, veh/h	0	0	0	38	30	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	85	85	85	85	85	85
Heavy Vehicles, %	10	20	10	20	20	20
Mvmt Flow	0	0	0	45	35	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	45	0	-	0	23
Stage 1	-	-	-	-	23
Stage 2	-	-	-	-	0
Critical Hdwy	4.2	-	-	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.6
Critical Hdwy Stg 2	-	-	-	-	5.6
Follow-up Hdwy	2.29	-	-	-	3.68
Pot Cap-1 Maneuver	1513	-	-	-	949
Stage 1	-	-	-	-	955
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1513	-	-	-	949
Mov Cap-2 Maneuver	-	-	-	-	949
Stage 1	-	-	-	-	955
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1513	-	-	-	949
HCM Lane V/C Ratio	-	-	-	-	0.037
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↗	↖		↘	↙
Traffic Volume (veh/h)	3	146	147	7	5	6
Future Volume (Veh/h)	3	146	147	7	5	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	4	206	207	10	7	8
Pedestrians		2	6		1	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	218				433	215
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	218				433	215
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1344				574	823
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	210	217	15			
Volume Left	4	0	7			
Volume Right	0	10	8			
cSH	1344	1700	684			
Volume to Capacity	0.00	0.13	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.2	0.0	10.4			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	10.4			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		21.6%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
20: Parr Rd & Stubb Rd

11/04/2022

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	3	146	147	7	5	6
Future Vol, veh/h	3	146	147	7	5	6
Conflicting Peds, #/hr	1	0	0	0	6	2
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	71	71	71	71	71	71
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	4	206	207	10	7	8





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	218	0	0	433	215
Stage 1	-	-	-	213	-
Stage 2	-	-	-	220	-
Critical Hdwy	4.13	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	3.518	3.318
Pot Cap-1 Maneuver	1346	-	-	580	825
Stage 1	-	-	-	823	-
Stage 2	-	-	-	817	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1345	-	-	577	823
Mov Cap-2 Maneuver	-	-	-	577	-
Stage 1	-	-	-	820	-
Stage 2	-	-	-	816	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1345	-	-	-	689
HCM Lane V/C Ratio	0.003	-	-	-	0.022
HCM Control Delay (s)	7.7	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	91	42	48	25	67	2	75	123	26	3	91	85
Future Volume (vph)	91	42	48	25	67	2	75	123	26	3	91	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	103	48	55	28	76	2	85	140	30	3	103	97
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	103	103	28	78	225	30	106	97				
Volume Left (vph)	103	0	28	0	85	0	3	0				
Volume Right (vph)	0	55	0	2	0	30	0	97				
Hadj (s)	0.58	-0.33	0.53	0.02	0.28	-0.63	0.10	-0.63				
Departure Headway (s)	6.4	5.5	6.5	6.0	5.9	5.0	5.8	5.1				
Degree Utilization, x	0.18	0.16	0.05	0.13	0.37	0.04	0.17	0.14				
Capacity (veh/h)	528	613	514	558	588	684	589	672				
Control Delay (s)	9.7	8.3	8.7	8.7	11.1	7.0	8.8	7.7				
Approach Delay (s)	9.0		8.7		10.6		8.2					
Approach LOS	A		A		B		A					
Intersection Summary												
Delay			9.3									
Level of Service			A									
Intersection Capacity Utilization			37.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	91	42	48	25	67	2	75	123	26	3	91	85
Future Vol, veh/h	91	42	48	25	67	2	75	123	26	3	91	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	5	3	2	2	2	2	5	6	4	2	5	4
Mvmt Flow	103	48	55	28	76	2	85	140	30	3	103	97
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.1	9.8	11.7	9.3
HCM LOS	B	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	38%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	62%	0%	0%	47%	0%	97%	97%	0%
Vol Right, %	0%	100%	0%	53%	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	26	91	90	25	69	94	85
LT Vol	75	0	91	0	25	0	3	0
Through Vol	123	0	0	42	0	67	91	0
RT Vol	0	26	0	48	0	2	0	85
Lane Flow Rate	225	30	103	102	28	78	107	97
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.373	0.042	0.188	0.16	0.052	0.133	0.173	0.139
Departure Headway (Hd)	5.972	5.092	6.533	5.616	6.64	6.113	5.837	5.165
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	603	704	550	639	540	587	615	694
Service Time	3.699	2.818	4.259	3.342	4.371	3.843	3.566	2.893
HCM Lane V/C Ratio	0.373	0.043	0.187	0.16	0.052	0.133	0.174	0.14
HCM Control Delay	12.2	8	10.8	9.4	9.7	9.8	9.8	8.7
HCM Lane LOS	B	A	B	A	A	A	A	A
HCM 95th-tile Q	1.7	0.1	0.7	0.6	0.2	0.5	0.6	0.5

HCM Unsignalized Intersection Capacity Analysis

22: Butteville Rd & Parr Rd

11/04/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	109	178	32	82	91
Future Volume (Veh/h)	23	109	178	32	82	91
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	26	121	198	36	91	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	499	216			234	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	499	216			234	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	95	85			93	
cM capacity (veh/h)	494	814			1322	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	147	234	192			
Volume Left	26	0	91			
Volume Right	121	36	0			
cSH	730	1700	1322			
Volume to Capacity	0.20	0.14	0.07			
Queue Length 95th (ft)	19	0	6			
Control Delay (s)	11.2	0.0	4.1			
Lane LOS	B		A			
Approach Delay (s)	11.2	0.0	4.1			
Approach LOS	B					
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			41.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/04/2022

Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	109	178	32	82	91
Future Vol, veh/h	23	109	178	32	82	91
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	90	90	90	90	90	90
Heavy Vehicles, %	2	6	2	2	4	3
Mvmt Flow	26	121	198	36	91	101

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	499	216	0	0	234
Stage 1	216	-	-	-	-
Stage 2	283	-	-	-	-
Critical Hdwy	6.42	6.26	-	-	4.14
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.354	-	-	2.236
Pot Cap-1 Maneuver	531	814	-	-	1322
Stage 1	820	-	-	-	-
Stage 2	765	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	492	814	-	-	1322
Mov Cap-2 Maneuver	492	-	-	-	-
Stage 1	820	-	-	-	-
Stage 2	709	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	3.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	731	1322
HCM Lane V/C Ratio	-	-	0.201	0.069
HCM Control Delay (s)	-	-	11.2	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0.2

HCM Unsignalized Intersection Capacity Analysis
 1: Butteville Rd & OR 219

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized		MOYes				MOYes
Traffic Volume (veh/h)	126	107	464	380	109	251
Future Volume (veh/h)	126	107	464	380	109	251
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	143	122	527	432	124	285
Approach Volume (veh/h)	143			959	124	
Crossing Volume (veh/h)	527			124	143	
High Capacity (veh/h)	913			1257	1238	
High v/c (veh/h)	0.16			0.76	0.10	
Low Capacity (veh/h)	737			1045	1028	
Low v/c (veh/h)	0.19			0.92	0.12	
Intersection Summary						
Maximum v/c High			0.76			
Maximum v/c Low			0.92			
Intersection Capacity Utilization			64.3%	ICU Level of Service		C

HCM 6th Roundabout
1: Butteville Rd & OR 219

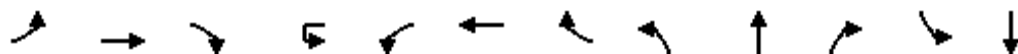
11/04/2022

Intersection				
Intersection Delay, s/veh	5.6			
Intersection LOS	A			
Approach	EB	WB	NB	
Entry Lanes	0	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	0	959	409	
Demand Flow Rate, veh/h	0	1023	424	
Vehicles Circulating, veh/h	569	128	160	
Vehicles Exiting, veh/h	582	160	569	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	7.5	1.2	
Approach LOS	-	A	A	
Lane	Left	Right	Left	Bypass
Designated Moves	L	TR	L	R
Assumed Moves	L	TR	L	R
RT Channelized				Free
Lane Util	0.556	0.444	1.000	
Follow-Up Headway, s	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.328	296
Entry Flow, veh/h	569	454	128	1820
Cap Entry Lane, veh/h	1200	1274	1240	0.962
Entry HV Adj Factor	0.926	0.952	0.969	285
Flow Entry, veh/h	527	432	124	1750
Cap Entry, veh/h	1111	1213	1201	0.163
V/C Ratio	0.474	0.356	0.103	0.0
Control Delay, s/veh	8.5	6.4	3.9	A
LOS	A	A	A	1
95th %tile Queue, veh	3	2	0	

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	34	344	3	22	63	768	46	1	1	33	335	5
Future Volume (vph)	34	344	3	22	63	768	46	1	1	33	335	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3107	1458		1429	3137	1417	1630	909		1533	1498
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3107	1458		1429	3137	1417	1630	909		1533	1498
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	39	391	3	25	72	873	52	1	1	38	381	6
RTOR Reduction (vph)	0	0	2	0	0	0	14	0	35	0	0	8
Lane Group Flow (vph)	39	391	1	0	97	873	38	1	4	0	221	206
Confl. Peds. (#/hr)										1	1	
Heavy Vehicles (%)	2%	7%	2%	0%	22%	6%	5%	2%	2%	64%	3%	25%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	4.2	28.6	34.8		9.0	33.4	53.2	6.2	6.2		19.8	19.8
Effective Green, g (s)	4.2	29.1	34.8		9.0	33.9	53.2	6.2	6.2		19.8	19.8
Actuated g/C Ratio	0.05	0.36	0.43		0.11	0.42	0.66	0.08	0.08		0.25	0.25
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	85	1128	633		160	1327	941	126	70		378	370
v/s Ratio Prot	0.02	c0.13	0.00		0.07	c0.28	0.01	0.00	c0.00		c0.14	0.14
v/s Ratio Perm			0.00				0.02					
v/c Ratio	0.46	0.35	0.00		0.61	0.66	0.04	0.01	0.06		0.58	0.56
Uniform Delay, d1	36.8	18.6	12.8		33.9	18.5	4.6	34.1	34.2		26.5	26.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.8	0.3	0.0		5.4	1.4	0.0	0.0	0.2		1.9	1.5
Delay (s)	39.7	18.9	12.8		39.2	19.8	4.7	34.1	34.5		28.4	27.8
Level of Service	D	B	B		D	B	A	C	C		C	C
Approach Delay (s)		20.7				20.9			34.5			28.1
Approach LOS		C				C			C			C

Intersection Summary

HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 2: Woodland Avenue & OR 219/OR 214

11/04/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.88
Adj. Flow (vph)	48
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (vph)	0	535	207	0	763	565	0	0	0	306	0	259
Future Volume (vph)	0	535	207	0	763	565	0	0	0	306	0	259
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3137	1271		3050	1305				2906		1305
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3137	1271		3050	1305				2906		1305
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)	0	575	223	0	820	608	0	0	0	329	0	278
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	98
Lane Group Flow (vph)	0	575	223	0	820	608	0	0	0	329	0	180
Heavy Vehicles (%)	0%	6%	17%	0%	9%	14%	0%	0%	0%	11%	0%	14%
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		41.9	64.0		41.9	64.0				13.1		13.1
Effective Green, g (s)		42.4	64.0		42.4	64.0				13.6		13.6
Actuated g/C Ratio		0.66	1.00		0.66	1.00				0.21		0.21
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			6.0					2.5		2.5
Lane Grp Cap (vph)		2078	1271		2020	1305				617		277
v/s Ratio Prot		0.18			0.27					0.11		
v/s Ratio Perm			0.18			c0.47						c0.14
v/c Ratio		0.28	0.18		0.41	0.47				0.53		0.65
Uniform Delay, d1		4.5	0.0		5.0	0.0				22.4		23.0
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.3	0.3		0.4	1.2				0.7		4.6
Delay (s)		4.8	0.3		5.4	1.2				23.1		27.6
Level of Service		A	A		A	A				C		C
Approach Delay (s)		3.5			3.6			0.0			25.1	
Approach LOS		A			A			A			C	

Intersection Summary

HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (veh/h)	0	535	207	0	763	565	0	0	0	306	0	259
Future Volume (veh/h)	0	535	207	0	763	565	0	0	0	306	0	259
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1668	1518	0	1627	1559				1600	0	1559
Adj Flow Rate, veh/h	0	575	0	0	820	0				329	0	278
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	6	17	0	9	14				11	0	14
Cap, veh/h	0	1907		0	1861					807	0	361
Arrive On Green	0.00	0.60	0.00	0.00	0.60	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3253	1286	0	3173	1321				2956	0	1321
Grp Volume(v), veh/h	0	575	0	0	820	0				329	0	278
Grp Sat Flow(s),veh/h/ln	0	1585	1286	0	1546	1321				1478	0	1321
Q Serve(g_s), s	0.0	5.6	0.0	0.0	9.2	0.0				5.8	0.0	12.4
Cycle Q Clear(g_c), s	0.0	5.6	0.0	0.0	9.2	0.0				5.8	0.0	12.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1907		0	1861					807	0	361
V/C Ratio(X)	0.00	0.30		0.00	0.44					0.41	0.00	0.77
Avail Cap(c_a), veh/h	0	1907		0	1861					1108	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.90	0.00	0.00	0.70	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.2	0.0	0.0	6.9	0.0				19.0	0.0	21.4
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.4	0.0				0.2	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	0.0	0.0	2.3	0.0				1.9	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.6	0.0	0.0	7.3	0.0				19.3	0.0	25.6
LnGrp LOS	A	A		A	A					B	A	C
Approach Vol, veh/h		575			820						607	
Approach Delay, s/veh		6.6			7.3						22.2	
Approach LOS		A			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		42.5		21.5		42.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		14.4		0.0						
Green Ext Time (p_c), s		0.0		2.6		0.0						

Intersection Summary

HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	555	289	0	955	370	629
Future Volume (vph)	555	289	0	955	370	629
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frt	1.00	0.85		1.00	0.93	0.85
Flt Protected	1.00	1.00		1.00	0.97	1.00
Satd. Flow (prot)	3050	1403		2942	2943	1314
Flt Permitted	1.00	1.00		1.00	0.97	1.00
Satd. Flow (perm)	3050	1403		2942	2943	1314
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	603	314	0	1038	402	684
RTOR Reduction (vph)	0	163	0	0	156	156
Lane Group Flow (vph)	603	151	0	1038	581	193
Heavy Vehicles (%)	9%	6%	0%	13%	6%	3%
Turn Type	NA	Perm		NA	Prot	Prot
Protected Phases	2			6	8	8
Permitted Phases		2				
Actuated Green, G (s)	33.2	33.2		33.2	26.9	26.9
Effective Green, g (s)	33.7	33.7		33.7	27.6	27.6
Actuated g/C Ratio	0.48	0.48		0.48	0.39	0.39
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1468	675		1416	1160	518
v/s Ratio Prot	0.20			c0.35	c0.20	0.15
v/s Ratio Perm		0.11				
v/c Ratio	0.41	0.22		0.73	0.50	0.37
Uniform Delay, d1	11.7	10.5		14.5	16.0	15.1
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	0.8		2.8	0.2	0.3
Delay (s)	12.6	11.3		17.3	16.3	15.4
Level of Service	B	B		B	B	B
Approach Delay (s)	12.2			17.3	16.0	
Approach LOS	B			B	B	

Intersection Summary

HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↗	↘	↙
Traffic Volume (vph)	40	53	828	234	5	131	802	13	772	21	172	11
Future Volume (vph)	40	53	828	234	5	131	802	13	772	21	172	11
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	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
Flpb, ped/bikes		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		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.95	1.00	0.95
Satd. Flow (prot)		1644	2995	1261		1543	2965		1490	1494	1377	1630
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.95	1.00	0.95
Satd. Flow (perm)		1644	2995	1261		1543	2965		1490	1494	1377	1630
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)	43	57	890	252	5	141	862	14	830	23	185	12
RTOR Reduction (vph)	0	0	0	163	0	0	1	0	0	0	127	0
Lane Group Flow (vph)	0	100	890	89	0	146	875	0	423	430	58	12
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	2%	11%	18%	0%	8%	12%	2%	6%	11%	8%	2%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split
Protected Phases	5	5	2		1	1	6		7	7		4
Permitted Phases				2							7	
Actuated Green, G (s)		8.0	32.8	32.8		8.4	33.2		29.0	29.0	29.0	7.0
Effective Green, g (s)		8.0	33.3	33.3		8.4	33.7		29.5	29.5	29.5	7.5
Actuated g/C Ratio		0.08	0.35	0.35		0.09	0.36		0.31	0.31	0.31	0.08
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)		138	1053	443		136	1055		464	465	428	129
v/s Ratio Prot		0.06	c0.30			c0.09	0.30		0.28	c0.29		0.01
v/s Ratio Perm				0.07								0.04
v/c Ratio		0.72	0.85	0.20		1.07	0.83		0.91	0.92	0.13	0.09
Uniform Delay, d1		42.3	28.3	21.4		43.1	27.9		31.3	31.5	23.4	40.4
Progression Factor		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		16.2	7.4	0.7		98.2	6.5		22.0	24.2	0.1	0.2
Delay (s)		58.4	35.7	22.1		141.3	34.4		53.4	55.7	23.5	40.7
Level of Service		E	D	C		F	C		D	E	C	D
Approach Delay (s)			34.8				49.7			49.0		
Approach LOS			C				D			D		
Intersection Summary												
HCM 2000 Control Delay			43.8				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			94.7				Sum of lost time (s)		16.5			
Intersection Capacity Utilization			73.5%				ICU Level of Service		D			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	16	30
Future Volume (vph)	16	30
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1636	1261
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1636	1261
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	17	32
RTOR Reduction (vph)	0	29
Lane Group Flow (vph)	17	3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	7%	18%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	7.0	7.0
Effective Green, g (s)	7.5	7.5
Actuated g/C Ratio	0.08	0.08
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	129	99
v/s Ratio Prot	c0.01	
v/s Ratio Perm		0.00
v/c Ratio	0.13	0.03
Uniform Delay, d1	40.6	40.2
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	40.9	40.3
Level of Service	D	D
Approach Delay (s)	40.5	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	3	28	963	11	1	1	964	14	22	13	8	2
Future Volume (vph)	3	28	963	11	1	1	964	14	22	13	8	2
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95				1.00	0.95	1.00	1.00		1.00
Frpb, 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	1.00	1.00				1.00	1.00	1.00	0.94		1.00
Flt Protected	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (prot)	1513	1533	3132				1646	2992	1630	1615		1630
Flt Permitted	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (perm)	1513	1533	3132				1646	2992	1630	1615		1630
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)	3	31	1058	12	1	1	1059	15	24	14	9	2
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	8	0	0
Lane Group Flow (vph)	3	31	1070	0	0	2	1073	0	24	15	0	2
Confl. Peds. (#/hr)		1						1				
Confl. Bikes (#/hr)				1								
Heavy Vehicles (%)	0%	3%	6%	2%	0%	2%	11%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	4.9	4.9	69.2				1.1	65.4	3.2	10.0		3.2
Effective Green, g (s)	4.9	4.9	69.7				1.1	65.9	3.2	10.0		3.2
Actuated g/C Ratio	0.05	0.05	0.70				0.01	0.66	0.03	0.10		0.03
Clearance Time (s)	4.0	4.0	4.5				4.0	4.5	4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2				2.5	6.2	2.5	2.5		2.5
Lane Grp Cap (vph)	74	75	2183				18	1971	52	161		52
v/s Ratio Prot	0.00	c0.02	c0.34				0.00	c0.36	c0.01	c0.01		0.00
v/s Ratio Perm												
v/c Ratio	0.04	0.41	0.49				0.11	0.54	0.46	0.09		0.04
Uniform Delay, d1	45.3	46.2	7.0				49.0	9.1	47.6	40.9		46.9
Progression Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	2.7	0.8				2.0	1.1	4.7	0.2		0.2
Delay (s)	45.5	48.8	7.8				51.0	10.2	52.2	41.1		47.1
Level of Service	D	D	A				D	B	D	D		D
Approach Delay (s)			9.0				10.2		46.8			
Approach LOS			A				B		D			
Intersection Summary												
HCM 2000 Control Delay			11.4				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			44.1%				ICU Level of Service		A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	SBT	SBR
Lane Configurations	3	1
Traffic Volume (vph)	3	61
Future Volume (vph)	3	61
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1469	
Flt Permitted	1.00	
Satd. Flow (perm)	1469	
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	3	67
RTOR Reduction (vph)	60	0
Lane Group Flow (vph)	10	0
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	10.0	
Effective Green, g (s)	10.0	
Actuated g/C Ratio	0.10	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	146	
v/s Ratio Prot	0.01	
v/s Ratio Perm		
v/c Ratio	0.07	
Uniform Delay, d1	40.8	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	40.9	
Level of Service	D	
Approach Delay (s)	41.1	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	142	609	194	61	400	66	321	156	107	95	166	151	
Future Volume (vph)	142	609	194	61	400	66	321	156	107	95	166	151	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00	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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1599	1522	1403	1409	1471	1374	1539	1683	1305	1511	1620	1262	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1599	1522	1403	1409	1471	1374	1539	1683	1305	1511	1620	1262	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	154	662	211	66	435	72	349	170	116	103	180	164	
RTOR Reduction (vph)	0	0	84	0	0	44	0	0	84	0	0	141	
Lane Group Flow (vph)	154	662	127	66	435	28	349	170	32	103	180	23	
Confl. Peds. (#/hr)	8					8	2					2	
Heavy Vehicles (%)	4%	15%	6%	18%	19%	4%	8%	4%	14%	10%	8%	15%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	13.2	51.8	51.8	5.7	44.3	44.3	26.8	31.6	31.6	10.5	15.3	15.3	
Effective Green, g (s)	13.7	52.8	52.8	6.2	45.3	45.3	27.3	32.6	32.6	11.0	16.3	16.3	
Actuated g/C Ratio	0.12	0.45	0.45	0.05	0.38	0.38	0.23	0.27	0.27	0.09	0.14	0.14	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	184	677	624	73	561	524	354	462	358	140	222	173	
v/s Ratio Prot	c0.10	c0.44		0.05	0.30		c0.23	0.10		0.07	c0.11		
v/s Ratio Perm			0.09			0.02			0.02			0.02	
v/c Ratio	0.84	0.98	0.20	0.90	0.78	0.05	0.99	0.37	0.09	0.74	0.81	0.13	
Uniform Delay, d1	51.4	32.3	20.1	55.9	32.2	23.1	45.5	34.7	32.0	52.4	49.7	44.9	
Progression 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	
Incremental Delay, d2	26.4	28.8	0.1	72.7	6.4	0.0	43.7	0.4	0.1	17.1	19.2	0.2	
Delay (s)	77.7	61.1	20.2	128.6	38.6	23.1	89.1	35.1	32.0	69.5	68.9	45.2	
Level of Service	E	E	C	F	D	C	F	D	C	E	E	D	
Approach Delay (s)		55.2			47.0			64.2			60.3		
Approach LOS		E			D			E			E		
Intersection Summary													
HCM 2000 Control Delay			56.4									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.96										
Actuated Cycle Length (s)			118.6									Sum of lost time (s)	16.0
Intersection Capacity Utilization			81.9%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary
 7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	142	609	194	61	400	66	321	156	107	95	166	151
Future Volume (veh/h)	142	609	194	61	400	66	321	156	107	95	166	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1695	1545	1668	1504	1491	1695	1641	1695	1559	1614	1641	1545
Adj Flow Rate, veh/h	154	662	211	66	435	72	349	170	116	103	180	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	15	6	18	19	4	8	4	14	10	8	15
Cap, veh/h	185	700	635	85	594	567	361	451	350	130	196	155
Arrive On Green	0.11	0.45	0.45	0.06	0.40	0.40	0.23	0.27	0.27	0.08	0.12	0.12
Sat Flow, veh/h	1615	1545	1401	1433	1491	1422	1563	1695	1316	1537	1641	1299
Grp Volume(v), veh/h	154	662	211	66	435	72	349	170	116	103	180	164
Grp Sat Flow(s),veh/h/ln	1615	1545	1401	1433	1491	1422	1563	1695	1316	1537	1641	1299
Q Serve(g_s), s	10.9	47.9	11.3	5.3	29.0	3.8	25.9	9.6	8.3	7.7	12.7	14.0
Cycle Q Clear(g_c), s	10.9	47.9	11.3	5.3	29.0	3.8	25.9	9.6	8.3	7.7	12.7	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	700	635	85	594	567	361	451	350	130	196	155
V/C Ratio(X)	0.83	0.95	0.33	0.77	0.73	0.13	0.97	0.38	0.33	0.79	0.92	1.06
Avail Cap(c_a), veh/h	199	727	659	98	619	591	361	451	350	158	196	155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	30.6	20.6	54.2	29.9	22.3	44.6	35.0	34.6	52.6	50.9	51.5
Incr Delay (d2), s/veh	23.2	20.6	0.2	26.1	4.0	0.1	38.6	0.4	0.4	18.6	41.3	87.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	21.0	3.8	2.5	10.8	1.3	13.9	4.1	2.7	3.6	7.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	51.2	20.8	80.3	33.9	22.4	83.2	35.4	35.0	71.1	92.2	139.1
LnGrp LOS	E	D	C	F	C	C	F	D	C	E	F	F
Approach Vol, veh/h		1027			573			635			447	
Approach Delay, s/veh		48.3			37.8			61.6			104.6	
Approach LOS		D			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	57.0	31.0	18.0	17.4	50.6	13.9	35.1				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	7.5	54.0	26.5	13.0	13.9	47.6	11.5	28.0				
Max Q Clear Time (g_c+I1), s	7.3	49.9	27.9	16.0	12.9	31.0	9.7	11.6				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	5.1	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	58.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖↗	↑↑	↗	↖	↑↗	
Traffic Volume (vph)	195	237	92	136	287	88	143	490	72	62	268	149
Future Volume (vph)	195	237	92	136	287	88	143	490	72	62	268	149
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1511	1446	1219	1421	1476		2932	2917	1181	1385	2713	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1511	1446	1219	1421	1476		2932	2917	1181	1385	2713	
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)	205	249	97	143	302	93	151	516	76	65	282	157
RTOR Reduction (vph)	0	0	63	0	10	0	0	0	55	0	62	0
Lane Group Flow (vph)	205	249	34	143	385	0	151	516	21	65	377	0
Heavy Vehicles (%)	10%	21%	22%	17%	16%	9%	10%	14%	26%	20%	16%	16%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	18.6	35.6	35.6	15.1	32.1		14.7	26.8	26.8	7.5	19.6	
Effective Green, g (s)	18.1	35.6	35.6	14.6	32.1		14.2	28.5	28.5	7.0	21.3	
Actuated g/C Ratio	0.18	0.35	0.35	0.14	0.32		0.14	0.28	0.28	0.07	0.21	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	268	506	426	203	465		409	817	330	95	568	
v/s Ratio Prot	c0.14	c0.17		0.10	c0.26		0.05	c0.18		0.05	c0.14	
v/s Ratio Perm			0.03						0.02			
v/c Ratio	0.76	0.49	0.08	0.70	0.83		0.37	0.63	0.06	0.68	0.66	
Uniform Delay, d1	39.8	26.0	22.1	41.5	32.3		39.7	32.0	26.8	46.3	36.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.7	0.6	0.1	9.8	11.4		0.4	1.4	0.1	17.0	2.6	
Delay (s)	51.5	26.5	22.2	51.3	43.6		40.1	33.4	26.9	63.3	39.5	
Level of Service	D	C	C	D	D		D	C	C	E	D	
Approach Delay (s)		35.0			45.7			34.1			42.6	
Approach LOS		D			D			C			D	

Intersection Summary

HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	101.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	237	92	136	287	88	143	490	72	62	268	149
Future Volume (veh/h)	195	237	92	136	287	88	143	490	72	62	268	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1463	1450	1518	1532	1627	1614	1559	1395	1477	1532	1532
Adj Flow Rate, veh/h	205	249	0	143	302	93	151	516	76	65	282	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	21	22	17	16	9	10	14	26	20	16	16
Cap, veh/h	237	508		164	344	106	222	823	329	67	405	219
Arrive On Green	0.15	0.35	0.00	0.11	0.31	0.31	0.07	0.28	0.28	0.05	0.22	0.20
Sat Flow, veh/h	1537	1463	1229	1446	1123	346	2981	2962	1182	1407	1823	986
Grp Volume(v), veh/h	205	249	0	143	0	395	151	516	76	65	223	216
Grp Sat Flow(s),veh/h/ln	1537	1463	1229	1446	0	1469	1491	1481	1182	1407	1455	1354
Q Serve(g_s), s	9.8	10.0	0.0	7.3	0.0	19.1	3.7	11.4	3.7	3.5	10.6	11.1
Cycle Q Clear(g_c), s	9.8	10.0	0.0	7.3	0.0	19.1	3.7	11.4	3.7	3.5	10.6	11.1
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	237	508		164	0	450	222	823	329	67	323	301
V/C Ratio(X)	0.86	0.49		0.87	0.00	0.88	0.68	0.63	0.23	0.96	0.69	0.72
Avail Cap(c_a), veh/h	451	960		401	0	941	445	1304	520	206	637	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	19.2	0.0	32.7	0.0	24.7	33.8	23.7	20.9	35.6	26.8	27.6
Incr Delay (d2), s/veh	7.0	0.5	0.0	10.2	0.0	4.3	2.7	0.6	0.3	35.9	2.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	3.2	0.0	2.8	0.0	6.4	1.3	3.7	1.0	1.8	3.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	19.8	0.0	42.9	0.0	28.9	36.6	24.3	21.2	71.6	28.8	30.0
LnGrp LOS	D	B		D	A	C	D	C	C	E	C	C
Approach Vol, veh/h		454			538			743			504	
Approach Delay, s/veh		28.0			32.6			26.4			34.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	20.6	15.6	27.0	7.6	24.8	12.5	30.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	11.7	* 31	22.5	48.0	11.5	31.3	21.3	49.2				
Max Q Clear Time (g_c+I1), s	5.7	13.1	11.8	21.1	5.5	13.4	9.3	12.0				
Green Ext Time (p_c), s	0.2	1.8	0.5	1.9	0.1	5.7	0.2	2.7				

Intersection Summary

HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	97	16	18	784	266	34
Future Volume (Veh/h)	97	16	18	784	266	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	102	17	19	825	280	36
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1162	298	316			
vC1, stage 1 conf vol	298					
vC2, stage 2 conf vol	864					
vCu, unblocked vol	1162	298	316			
tC, single (s)	6.6	6.3	4.1			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.4	2.2			
p0 queue free %	71	98	98			
cM capacity (veh/h)	355	716	1244			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	102	17	19	825	316	
Volume Left	102	0	19	0	0	
Volume Right	0	17	0	0	36	
cSH	355	716	1244	1700	1700	
Volume to Capacity	0.29	0.02	0.02	0.49	0.19	
Queue Length 95th (ft)	29	2	1	0	0	
Control Delay (s)	19.2	10.1	7.9	0.0	0.0	
Lane LOS	C	B	A			
Approach Delay (s)	17.9		0.2		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			57.3%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM 6th TWSC
9: Evergreen Rd & Stacey Allison Wy

11/04/2022

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	97	16	18	784	266	34
Future Vol, veh/h	97	16	18	784	266	34
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	19	13	2	2	2	19
Mvmt Flow	102	17	19	825	280	36

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1162	298	316	0	-	0
Stage 1	298	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Critical Hdwy	6.59	6.33	4.12	-	-	-
Critical Hdwy Stg 1	5.59	-	-	-	-	-
Critical Hdwy Stg 2	5.59	-	-	-	-	-
Follow-up Hdwy	3.671	3.417	2.218	-	-	-
Pot Cap-1 Maneuver	199	716	1244	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	196	716	1244	-	-	-
Mov Cap-2 Maneuver	305	-	-	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	386	-	-	-	-	-



















Approach	EB	NB	SB
HCM Control Delay, s	20.8	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1244	-	305	716	-	-
HCM Lane V/C Ratio	0.015	-	0.335	0.024	-	-
HCM Control Delay (s)	7.9	-	22.6	10.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

10: Evergreen Rd & Hayes St

11/04/2022

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Sign Control		Stop			Stop			Stop			Stop				
Traffic Volume (vph)	13	9	1	33	22	132	1	658	68	41	232	3			
Future Volume (vph)	13	9	1	33	22	132	1	658	68	41	232	3			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Hourly flow rate (vph)	15	10	1	37	25	148	1	739	76	46	261	3			
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2									
Volume Total (vph)	26	210	1	815	46	264									
Volume Left (vph)	15	37	1	0	46	0									
Volume Right (vph)	1	148	0	76	0	3									
Hadj (s)	0.13	-0.35	0.53	-0.03	0.53	0.04									
Departure Headway (s)	7.1	6.1	6.3	5.7	6.6	6.1									
Degree Utilization, x	0.05	0.35	0.00	1.29	0.08	0.44									
Capacity (veh/h)	467	569	562	644	533	579									
Control Delay (s)	10.5	12.3	8.1	157.9	9.0	12.6									
Approach Delay (s)	10.5	12.3	157.8		12.1										
Approach LOS	B	B	F		B										
Intersection Summary															
Delay			99.4												
Level of Service			F												
Intersection Capacity Utilization			60.9%				ICU Level of Service				B				
Analysis Period (min)			15												

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/04/2022

Intersection	
Intersection Delay, s/veh	101.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	13	9	1	33	22	132	1	658	68	41	232	3
Future Vol, veh/h	13	9	1	33	22	132	1	658	68	41	232	3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	15	10	1	37	25	148	1	739	76	46	261	3
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.3	13.3	160	13.6
HCM LOS	B	B	F	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	57%	18%	100%	0%
Vol Thru, %	0%	91%	39%	12%	0%	99%
Vol Right, %	0%	9%	4%	71%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	726	23	187	41	235
LT Vol	1	0	13	33	41	0
Through Vol	0	658	9	22	0	232
RT Vol	0	68	1	132	0	3
Lane Flow Rate	1	816	26	210	46	264
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.002	1.289	0.051	0.353	0.084	0.446
Departure Headway (Hd)	6.26	5.687	7.837	6.668	6.909	6.407
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	574	644	460	542	522	565
Service Time	3.971	3.398	5.837	4.668	4.609	4.107
HCM Lane V/C Ratio	0.002	1.267	0.057	0.387	0.088	0.467
HCM Control Delay	9	160.2	11.3	13.3	10.2	14.2
HCM Lane LOS	A	F	B	B	B	B
HCM 95th-tile Q	0	32.3	0.2	1.6	0.3	2.3

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	41	105	1	25	57	120	535	15	41	331	44
Future Volume (Veh/h)	42	41	105	1	25	57	120	535	15	41	331	44
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	49	48	122	1	29	66	140	622	17	48	385	51
Pedestrians	2			7			10					
Lane Width (ft)	12.0			12.0			12.0					
Walking Speed (ft/s)	3.5			3.5			3.5					
Percent Blockage	0			1			1					
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												1273
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	1500	1434	422	1580	1452	638	438				646	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1499	1432	380	1583	1450	638	396				646	
tC, single (s)	7.1	6.7	6.3	7.1	6.5	6.3	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.2	3.4	3.5	4.0	3.4	2.2				2.2	
p0 queue free %	13	51	80	97	72	86	87				95	
cM capacity (veh/h)	56	97	618	36	104	467	1116				933	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	49	170	96	779	484							
Volume Left	49	0	1	140	48							
Volume Right	0	122	66	17	51							
cSH	56	246	214	1116	933							
Volume to Capacity	0.87	0.69	0.45	0.13	0.05							
Queue Length 95th (ft)	97	113	53	11	4							
Control Delay (s)	201.5	46.9	34.9	3.0	1.5							
Lane LOS	F	E	D	A	A							
Approach Delay (s)	81.5		34.9	3.0	1.5							
Approach LOS	F		D									
Intersection Summary												
Average Delay			15.4									
Intersection Capacity Utilization			81.4%	ICU Level of Service				D				
Analysis Period (min)			15									

HCM 6th TWSC
11: Settlemier St & Hayes St

11/04/2022

Intersection												
Int Delay, s/veh	15.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	41	105	1	25	57	120	535	15	41	331	44
Future Vol, veh/h	42	41	105	1	25	57	120	535	15	41	331	44
Conflicting Peds, #/hr	0	0	10	10	0	0	2	0	7	7	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	20	10	2	2	6	2	9	3	2	6	3
Mvmt Flow	49	48	122	1	29	66	140	622	17	48	385	51

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1467	1435	423	1520	1452	638	438	0	0	646	0	0
Stage 1	509	509	-	918	918	-	-	-	-	-	-	-
Stage 2	958	926	-	602	534	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.7	6.3	7.12	6.52	6.26	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.7	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.7	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.18	3.39	3.518	4.018	3.354	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	105	122	614	97	130	469	1122	-	-	939	-	-
Stage 1	545	510	-	326	350	-	-	-	-	-	-	-
Stage 2	308	324	-	486	524	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	56	91	607	37	97	466	1120	-	-	933	-	-
Mov Cap-2 Maneuver	56	91	-	37	97	-	-	-	-	-	-	-
Stage 1	438	474	-	261	280	-	-	-	-	-	-	-
Stage 2	191	259	-	322	487	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	86	37.6	1.6	0.9
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	56	234	204	933	-	-
HCM Lane V/C Ratio	0.125	-	-	0.872	0.726	0.473	0.051	-	-
HCM Control Delay (s)	8.7	0	-	201.9	52.6	37.6	9.1	0	-
HCM Lane LOS	A	A	-	F	F	E	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	3.9	4.9	2.3	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	1	1	68	68	45
Future Volume (Veh/h)	121	1	1	68	68	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	142	1	1	80	80	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	188	106	133			
vC1, stage 1 conf vol	106					
vC2, stage 2 conf vol	82					
vCu, unblocked vol	188	106	133			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	100	100			
cM capacity (veh/h)	864	948	1452			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	143	1	80	133		
Volume Left	142	1	0	0		
Volume Right	1	0	0	53		
cSH	865	1452	1700	1700		
Volume to Capacity	0.17	0.00	0.05	0.08		
Queue Length 95th (ft)	15	0	0	0		
Control Delay (s)	10.0	7.5	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	10.0	0.1		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization			20.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/04/2022

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	121	1	1	68	68	45
Future Vol, veh/h	121	1	1	68	68	45
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	20	20	2
Mvmt Flow	142	1	1	80	80	53

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	189	107	133	0	0
Stage 1	107	-	-	-	-
Stage 2	82	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	800	947	1452	-	-
Stage 1	917	-	-	-	-
Stage 2	941	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	799	947	1452	-	-
Mov Cap-2 Maneuver	788	-	-	-	-
Stage 1	916	-	-	-	-
Stage 2	941	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1452	-	789	-	-
HCM Lane V/C Ratio	0.001	-	0.182	-	-
HCM Control Delay (s)	7.5	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	0	5	51	55	8
Future Volume (Veh/h)	6	0	5	51	55	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	0	6	60	65	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage (veh)					2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	142	70	74			
vC1, stage 1 conf vol	70					
vC2, stage 2 conf vol	72					
vCu, unblocked vol	142	70	74			
tC, single (s)	6.6	6.4	4.3			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.5	2.4			
p0 queue free %	99	100	100			
cM capacity (veh/h)	853	945	1419			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	7	66	74			
Volume Left	7	6	0			
Volume Right	0	0	9			
cSH	853	1419	1700			
Volume to Capacity	0.01	0.00	0.04			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.3	0.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.3	0.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			17.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 13: Evergreen Rd & North Access

11/04/2022

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	0	5	51	55	8
Future Vol, veh/h	6	0	5	51	55	8
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	85	85	85	85	85	85
Heavy Vehicles, %	20	20	20	10	10	20
Mvmt Flow	7	0	6	60	65	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	142	70	74	0	0
Stage 1	70	-	-	-	-
Stage 2	72	-	-	-	-
Critical Hdwy	6.6	6.4	4.3	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.38	-	-
Pot Cap-1 Maneuver	810	945	1419	-	-
Stage 1	909	-	-	-	-
Stage 2	907	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	807	945	1419	-	-
Mov Cap-2 Maneuver	782	-	-	-	-
Stage 1	905	-	-	-	-
Stage 2	907	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1419	-	782	-	-
HCM Lane V/C Ratio	0.004	-	0.009	-	-
HCM Control Delay (s)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access




11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	34	36	42	25	30
Future Volume (Veh/h)	14	34	36	42	25	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	16	40	42	49	29	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	180	46	64			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	180	46	64			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	96	97			
cM capacity (veh/h)	788	1023	1538			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	56	91	64			
Volume Left	16	42	0			
Volume Right	40	0	35			
cSH	943	1538	1700			
Volume to Capacity	0.06	0.03	0.04			
Queue Length 95th (ft)	5	2	0			
Control Delay (s)	9.1	3.5	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.1	3.5	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			21.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
14: Evergreen Rd & South Access

11/04/2022

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	34	36	42	25	30
Future Vol, veh/h	14	34	36	42	25	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	10	10	2
Mvmt Flow	16	40	42	49	29	35

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	180	47	64	0	0
Stage 1	47	-	-	-	-
Stage 2	133	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	810	1022	1538	-	-
Stage 1	975	-	-	-	-
Stage 2	893	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	787	1022	1538	-	-
Mov Cap-2 Maneuver	787	-	-	-	-
Stage 1	948	-	-	-	-
Stage 2	893	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	3.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1538	-	940	-	-
HCM Lane V/C Ratio	0.028	-	0.06	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	8	32	130	12	36	28	33	132	18	27	15
Future Volume (vph)	9	8	32	130	12	36	28	33	132	18	27	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	11	9	38	153	14	42	33	39	155	21	32	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	58	209	227	71								
Volume Left (vph)	11	153	33	21								
Volume Right (vph)	38	42	155	18								
Hadj (s)	-0.22	0.11	-0.32	-0.04								
Departure Headway (s)	4.6	4.8	4.3	4.8								
Degree Utilization, x	0.07	0.28	0.27	0.09								
Capacity (veh/h)	703	708	784	692								
Control Delay (s)	8.0	9.6	9.0	8.3								
Approach Delay (s)	8.0	9.6	9.0	8.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.0									
Level of Service			A									
Intersection Capacity Utilization			38.0%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	8	32	130	12	36	28	33	132	18	27	15
Future Vol, veh/h	9	8	32	130	12	36	28	33	132	18	27	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	11	9	38	153	14	42	33	39	155	21	32	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	9.6	9	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	18%	73%	30%
Vol Thru, %	17%	16%	7%	45%
Vol Right, %	68%	65%	20%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	49	178	60
LT Vol	28	9	130	18
Through Vol	33	8	12	27
RT Vol	132	32	36	15
Lane Flow Rate	227	58	209	71
Geometry Grp	1	1	1	1
Degree of Util (X)	0.273	0.073	0.277	0.093
Departure Headway (Hd)	4.335	4.562	4.763	4.749
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	829	782	752	752
Service Time	2.367	2.609	2.802	2.79
HCM Lane V/C Ratio	0.274	0.074	0.278	0.094
HCM Control Delay	9	8	9.6	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.2	1.1	0.3

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	30	38	16	19	0
Future Volume (Veh/h)	0	30	38	16	19	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	35	45	19	22	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	64				90	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64				90	54
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				98	100
cM capacity (veh/h)	1489				892	990
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	35	64	22			
Volume Left	0	0	22			
Volume Right	0	19	0			
cSH	1489	1700	892			
Volume to Capacity	0.00	0.04	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM 6th TWSC
 16: Industrial Road & East Access

11/04/2022

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	30	38	16	19	0
Future Vol, veh/h	0	30	38	16	19	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	35	45	19	22	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	64	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.2	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.29	-	-
Pot Cap-1 Maneuver	1489	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1489	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	891
HCM Lane V/C Ratio	-	-	-	-	0.025
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	0	0	38	30	0
Future Volume (Veh/h)	0	0	0	38	30	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	45	35	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	45				22	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45				22	22
tC, single (s)	4.2				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	100				96	100
cM capacity (veh/h)	1513				950	1005
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	45	35			
Volume Left	0	0	35			
Volume Right	0	45	0			
cSH	1700	1700	950			
Volume to Capacity	0.00	0.03	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
17: Industrial Road & West Access

11/04/2022

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	38	30	0
Future Vol, veh/h	0	0	0	38	30	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	85	85	85	85	85	85
Heavy Vehicles, %	10	20	10	20	20	20
Mvmt Flow	0	0	0	45	35	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	45	0	-	0	23
Stage 1	-	-	-	-	23
Stage 2	-	-	-	-	0
Critical Hdwy	4.2	-	-	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.6
Critical Hdwy Stg 2	-	-	-	-	5.6
Follow-up Hdwy	2.29	-	-	-	3.68
Pot Cap-1 Maneuver	1513	-	-	-	949
Stage 1	-	-	-	-	955
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1513	-	-	-	949
Mov Cap-2 Maneuver	-	-	-	-	949
Stage 1	-	-	-	-	955
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1513	-	-	-	949
HCM Lane V/C Ratio	-	-	-	-	0.037
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	162	153	7	5	8
Future Volume (Veh/h)	7	162	153	7	5	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	10	228	215	10	7	11
Pedestrians		2	6		1	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	226				475	223
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226				475	223
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1335				541	814
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	238	225	18			
Volume Left	10	0	7			
Volume Right	0	10	11			
cSH	1335	1700	680			
Volume to Capacity	0.01	0.13	0.03			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.4	0.0	10.4			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	10.4			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			26.1%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	7	162	153	7	5	8
Future Vol, veh/h	7	162	153	7	5	8
Conflicting Peds, #/hr	1	0	0	0	6	2
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	71	71	71	71	71	71
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	10	228	215	10	7	11





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	226	0	-	0	475 223
Stage 1	-	-	-	-	221 -
Stage 2	-	-	-	-	254 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1337	-	-	-	548 817
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	788 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1336	-	-	-	542 815
Mov Cap-2 Maneuver	-	-	-	-	542 -
Stage 1	-	-	-	-	808 -
Stage 2	-	-	-	-	787 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1336	-	-	-	683
HCM Lane V/C Ratio	0.007	-	-	-	0.027
HCM Control Delay (s)	7.7	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	95	54	48	25	72	2	75	123	26	3	91	87
Future Volume (vph)	95	54	48	25	72	2	75	123	26	3	91	87
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	108	61	55	28	82	2	85	140	30	3	103	99
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	108	116	28	84	225	30	106	99				
Volume Left (vph)	108	0	28	0	85	0	3	0				
Volume Right (vph)	0	55	0	2	0	30	0	99				
Hadj (s)	0.58	-0.29	0.53	0.02	0.28	-0.63	0.10	-0.63				
Departure Headway (s)	6.5	5.6	6.6	6.0	6.0	5.1	5.9	5.1				
Degree Utilization, x	0.19	0.18	0.05	0.14	0.37	0.04	0.17	0.14				
Capacity (veh/h)	526	607	510	554	580	672	581	661				
Control Delay (s)	9.8	8.6	8.7	8.8	11.3	7.1	8.9	7.8				
Approach Delay (s)	9.2		8.8		10.8		8.4					
Approach LOS	A		A		B		A					
Intersection Summary												
Delay			9.4									
Level of Service			A									
Intersection Capacity Utilization			37.2%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	54	48	25	72	2	75	123	26	3	91	87
Future Vol, veh/h	95	54	48	25	72	2	75	123	26	3	91	87
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	5	3	2	2	2	2	5	6	4	2	5	4
Mvmt Flow	108	61	55	28	82	2	85	140	30	3	103	99
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.3	9.9	11.9	9.4
HCM LOS	B	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	38%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	62%	0%	0%	53%	0%	97%	97%	0%
Vol Right, %	0%	100%	0%	47%	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	26	95	102	25	74	94	87
LT Vol	75	0	95	0	25	0	3	0
Through Vol	123	0	0	54	0	72	91	0
RT Vol	0	26	0	48	0	2	0	87
Lane Flow Rate	225	30	108	116	28	84	107	99
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.379	0.042	0.197	0.183	0.053	0.144	0.176	0.144
Departure Headway (Hd)	6.057	5.176	6.566	5.692	6.692	6.166	5.923	5.25
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	594	692	547	631	536	582	607	683
Service Time	3.784	2.903	4.296	3.422	4.427	3.901	3.652	2.98
HCM Lane V/C Ratio	0.379	0.043	0.197	0.184	0.052	0.144	0.176	0.145
HCM Control Delay	12.4	8.1	10.9	9.7	9.8	9.9	9.9	8.9
HCM Lane LOS	B	A	B	A	A	A	A	A
HCM 95th-tile Q	1.8	0.1	0.7	0.7	0.2	0.5	0.6	0.5

HCM Unsignalized Intersection Capacity Analysis
 22: Butteville Rd & Parr Rd

11/04/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	27	137	178	34	93	91
Future Volume (Veh/h)	27	137	178	34	93	91
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	30	152	198	38	103	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	524	217			236	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524	217			236	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	94	81			92	
cM capacity (veh/h)	474	813			1319	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	182	236	204			
Volume Left	30	0	103			
Volume Right	152	38	0			
cSH	727	1700	1319			
Volume to Capacity	0.25	0.14	0.08			
Queue Length 95th (ft)	25	0	6			
Control Delay (s)	11.6	0.0	4.3			
Lane LOS	B		A			
Approach Delay (s)	11.6	0.0	4.3			
Approach LOS	B					
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization			44.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/04/2022

Intersection						
Int Delay, s/veh	4.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	137	178	34	93	91
Future Vol, veh/h	27	137	178	34	93	91
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	90	90	90	90	90	90
Heavy Vehicles, %	2	6	2	2	4	3
Mvmt Flow	30	152	198	38	103	101

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	524	217	0	0	236	0
Stage 1	217	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Critical Hdwy	6.42	6.26	-	-	4.14	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.354	-	-	2.236	-
Pot Cap-1 Maneuver	514	813	-	-	1319	-
Stage 1	819	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	471	813	-	-	1319	-
Mov Cap-2 Maneuver	471	-	-	-	-	-
Stage 1	819	-	-	-	-	-
Stage 2	684	-	-	-	-	-

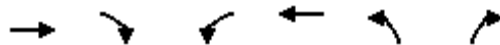
Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	726	1319
HCM Lane V/C Ratio	-	-	0.251	0.078
HCM Control Delay (s)	-	-	11.6	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.3

HCM Unsignalized Intersection Capacity Analysis

1: Butteville Rd & OR 219

11/03/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→	↘	↙	←	↘	↙
Traffic Volume (veh/h)	407	156	165	241	62	103
Future Volume (Veh/h)	407	156	165	241	62	103
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	457	175	185	271	70	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			632			544
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			632			544
tC, single (s)			4.1			6.3
tC, 2 stage (s)						
tF (s)			2.2			3.4
p0 queue free %			81			78
cM capacity (veh/h)			951			531
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	632	456	186			
Volume Left	0	185	70			
Volume Right	175	0	116			
cSH	1700	951	289			
Volume to Capacity	0.37	0.19	0.64			
Queue Length 95th (ft)	0	18	102			
Control Delay (s)	0.0	5.3	37.4			
Lane LOS			A	E		
Approach Delay (s)	0.0	5.3	37.4			
Approach LOS			E			
Intersection Summary						
Average Delay			7.3			
Intersection Capacity Utilization			77.8%	ICU Level of Service		D
Analysis Period (min)			15			

HCM 6th TWSC
1: Butteville Rd & OR 219

11/03/2022

Intersection

Int Delay, s/veh 7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	407	156	165	241	62	103
Future Vol, veh/h	407	156	165	241	62	103
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	89	89	89	89	89	89
Heavy Vehicles, %	2	4	2	3	6	6
Mvmt Flow	457	175	185	271	70	116

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	632	0	1186
Stage 1	-	-	-	-	545
Stage 2	-	-	-	-	641
Critical Hdwy	-	-	4.12	-	6.46
Critical Hdwy Stg 1	-	-	-	-	5.46
Critical Hdwy Stg 2	-	-	-	-	5.46
Follow-up Hdwy	-	-	2.218	-	3.554
Pot Cap-1 Maneuver	-	-	951	-	205
Stage 1	-	-	-	-	573
Stage 2	-	-	-	-	517
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	951	-	158
Mov Cap-2 Maneuver	-	-	-	-	158
Stage 1	-	-	-	-	573
Stage 2	-	-	-	-	399

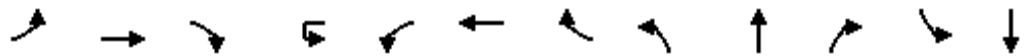
Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	39.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	281	-	-	951	-
HCM Lane V/C Ratio	0.66	-	-	0.195	-
HCM Control Delay (s)	39.6	-	-	9.7	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	4.3	-	-	0.7	-

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	62	411	2	26	32	366	190	6	2	66	563	5
Future Volume (vph)	62	411	2	26	32	366	190	6	2	66	563	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3197	1436		1503	3260	1445	1385	1204		1548	1515
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3197	1436		1503	3260	1445	1385	1204		1548	1515
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)	65	433	2	27	34	385	200	6	2	69	593	5
RTOR Reduction (vph)	0	0	1	0	0	0	86	0	62	0	0	5
Lane Group Flow (vph)	65	433	1	0	61	385	114	6	9	0	332	318
Confl. Peds. (#/hr)	1		1		1		1	1				
Confl. Bikes (#/hr)			1							1		
Heavy Vehicles (%)	2%	4%	2%	0%	19%	2%	2%	20%	2%	23%	2%	20%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	7.4	18.7	26.4		7.1	18.4	41.5	7.7	7.7		23.1	23.1
Effective Green, g (s)	7.4	19.2	26.4		7.1	18.9	41.5	7.7	7.7		23.1	23.1
Actuated g/C Ratio	0.10	0.26	0.36		0.10	0.26	0.57	0.11	0.11		0.32	0.32
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	165	839	518		145	842	820	145	126		489	478
v/s Ratio Prot	0.04	c0.14	0.00		0.04	c0.12	0.04	0.00	c0.01		c0.21	0.21
v/s Ratio Perm			0.00				0.03					
v/c Ratio	0.39	0.52	0.00		0.42	0.46	0.14	0.04	0.07		0.68	0.66
Uniform Delay, d1	30.8	23.0	14.9		31.1	22.8	7.4	29.4	29.5		21.8	21.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.1	0.8	0.0		1.4	0.6	0.1	0.1	0.2		3.4	3.1
Delay (s)	31.9	23.8	14.9		32.5	23.4	7.5	29.5	29.7		25.2	24.8
Level of Service	C	C	B		C	C	A	C	C		C	C
Approach Delay (s)		24.8				19.3			29.7			25.0
Approach LOS		C				B			C			C
Intersection Summary												
HCM 2000 Control Delay			23.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			73.1			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			52.8%			ICU Level of Service			A			
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis
 2: Woodland Avenue & OR 219/OR 214

11/03/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	54
Future Volume (vph)	54
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	57
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (vph)	0	721	351	0	737	603	0	0	0	505	0	298
Future Volume (vph)	0	721	351	0	737	603	0	0	0	505	0	298
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00
Frbp, ped/bikes		1.00	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
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3228	1444		3260	1426				3131		1417
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3228	1444		3260	1426				3131		1417
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	743	362	0	760	622	0	0	0	521	0	307
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	108
Lane Group Flow (vph)	0	743	362	0	760	622	0	0	0	521	0	199
Confl. Peds. (#/hr)	4					4						
Heavy Vehicles (%)	0%	3%	3%	0%	2%	2%	0%	0%	0%	3%	0%	5%
Turn Type		NA	Free		NA	Free				Prot		Perm
Protected Phases		2			6					4		
Permitted Phases			Free			Free						4
Actuated Green, G (s)		39.6	64.0		39.6	64.0				15.4		15.4
Effective Green, g (s)		40.1	64.0		40.1	64.0				15.9		15.9
Actuated g/C Ratio		0.63	1.00		0.63	1.00				0.25		0.25
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			6.0					2.5		2.5
Lane Grp Cap (vph)		2022	1444		2042	1426				777		352
v/s Ratio Prot		0.23			0.23					c0.17		
v/s Ratio Perm			0.25			c0.44						0.14
v/c Ratio		0.37	0.25		0.37	0.44				0.67		0.56
Uniform Delay, d1		5.8	0.0		5.8	0.0				21.7		21.0
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.5	0.4		0.3	1.0				2.1		1.7
Delay (s)		6.3	0.4		6.1	1.0				23.8		22.7
Level of Service		A	A		A	A				C		C
Approach Delay (s)		4.4			3.8			0.0			23.4	
Approach LOS		A			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			8.9									A
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			64.0							8.0		
Intersection Capacity Utilization			48.8%									A
ICU Level of Service												
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

3: OR 214 & I-5 SB Ramp

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (veh/h)	0	721	351	0	737	603	0	0	0	505	0	298
Future Volume (veh/h)	0	721	351	0	737	603	0	0	0	505	0	298
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1709	1709	0	1723	1723				1709	0	1682
Adj Flow Rate, veh/h	0	743	0	0	760	0				521	0	307
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	0	2	2				3	0	5
Cap, veh/h	0	1913		0	1928					903	0	408
Arrive On Green	0.00	0.59	0.00	0.00	0.59	0.00				0.29	0.00	0.29
Sat Flow, veh/h	0	3333	1448	0	3359	1460				3158	0	1425
Grp Volume(v), veh/h	0	743	0	0	760	0				521	0	307
Grp Sat Flow(s),veh/h/ln	0	1624	1448	0	1637	1460				1579	0	1425
Q Serve(g_s), s	0.0	7.8	0.0	0.0	8.0	0.0				9.0	0.0	12.5
Cycle Q Clear(g_c), s	0.0	7.8	0.0	0.0	8.0	0.0				9.0	0.0	12.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1913		0	1928					903	0	408
V/C Ratio(X)	0.00	0.39		0.00	0.39					0.58	0.00	0.75
Avail Cap(c_a), veh/h	0	1913		0	1928					1184	0	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.00	0.00	0.80	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.0	0.0	0.0	7.0	0.0				19.5	0.0	20.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.4	0.0				0.4	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	0.0	0.0	2.2	0.0				3.0	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.5	0.0	0.0	7.4	0.0				20.0	0.0	24.5
LnGrp LOS	A	A		A	A					B	A	C
Approach Vol, veh/h		743			760						828	
Approach Delay, s/veh		7.5			7.4						21.7	
Approach LOS		A			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		41.7		22.3		41.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		14.5		0.0						
Green Ext Time (p_c), s		0.0		3.3		0.0						

Intersection Summary

HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

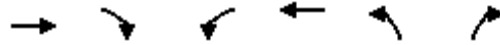
Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/03/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	1009	175	0	1120	242	496
Future Volume (vph)	1009	175	0	1120	242	496
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frbp, ped/bikes	1.00	0.98		1.00	0.99	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.92	0.85
Flt Protected	1.00	1.00		1.00	0.98	1.00
Satd. Flow (prot)	3260	1374		3260	2909	1259
Flt Permitted	1.00	1.00		1.00	0.98	1.00
Satd. Flow (perm)	3260	1374		3260	2909	1259
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1030	179	0	1143	247	506
RTOR Reduction (vph)	0	77	0	0	56	56
Lane Group Flow (vph)	1030	102	0	1143	444	197
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	6%	0%	2%	2%	6%
Turn Type	NA	Perm		NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases		2				8
Actuated Green, G (s)	56.7	56.7		56.7	33.4	33.4
Effective Green, g (s)	57.2	57.2		57.2	34.1	34.1
Actuated g/C Ratio	0.57	0.57		0.57	0.34	0.34
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1864	785		1864	991	429
v/s Ratio Prot	0.32			c0.35	0.15	
v/s Ratio Perm		0.07				c0.16
v/c Ratio	0.55	0.13		0.61	0.45	0.46
Uniform Delay, d1	13.4	9.9		14.1	25.6	25.7
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	0.3		1.1	0.2	0.6
Delay (s)	14.6	10.2		15.2	25.9	26.3
Level of Service	B	B		B	C	C
Approach Delay (s)	13.9			15.2	26.0	
Approach LOS	B			B	C	

Intersection Summary

HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/03/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (vph)	38	76	916	126	11	212	746	17	335	26	158	27
Future Volume (vph)	38	76	916	126	11	212	746	17	335	26	158	27
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.0	4.0		4.5	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	1.00	1.00
Frbp, ped/bikes		1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.99	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	1.00	0.85		1.00	1.00		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (prot)		1609	3197	1458		1632	3128		1548	1559	1439	1630
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		1609	3197	1458		1632	3128		1548	1559	1439	1630
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)	41	82	985	135	12	228	802	18	360	28	170	29
RTOR Reduction (vph)	0	0	0	79	0	0	2	0	0	0	141	0
Lane Group Flow (vph)	0	123	985	56	0	240	818	0	194	194	29	29
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)								2			1	
Heavy Vehicles (%)	0%	5%	4%	2%	0%	2%	6%	2%	2%	4%	2%	2%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split
Protected Phases	5	5	2		1	1	6		7	7		4
Permitted Phases				2							7	
Actuated Green, G (s)		11.0	40.7	40.7		19.3	49.0		16.7	16.7	16.7	5.8
Effective Green, g (s)		10.5	41.2	41.2		18.8	49.5		17.2	17.2	17.2	6.3
Actuated g/C Ratio		0.10	0.41	0.41		0.19	0.50		0.17	0.17	0.17	0.06
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)		168	1317	600		306	1548		266	268	247	102
v/s Ratio Prot		0.08	c0.31			c0.15	0.26		c0.13	0.12		0.02
v/s Ratio Perm				0.04								0.02
v/c Ratio		0.73	0.75	0.09		0.78	0.53		0.73	0.72	0.12	0.28
Uniform Delay, d1		43.4	25.0	18.0		38.7	17.3		39.2	39.2	35.0	44.7
Progression Factor		0.95	0.95	1.72		0.72	1.99		1.00	1.00	1.00	1.00
Incremental Delay, d2		13.1	3.6	0.3		9.8	0.7		9.0	8.8	0.2	1.1
Delay (s)		54.4	27.4	31.2		37.8	35.1		48.2	47.9	35.1	45.8
Level of Service		D	C	C		D	D		D	D	D	D
Approach Delay (s)			30.5			35.7			44.1			
Approach LOS			C			D			D			
Intersection Summary												
HCM 2000 Control Delay			35.5			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.5			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/03/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	29	75
Future Volume (vph)	29	75
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	0.99
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1699	1333
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1699	1333
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	31	81
RTOR Reduction (vph)	0	76
Lane Group Flow (vph)	31	5
Confl. Peds. (#/hr)		2
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	10%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	5.8	5.8
Effective Green, g (s)	6.3	6.3
Actuated g/C Ratio	0.06	0.06
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	107	83
v/s Ratio Prot	c0.02	
v/s Ratio Perm		0.00
v/c Ratio	0.29	0.06
Uniform Delay, d1	44.7	44.1
Progression Factor	1.00	1.00
Incremental Delay, d2	1.1	0.2
Delay (s)	45.8	44.3
Level of Service	D	D
Approach Delay (s)	44.9	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/03/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	14	116	1014	26	1	27	906	37	14	16	8	56
Future Volume (vph)	14	116	1014	26	1	27	906	37	14	16	8	56
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95				1.00	0.95	1.00	1.00		1.00
Frpb, 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	1.00	1.00				1.00	0.99	1.00	0.95		1.00
Flt Protected	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (prot)	1513	1549	3182				1631	3208	1630	1622		1630
Flt Permitted	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (perm)	1513	1549	3182				1631	3208	1630	1622		1630
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)	16	129	1127	29	1	30	1007	41	16	18	9	62
RTOR Reduction (vph)	0	0	1	0	0	0	3	0	0	8	0	0
Lane Group Flow (vph)	14	131	1155	0	0	31	1045	0	16	19	0	62
Confl. Peds. (#/hr)				11		11			5		2	2
Confl. Bikes (#/hr)				1				2				
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	19.2	19.2	60.9				4.8	46.5	2.9	9.4		8.4
Effective Green, g (s)	19.2	19.2	61.4				4.8	47.0	2.9	9.4		8.4
Actuated g/C Ratio	0.19	0.19	0.61				0.05	0.47	0.03	0.09		0.08
Clearance Time (s)	4.0	4.0	4.5				4.0	4.5	4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2				2.5	6.2	2.5	2.5		2.5
Lane Grp Cap (vph)	290	297	1953				78	1507	47	152		136
v/s Ratio Prot	0.01	c0.08	c0.36				0.02	c0.33	0.01	0.01		c0.04
v/s Ratio Perm												
v/c Ratio	0.05	0.44	0.59				0.40	0.69	0.34	0.12		0.46
Uniform Delay, d1	32.9	35.7	11.7				46.2	20.8	47.6	41.5		43.6
Progression Factor	1.35	1.23	0.61				1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.0	0.6	1.1				2.4	2.6	3.1	0.3		1.8
Delay (s)	44.4	44.6	8.2				48.6	23.5	50.7	41.8		45.4
Level of Service	D	D	A				D	C	D	D		D
Approach Delay (s)			12.3				24.2		45.1			
Approach LOS			B				C		D			
Intersection Summary												
HCM 2000 Control Delay			19.7				HCM 2000 Level of Service					B
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			57.4%				ICU Level of Service					B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/03/2022



























Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	24	86
Future Volume (vph)	24	86
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frbp, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.88	
Flt Protected	1.00	
Satd. Flow (prot)	1495	
Flt Permitted	1.00	
Satd. Flow (perm)	1495	
Peak-hour factor, PHF	0.90	0.90
Adj. Flow (vph)	27	96
RTOR Reduction (vph)	82	0
Lane Group Flow (vph)	41	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	14.9	
Effective Green, g (s)	14.9	
Actuated g/C Ratio	0.15	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	222	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.19	
Uniform Delay, d1	37.2	
Progression Factor	1.00	
Incremental Delay, d2	0.3	
Delay (s)	37.5	
Level of Service	D	
Approach Delay (s)	40.2	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/03/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	92	562	328	80	576	82	252	111	81	118	192	127	
Future Volume (vph)	92	562	328	80	576	82	252	111	81	118	192	127	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96	
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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1630	1651	1420	1630	1651	1399	1599	1716	1424	1614	1683	1407	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1630	1651	1420	1630	1651	1399	1599	1716	1424	1614	1683	1407	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	96	585	342	83	600	85	262	116	84	123	200	132	
RTOR Reduction (vph)	0	0	156	0	0	48	0	0	65	0	0	112	
Lane Group Flow (vph)	96	585	186	83	600	37	263	116	19	123	200	20	
Confl. Peds. (#/hr)			3	3			4					4	
Confl. Bikes (#/hr)						2			2			3	
Heavy Vehicles (%)	2%	6%	2%	2%	6%	4%	4%	2%	2%	3%	4%	2%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	8.1	47.4	47.4	8.3	47.6	47.6	19.9	24.2	24.2	11.6	15.9	15.9	
Effective Green, g (s)	8.6	48.4	48.4	8.8	48.6	48.6	20.4	25.2	25.2	12.1	16.9	16.9	
Actuated g/C Ratio	0.08	0.44	0.44	0.08	0.44	0.44	0.18	0.23	0.23	0.11	0.15	0.15	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	126	723	621	129	726	615	295	391	324	176	257	215	
v/s Ratio Prot	c0.06	0.35		0.05	c0.36		c0.16	0.07		0.08	c0.12		
v/s Ratio Perm			0.13			0.03			0.01			0.01	
v/c Ratio	0.76	0.81	0.30	0.64	0.83	0.06	0.89	0.30	0.06	0.70	0.78	0.09	
Uniform Delay, d1	49.9	27.0	20.1	49.3	27.2	17.8	44.0	35.3	33.4	47.4	45.0	40.2	
Progression 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	
Incremental Delay, d2	22.5	6.5	0.2	9.3	7.5	0.0	26.7	0.3	0.1	10.6	13.3	0.1	
Delay (s)	72.5	33.5	20.3	58.7	34.7	17.8	70.6	35.6	33.4	58.1	58.3	40.4	
Level of Service	E	C	C	E	C	B	E	D	C	E	E	D	
Approach Delay (s)		32.7			35.5			55.1			53.0		
Approach LOS		C			D			E			D		
Intersection Summary													
HCM 2000 Control Delay			40.7									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.83										
Actuated Cycle Length (s)			110.5									Sum of lost time (s)	16.0
Intersection Capacity Utilization			79.2%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

7: Settlemier St/Boones Ferry Rd & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	562	328	80	576	82	252	111	81	118	192	127
Future Volume (veh/h)	92	562	328	80	576	82	252	111	81	118	192	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1668	1723	1723	1668	1695	1695	1723	1723	1709	1695	1723
Adj Flow Rate, veh/h	96	585	342	83	600	85	262	116	84	123	200	132
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	6	2	2	6	4	4	2	2	3	4	2
Cap, veh/h	126	742	647	112	728	611	297	403	331	157	248	205
Arrive On Green	0.08	0.44	0.44	0.07	0.44	0.44	0.18	0.23	0.23	0.10	0.15	0.15
Sat Flow, veh/h	1641	1668	1455	1641	1668	1401	1615	1723	1414	1628	1695	1400
Grp Volume(v), veh/h	96	585	342	83	600	85	262	116	84	123	200	132
Grp Sat Flow(s),veh/h/ln	1641	1668	1455	1641	1668	1401	1615	1723	1414	1628	1695	1400
Q Serve(g_s), s	5.9	30.6	17.4	5.1	32.3	3.7	16.1	5.6	4.9	7.5	11.7	9.1
Cycle Q Clear(g_c), s	5.9	30.6	17.4	5.1	32.3	3.7	16.1	5.6	4.9	7.5	11.7	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	126	742	647	112	728	611	297	403	331	157	248	205
V/C Ratio(X)	0.76	0.79	0.53	0.74	0.82	0.14	0.88	0.29	0.25	0.79	0.81	0.64
Avail Cap(c_a), veh/h	137	898	783	209	972	816	316	403	331	223	266	219
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	24.2	20.6	46.7	25.3	17.3	40.6	32.1	31.9	45.1	42.2	41.1
Incr Delay (d2), s/veh	19.4	3.6	0.5	7.0	4.0	0.1	22.7	0.3	0.3	9.5	15.0	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	12.2	5.9	2.3	12.9	1.2	8.3	2.4	1.7	3.4	5.8	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	27.8	21.1	53.7	29.3	17.4	63.3	32.4	32.2	54.6	57.2	46.2
LnGrp LOS	E	C	C	D	C	B	E	C	C	D	E	D
Approach Vol, veh/h		1023			768			462			455	
Approach Delay, s/veh		29.1			30.6			49.9			53.3	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	49.4	22.8	19.0	11.8	48.6	13.8	27.9				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	12.5	54.0	19.5	15.0	8.0	58.5	13.5	21.0				
Max Q Clear Time (g_c+I1), s	7.1	32.6	18.1	13.7	7.9	34.3	9.5	7.6				
Green Ext Time (p_c), s	0.1	4.2	0.1	0.2	0.0	9.2	0.1	0.2				

Intersection Summary

HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	333	244	245	266	48	245	418	97	137	777	156
Future Volume (vph)	174	333	244	245	266	48	245	418	97	137	777	156
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	3.5	4.0		3.5	4.0	4.0	3.5	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		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	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1554	1636	1400	1614	1593		3131	3079	1233	1583	3049	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1554	1636	1400	1614	1593		3131	3079	1233	1583	3049	
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)	183	351	257	258	280	51	258	440	102	144	818	164
RTOR Reduction (vph)	0	0	197	0	4	0	0	0	68	0	13	0
Lane Group Flow (vph)	183	351	60	258	327	0	258	440	34	144	969	0
Confl. Peds. (#/hr)	1		10	10		1	4		1	1		4
Heavy Vehicles (%)	7%	7%	4%	3%	8%	2%	3%	8%	18%	5%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	18.6	28.7	28.7	22.6	32.7		15.0	39.3	39.3	15.4	39.7	
Effective Green, g (s)	18.1	28.7	28.7	22.6	32.7		15.0	41.0	41.0	15.4	41.4	
Actuated g/C Ratio	0.15	0.23	0.23	0.18	0.27		0.12	0.33	0.33	0.13	0.34	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	229	382	327	297	424		382	1028	412	198	1028	
v/s Ratio Prot	0.12	c0.21		c0.16	0.20		c0.08	0.14		0.09	c0.32	
v/s Ratio Perm			0.04						0.03			
v/c Ratio	0.80	0.92	0.18	0.87	0.77		0.68	0.43	0.08	0.73	0.94	
Uniform Delay, d1	50.5	45.9	37.6	48.6	41.5		51.5	31.7	28.0	51.6	39.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	17.0	26.5	0.2	22.3	8.1		4.2	0.2	0.1	11.8	16.1	
Delay (s)	67.5	72.3	37.8	71.0	49.6		55.8	31.9	28.0	63.4	55.6	
Level of Service	E	E	D	E	D		E	C	C	E	E	
Approach Delay (s)		60.0			59.0			39.1			56.6	
Approach LOS		E			E			D			E	
Intersection Summary												
HCM 2000 Control Delay			53.6				HCM 2000 Level of Service		D			
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			122.7				Sum of lost time (s)		15.5			
Intersection Capacity Utilization			87.5%				ICU Level of Service		E			
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	333	244	245	266	48	245	418	97	137	777	156
Future Volume (veh/h)	174	333	244	245	266	48	245	418	97	137	777	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1654	1654	1695	1709	1641	1723	1709	1641	1504	1682	1668	1668
Adj Flow Rate, veh/h	183	351	0	258	280	51	258	440	102	144	818	164
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	4	3	8	2	3	8	18	5	6	6
Cap, veh/h	206	375		285	360	66	326	1096	446	184	903	181
Arrive On Green	0.13	0.23	0.00	0.18	0.27	0.27	0.10	0.35	0.35	0.11	0.34	0.33
Sat Flow, veh/h	1576	1654	1437	1628	1348	245	3158	3118	1268	1602	2629	527
Grp Volume(v), veh/h	183	351	0	258	0	331	258	440	102	144	493	489
Grp Sat Flow(s),veh/h/ln	1576	1654	1437	1628	0	1593	1579	1559	1268	1602	1585	1571
Q Serve(g_s), s	13.0	23.7	0.0	17.7	0.0	21.9	9.1	12.1	6.5	10.0	33.8	33.8
Cycle Q Clear(g_c), s	13.0	23.7	0.0	17.7	0.0	21.9	9.1	12.1	6.5	10.0	33.8	33.8
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	206	375		285	0	425	326	1096	446	184	545	540
V/C Ratio(X)	0.89	0.94		0.90	0.00	0.78	0.79	0.40	0.23	0.78	0.91	0.91
Avail Cap(c_a), veh/h	360	377		379	0	425	596	1122	456	302	570	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	43.2	0.0	46.0	0.0	38.6	49.9	27.9	26.1	49.1	35.6	35.9
Incr Delay (d2), s/veh	10.1	30.1	0.0	19.1	0.0	8.6	3.2	0.2	0.2	5.4	17.4	17.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	12.7	0.0	8.4	0.0	9.2	3.6	4.4	2.0	4.1	14.9	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	73.4	0.0	65.1	0.0	47.2	53.1	28.1	26.2	54.5	53.0	53.4
LnGrp LOS	E	E		E	A	D	D	C	C	D	D	D
Approach Vol, veh/h		534			589			800			1126	
Approach Delay, s/veh		68.4			55.1			35.9			53.4	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.5	43.2	18.9	34.4	16.6	44.1	23.5	29.8				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	21.5	* 39	26.5	26.0	21.5	39.3	26.5	26.0				
Max Q Clear Time (g_c+I1), s	11.1	35.8	15.0	23.9	13.0	14.1	19.7	25.7				
Green Ext Time (p_c), s	0.7	1.6	0.4	0.3	0.2	5.2	0.3	0.1				

Intersection Summary

HCM 6th Ctrl Delay	51.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	179	53	18	268	236	92
Future Volume (Veh/h)	179	53	18	268	236	92
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	183	54	18	273	241	94
Pedestrians	4			2	15	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	0			0	1	
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	616	294	339			
vC1, stage 1 conf vol	292					
vC2, stage 2 conf vol	324					
vCu, unblocked vol	616	294	339			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	70	93	99			
cM capacity (veh/h)	619	741	1216			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	183	54	18	273	335	
Volume Left	183	0	18	0	0	
Volume Right	0	54	0	0	94	
cSH	619	741	1216	1700	1700	
Volume to Capacity	0.30	0.07	0.01	0.16	0.20	
Queue Length 95th (ft)	31	6	1	0	0	
Control Delay (s)	13.2	10.2	8.0	0.0	0.0	
Lane LOS	B	B	A			
Approach Delay (s)	12.6		0.5		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			37.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 9: Evergreen Rd & Stacey Allison Wy

11/03/2022

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	179	53	18	268	236	92
Future Vol, veh/h	179	53	18	268	236	92
Conflicting Peds, #/hr	15	2	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	3	2
Mvmt Flow	183	54	18	273	241	94

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	616	294	339	0	-	0
Stage 1	292	-	-	-	-	-
Stage 2	324	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	454	745	1220	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	733	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	444	741	1215	-	-	-
Mov Cap-2 Maneuver	539	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	730	-	-	-	-	-



















Approach	EB	NB	SB
HCM Control Delay, s	14	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1215	-	539	741	-	-
HCM Lane V/C Ratio	0.015	-	0.339	0.073	-	-
HCM Control Delay (s)	8	-	15.1	10.2	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	1.5	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis

10: Evergreen Rd & Hayes St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	62	1	128	111	108	2	160	87	144	136	12
Future Volume (vph)	11	62	1	128	111	108	2	160	87	144	136	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	11	65	1	133	116	112	2	167	91	150	142	12
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	77	361	2	258	150	154						
Volume Left (vph)	11	133	2	0	150	0						
Volume Right (vph)	1	112	0	91	0	12						
Hadj (s)	0.05	-0.08	0.53	-0.21	0.53	0.00						
Departure Headway (s)	6.3	5.5	6.9	6.1	6.8	6.2						
Degree Utilization, x	0.13	0.56	0.00	0.44	0.28	0.27						
Capacity (veh/h)	499	614	490	553	497	540						
Control Delay (s)	10.2	15.3	8.7	12.6	11.3	10.3						
Approach Delay (s)	10.2	15.3	12.6		10.8							
Approach LOS	B	C	B		B							
Intersection Summary												
Delay			12.8									
Level of Service			B									
Intersection Capacity Utilization			61.5%		ICU Level of Service		B					
Analysis Period (min)			15									

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/03/2022

Intersection

Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	11	62	1	128	111	108	2	160	87	144	136	12
Future Vol, veh/h	11	62	1	128	111	108	2	160	87	144	136	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	2
Mvmt Flow	11	65	1	133	116	113	2	167	91	150	142	13
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0




















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.4	15.5	13.5	11.7
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	15%	37%	100%	0%
Vol Thru, %	0%	65%	84%	32%	0%	92%
Vol Right, %	0%	35%	1%	31%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	247	74	347	144	148
LT Vol	2	0	11	128	144	0
Through Vol	0	160	62	111	0	136
RT Vol	0	87	1	108	0	12
Lane Flow Rate	2	257	77	361	150	154
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.004	0.435	0.135	0.559	0.282	0.266
Departure Headway (Hd)	6.85	6.09	6.298	5.571	6.771	6.221
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	589	565	643	530	575
Service Time	4.614	3.853	4.381	3.629	4.534	3.984
HCM Lane V/C Ratio	0.004	0.436	0.136	0.561	0.283	0.268
HCM Control Delay	9.6	13.5	10.4	15.5	12.2	11.2
HCM Lane LOS	A	B	B	C	B	B
HCM 95th-tile Q	0	2.2	0.5	3.5	1.2	1.1

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	24	165	1	19	34	148	309	8	26	428	52
Future Volume (Veh/h)	46	24	165	1	19	34	148	309	8	26	428	52
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	49	26	176	1	20	36	157	329	9	28	455	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1273	
pX, platoon unblocked	0.99	0.99	0.99	0.99	0.99		0.99					
vC, conflicting volume	1232	1190	482	1375	1214	334	510			338		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1230	1189	476	1374	1212	334	504			338		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	56	83	70	98	87	95	85			98		
cM capacity (veh/h)	113	153	579	65	150	708	1054			1216		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	49	202	57	495	538							
Volume Left	49	0	1	157	28							
Volume Right	0	176	36	9	55							
cSH	113	427	286	1054	1216							
Volume to Capacity	0.44	0.47	0.20	0.15	0.02							
Queue Length 95th (ft)	47	62	18	13	2							
Control Delay (s)	59.6	20.8	20.7	4.0	0.7							
Lane LOS	F	C	C	A	A							
Approach Delay (s)	28.4		20.7	4.0	0.7							
Approach LOS	D		C									
Intersection Summary												
Average Delay			7.9									
Intersection Capacity Utilization			78.9%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM 6th TWSC
11: Settlemier St & Hayes St

11/03/2022

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	24	165	1	19	34	148	309	8	26	428	52
Future Vol, veh/h	46	24	165	1	19	34	148	309	8	26	428	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	3	3	3
Mvmt Flow	49	26	176	1	20	36	157	329	9	28	455	55

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1215	1191	483	1288	1214	334	510	0	0	338	0	0
Stage 1	539	539	-	648	648	-	-	-	-	-	-	-
Stage 2	676	652	-	640	566	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	156	185	577	141	182	708	1055	-	-	1216	-	-
Stage 1	521	517	-	459	466	-	-	-	-	-	-	-
Stage 2	438	459	-	464	507	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	111	146	577	72	144	708	1055	-	-	1216	-	-
Mov Cap-2 Maneuver	111	146	-	72	144	-	-	-	-	-	-	-
Stage 1	426	500	-	375	381	-	-	-	-	-	-	-
Stage 2	322	375	-	297	491	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	29		21.2		2.9		0.4	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1055	-	-	111	420	279	1216	-	-
HCM Lane V/C Ratio	0.149	-	-	0.441	0.479	0.206	0.023	-	-
HCM Control Delay (s)	9	0	-	60.8	21.2	21.2	8	0	-
HCM Lane LOS	A	A	-	F	C	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	1.9	2.5	0.8	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	1	1	12	13	13
Future Volume (Veh/h)	13	1	1	12	13	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	15	1	1	14	15	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	38	22	30			
vC1, stage 1 conf vol	22					
vC2, stage 2 conf vol	16					
vCu, unblocked vol	38	22	30			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	100	100			
cM capacity (veh/h)	969	1054	1583			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	16	1	14	30		
Volume Left	15	1	0	0		
Volume Right	1	0	0	15		
cSH	974	1583	1700	1700		
Volume to Capacity	0.02	0.00	0.01	0.02		
Queue Length 95th (ft)	1	0	0	0		
Control Delay (s)	8.8	7.3	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	8.8	0.5		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/03/2022

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	1	1	12	13	13
Future Vol, veh/h	13	1	1	12	13	13
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	1	1	14	15	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	39	23	30	0	0
Stage 1	23	-	-	-	-
Stage 2	16	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	973	1054	1583	-	-
Stage 1	1000	-	-	-	-
Stage 2	1007	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	972	1054	1583	-	-
Mov Cap-2 Maneuver	901	-	-	-	-
Stage 1	999	-	-	-	-
Stage 2	1007	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1583	-	910	-	-
HCM Lane V/C Ratio	0.001	-	0.018	-	-
HCM Control Delay (s)	7.3	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage (veh)					2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol	0					
vC2, stage 2 conf vol	0					
vCu, unblocked vol	0	0	0			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)	5.5					
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1003	1062	1572			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM 6th TWSC
13: Evergreen Rd & North Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	1001	1061	1571	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1001	1061	1571	-	-	-
Mov Cap-2 Maneuver	915	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1003	1062	1572			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM 6th TWSC
 14: Evergreen Rd & South Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0

















Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	1001	1061	1571	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1001	1061	1571	-	-	-
Mov Cap-2 Maneuver	1001	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis
 15: Parr Rd & Industrial Road & Evergreen Rd

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	64	0	0	0	0	83	0	0	0
Future Volume (vph)	0	0	0	64	0	0	0	0	83	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	75	0	0	0	0	98	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	75	98	0								
Volume Left (vph)	0	75	0	0								
Volume Right (vph)	0	0	98	0								
Hadj (s)	0.00	0.23	-0.57	0.00								
Departure Headway (s)	4.2	4.3	3.5	4.2								
Degree Utilization, x	0.00	0.09	0.10	0.00								
Capacity (veh/h)	844	812	995	849								
Control Delay (s)	7.2	7.7	6.9	7.2								
Approach Delay (s)	0.0	7.7	6.9	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.3									
Level of Service			A									
Intersection Capacity Utilization			16.1%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/03/2022

Intersection

Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	64	0	0	0	0	83	0	0	0
Future Vol, veh/h	0	0	0	64	0	0	0	0	83	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	75	0	0	0	0	98	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	7.7	6.9	0
HCM LOS	-	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	100%
Vol Right, %	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	0	64	0
LT Vol	0	0	64	0
Through Vol	0	0	0	0
RT Vol	83	0	0	0
Lane Flow Rate	98	0	75	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.094	0	0.09	0
Departure Headway (Hd)	3.465	4.164	4.305	4.141
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	1027	0	835	0
Service Time	1.51	2.198	2.319	2.193
HCM Lane V/C Ratio	0.095	0	0.09	0
HCM Control Delay	6.9	7.2	7.7	7.2
HCM Lane LOS	A	N	A	N
HCM 95th-tile Q	0.3	0	0.3	0

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
16: Industrial Road & East Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1 1
Stage 1	-	-	-	-	1 -
Stage 2	-	-	-	-	0 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1571	-	-	-	1001 1061
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001 1061
Mov Cap-2 Maneuver	-	-	-	-	1001 -
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0			0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0			0	0	
tC, single (s)	4.2			6.5	6.3	
tC, 2 stage (s)						
tF (s)	2.3			3.6	3.4	
p0 queue free %	100			100	100	
cM capacity (veh/h)	1572			1003	1062	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 17: Industrial Road & West Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	0
Critical Hdwy	4.2	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.29	-	-	-	3.59
Pot Cap-1 Maneuver	1571	-	-	-	1001
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001
Mov Cap-2 Maneuver	-	-	-	-	1001
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	-

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	6	81	64	7	5	3
Future Volume (Veh/h)	6	81	64	7	5	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	94	74	8	6	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	82				186	78
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	82				186	78
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1515				799	983
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	101	82	9			
Volume Left	7	0	6			
Volume Right	0	8	3			
cSH	1515	1700	852			
Volume to Capacity	0.00	0.05	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.5	0.0	9.3			
Lane LOS	A		A			
Approach Delay (s)	0.5	0.0	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		20.0%		ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	6	81	64	7	5	3
Future Vol, veh/h	6	81	64	7	5	3
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	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	94	74	8	6	3





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	82	0	-	0	186 78
Stage 1	-	-	-	-	78 -
Stage 2	-	-	-	-	108 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1515	-	-	-	803 983
Stage 1	-	-	-	-	945 -
Stage 2	-	-	-	-	916 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1515	-	-	-	799 983
Mov Cap-2 Maneuver	-	-	-	-	799 -
Stage 1	-	-	-	-	940 -
Stage 2	-	-	-	-	916 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1515	-	-	-	859
HCM Lane V/C Ratio	0.005	-	-	-	0.011
HCM Control Delay (s)	7.4	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	49	76	74	52	80	8	69	133	46	4	149	67
Future Volume (vph)	49	76	74	52	80	8	69	133	46	4	149	67
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	57	88	86	60	93	9	80	155	53	5	173	78
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	57	174	60	102	235	53	178	78				
Volume Left (vph)	57	0	60	0	80	0	5	0				
Volume Right (vph)	0	86	0	9	0	53	0	78				
Hadj (s)	0.67	-0.31	0.53	-0.03	0.20	-0.67	0.06	-0.61				
Departure Headway (s)	6.9	5.9	6.8	6.3	6.2	5.3	6.1	5.4				
Degree Utilization, x	0.11	0.29	0.11	0.18	0.40	0.08	0.30	0.12				
Capacity (veh/h)	490	572	489	533	549	639	560	624				
Control Delay (s)	9.5	10.0	9.5	9.4	12.1	7.6	10.5	7.9				
Approach Delay (s)	9.9		9.5		11.3		9.7					
Approach LOS	A		A		B		A					
Intersection Summary												
Delay			10.2									
Level of Service			B									
Intersection Capacity Utilization			48.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/03/2022

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	76	74	52	80	8	69	133	46	4	149	67
Future Vol, veh/h	49	76	74	52	80	8	69	133	46	4	149	67
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	10	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	57	88	86	60	93	9	80	155	53	5	173	78
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.2	10.6	12.5	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	34%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	66%	0%	0%	51%	0%	91%	97%	0%
Vol Right, %	0%	100%	0%	49%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	202	46	49	150	52	88	153	67
LT Vol	69	0	49	0	52	0	4	0
Through Vol	133	0	0	76	0	80	149	0
RT Vol	0	46	0	74	0	8	0	67
Lane Flow Rate	235	53	57	174	60	102	178	78
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.411	0.08	0.111	0.292	0.118	0.183	0.306	0.119
Departure Headway (Hd)	6.297	5.415	7.025	6.028	6.997	6.424	6.202	5.496
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	571	660	509	595	512	557	578	650
Service Time	4.048	3.165	4.779	3.782	4.754	4.181	3.956	3.249
HCM Lane V/C Ratio	0.412	0.08	0.112	0.292	0.117	0.183	0.308	0.12
HCM Control Delay	13.4	8.6	10.7	11.3	10.7	10.6	11.7	9
HCM Lane LOS	B	A	B	B	B	B	B	A
HCM 95th-tile Q	2	0.3	0.4	1.2	0.4	0.7	1.3	0.4

HCM Unsignalized Intersection Capacity Analysis

22: Butteville Rd & Parr Rd

11/03/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	52	99	29	60	212
Future Volume (Veh/h)	30	52	99	29	60	212
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	35	60	115	34	70	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	519	132			149	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	519	132			149	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	93			95	
cM capacity (veh/h)	492	912			1432	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	95	149	317			
Volume Left	35	0	70			
Volume Right	60	34	0			
cSH	694	1700	1432			
Volume to Capacity	0.14	0.09	0.05			
Queue Length 95th (ft)	12	0	4			
Control Delay (s)	11.0	0.0	2.0			
Lane LOS	B		A			
Approach Delay (s)	11.0	0.0	2.0			
Approach LOS	B					
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			38.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/03/2022

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	52	99	29	60	212
Future Vol, veh/h	30	52	99	29	60	212
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	86	86	86	86	86	86
Heavy Vehicles, %	2	4	2	2	2	2
Mvmt Flow	35	60	115	34	70	247

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	519	132	0	0	149
Stage 1	132	-	-	-	-
Stage 2	387	-	-	-	-
Critical Hdwy	6.42	6.24	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.336	-	-	2.218
Pot Cap-1 Maneuver	517	912	-	-	1432
Stage 1	894	-	-	-	-
Stage 2	686	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	488	912	-	-	1432
Mov Cap-2 Maneuver	488	-	-	-	-
Stage 1	894	-	-	-	-
Stage 2	647	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	692	1432
HCM Lane V/C Ratio	-	-	0.138	0.049
HCM Control Delay (s)	-	-	11	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2

HCM Unsignalized Intersection Capacity Analysis
 1: Butteville Rd & OR 219

11/03/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized		MOYes				MOYes
Traffic Volume (veh/h)	472	172	273	278	72	190
Future Volume (veh/h)	472	172	273	278	72	190
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	530	193	307	312	81	213
Approach Volume (veh/h)	530			619	81	
Crossing Volume (veh/h)	307			81	530	
High Capacity (veh/h)	1088			1300	911	
High v/c (veh/h)	0.49			0.48	0.09	
Low Capacity (veh/h)	893			1084	735	
Low v/c (veh/h)	0.59			0.57	0.11	
Intersection Summary						
Maximum v/c High				0.49		
Maximum v/c Low				0.59		
Intersection Capacity Utilization	69.9%			ICU Level of Service	C	

HCM 6th Roundabout
1: Butteville Rd & OR 219

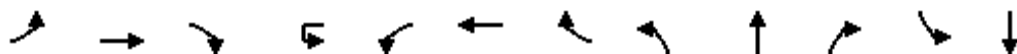
11/03/2022

Intersection				
Intersection Delay, s/veh	3.9			
Intersection LOS	A			
Approach	EB	WB	NB	
Entry Lanes	0	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	0	619	294	
Demand Flow Rate, veh/h	0	634	312	
Vehicles Circulating, veh/h	313	86	541	
Vehicles Exiting, veh/h	407	541	313	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	5.1	1.4	
Approach LOS	-	A	A	
Lane	Left	Right	Left	Bypass
Designated Moves	L	TR	L	R
Assumed Moves	L	TR	L	R
RT Channelized				Free
Lane Util	0.494	0.506	1.000	
Follow-Up Headway, s	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.328	226
Entry Flow, veh/h	313	321	86	1855
Cap Entry Lane, veh/h	1247	1320	897	0.943
Entry HV Adj Factor	0.981	0.971	0.942	213
Flow Entry, veh/h	307	312	81	1750
Cap Entry, veh/h	1223	1282	844	0.122
V/C Ratio	0.251	0.243	0.096	0.0
Control Delay, s/veh	5.2	4.9	5.2	A
LOS	A	A	A	0
95th %tile Queue, veh	1	1	0	

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	85	539	2	27	33	497	291	6	2	68	641	5
Future Volume (vph)	85	539	2	27	33	497	291	6	2	68	641	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3197	1434		1504	3260	1445	1385	1204		1548	1515
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3197	1434		1504	3260	1445	1385	1204		1548	1515
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)	89	567	2	28	35	523	306	6	2	72	675	5
RTOR Reduction (vph)	0	0	1	0	0	0	117	0	65	0	0	6
Lane Group Flow (vph)	89	567	1	0	63	523	189	6	9	0	378	369
Confl. Peds. (#/hr)	1		1		1		1	1				
Confl. Bikes (#/hr)			1							1		
Heavy Vehicles (%)	2%	4%	2%	0%	19%	2%	2%	20%	2%	23%	2%	20%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	8.2	24.6	32.6		7.4	23.8	53.0	8.0	8.0		29.2	29.2
Effective Green, g (s)	8.2	25.1	32.6		7.4	24.3	53.0	8.0	8.0		29.2	29.2
Actuated g/C Ratio	0.10	0.29	0.38		0.09	0.28	0.62	0.09	0.09		0.34	0.34
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	155	936	545		129	924	893	129	112		527	516
v/s Ratio Prot	0.05	c0.18	0.00		0.04	c0.16	0.07	0.00	c0.01		c0.24	0.24
v/s Ratio Perm			0.00				0.06					
v/c Ratio	0.57	0.61	0.00		0.49	0.57	0.21	0.05	0.08		0.72	0.72
Uniform Delay, d1	37.1	26.0	16.5		37.3	26.2	7.2	35.4	35.5		24.6	24.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.2	1.4	0.0		2.1	1.0	0.1	0.1	0.2		4.3	4.4
Delay (s)	41.2	27.4	16.5		39.5	27.2	7.3	35.5	35.7		29.0	29.0
Level of Service	D	C	B		D	C	A	D	D		C	C
Approach Delay (s)		29.2				21.3			35.7			29.0
Approach LOS		C				C			D			C

Intersection Summary

HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 2: Woodland Avenue & OR 219/OR 214

11/03/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	69
Future Volume (vph)	69
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	73
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗	
Traffic Volume (vph)	0	867	407	0	906	716	0	0	0	820	0	387	
Future Volume (vph)	0	867	407	0	906	716	0	0	0	820	0	387	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0	
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00	
Frbp, ped/bikes		1.00	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	
Frt		1.00	0.85		1.00	0.85				1.00		0.85	
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (prot)		3228	1444		3260	1426				3131		1417	
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (perm)		3228	1444		3260	1426				3131		1417	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	0	894	420	0	934	738	0	0	0	845	0	399	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	59	
Lane Group Flow (vph)	0	894	420	0	934	738	0	0	0	845	0	340	
Confl. Peds. (#/hr)	4					4							
Heavy Vehicles (%)	0%	3%	3%	0%	2%	2%	0%	0%	0%	3%	0%	5%	
Turn Type		NA	Free		NA	Free				Prot		Perm	
Protected Phases		2			6					4			
Permitted Phases			Free			Free						4	
Actuated Green, G (s)		34.1	64.0		34.1	64.0				20.9		20.9	
Effective Green, g (s)		34.6	64.0		34.6	64.0				21.4		21.4	
Actuated g/C Ratio		0.54	1.00		0.54	1.00				0.33		0.33	
Clearance Time (s)		4.5			4.5					4.5		4.5	
Vehicle Extension (s)		6.0			6.0					2.5		2.5	
Lane Grp Cap (vph)		1745	1444		1762	1426				1046		473	
v/s Ratio Prot		0.28			0.29					c0.27			
v/s Ratio Perm			0.29			c0.52						0.24	
v/c Ratio		0.51	0.29		0.53	0.52				0.81		0.72	
Uniform Delay, d1		9.3	0.0		9.5	0.0				19.4		18.7	
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00	
Incremental Delay, d2		1.1	0.5		0.7	1.3				4.5		4.8	
Delay (s)		10.4	0.5		10.2	1.3				24.0		23.5	
Level of Service		B	A		B	A				C		C	
Approach Delay (s)		7.3			6.3			0.0			23.8		
Approach LOS		A			A			A			C		
Intersection Summary													
HCM 2000 Control Delay			11.7		HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio			0.67										
Actuated Cycle Length (s)			64.0		Sum of lost time (s)					8.0			
Intersection Capacity Utilization			59.9%		ICU Level of Service					B			
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

3: OR 214 & I-5 SB Ramp

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	867	407	0	906	716	0	0	0	820	0	387
Future Volume (veh/h)	0	867	407	0	906	716	0	0	0	820	0	387
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1709	1709	0	1723	1723				1709	0	1682
Adj Flow Rate, veh/h	0	894	0	0	934	0				845	0	399
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	0	2	2				3	0	5
Cap, veh/h	0	1727		0	1741					1083	0	489
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3333	1448	0	3359	1460				3158	0	1425
Grp Volume(v), veh/h	0	894	0	0	934	0				845	0	399
Grp Sat Flow(s),veh/h/ln	0	1624	1448	0	1637	1460				1579	0	1425
Q Serve(g_s), s	0.0	11.4	0.0	0.0	12.0	0.0				15.4	0.0	16.3
Cycle Q Clear(g_c), s	0.0	11.4	0.0	0.0	12.0	0.0				15.4	0.0	16.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1727		0	1741					1083	0	489
V/C Ratio(X)	0.00	0.52		0.00	0.54					0.78	0.00	0.82
Avail Cap(c_a), veh/h	0	1727		0	1741					1184	0	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.71	0.00	0.00	0.63	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.7	0.0	0.0	9.8	0.0				18.9	0.0	19.2
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.6	0.0				3.0	0.0	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	0.0	0.0	3.6	0.0				5.4	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.5	0.0	0.0	10.4	0.0				21.8	0.0	27.7
LnGrp LOS	A	B		A	B					C	A	C
Approach Vol, veh/h		894			934						1244	
Approach Delay, s/veh		10.5			10.4						23.7	
Approach LOS		B			B						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		38.0		26.0		38.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		18.3		0.0						
Green Ext Time (p_c), s		0.0		3.1		0.0						

Intersection Summary

HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/03/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	1420	231	0	1330	315	674
Future Volume (vph)	1420	231	0	1330	315	674
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frbp, ped/bikes	1.00	0.98		1.00	0.99	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.92	0.85
Flt Protected	1.00	1.00		1.00	0.98	1.00
Satd. Flow (prot)	3260	1374		3260	2903	1259
Flt Permitted	1.00	1.00		1.00	0.98	1.00
Satd. Flow (perm)	3260	1374		3260	2903	1259
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1449	236	0	1357	321	688
RTOR Reduction (vph)	0	110	0	0	17	17
Lane Group Flow (vph)	1449	126	0	1357	648	327
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	6%	0%	2%	2%	6%
Turn Type	NA	Perm		NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases		2				8
Actuated Green, G (s)	53.1	53.1		53.1	37.0	37.0
Effective Green, g (s)	53.6	53.6		53.6	37.7	37.7
Actuated g/C Ratio	0.54	0.54		0.54	0.38	0.38
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1747	736		1747	1094	474
v/s Ratio Prot	c0.44			0.42	0.22	
v/s Ratio Perm		0.09				c0.26
v/c Ratio	0.83	0.17		0.78	0.59	0.69
Uniform Delay, d1	19.4	11.9		18.4	25.0	26.2
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.7	0.5		2.8	0.7	3.8
Delay (s)	24.1	12.4		21.3	25.7	30.0
Level of Service	C	B		C	C	C
Approach Delay (s)	22.5			21.3	27.2	
Approach LOS	C			C	C	

Intersection Summary

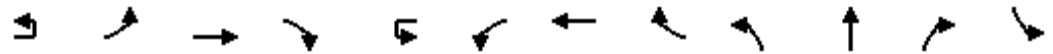
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/03/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	
Lane Configurations		↔	↕	↗		↔	↕		↖	↗	↘	↙	
Traffic Volume (vph)	39	78	1084	527	11	273	873	18	593	27	187	28	
Future Volume (vph)	39	78	1084	527	11	273	873	18	593	27	187	28	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	1.00	1.00	
Frbp, ped/bikes		1.00	1.00	0.96		1.00	1.00		1.00	1.00	0.98	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	1.00	0.85		1.00	1.00		1.00	1.00	0.85	1.00	
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95	
Satd. Flow (prot)		1641	3197	1368		1631	3218		1548	1559	1436	1630	
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95	
Satd. Flow (perm)		1641	3197	1368		1631	3218		1548	1559	1436	1630	
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)	42	84	1166	567	12	294	939	19	638	29	201	30	
RTOR Reduction (vph)	0	0	0	340	0	0	1	0	0	0	155	0	
Lane Group Flow (vph)	0	126	1166	227	0	306	957	0	332	335	46	30	
Confl. Peds. (#/hr)				11		11			5		2	2	
Confl. Bikes (#/hr)				1				2			1		
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%	
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split	
Protected Phases	5	5	2		1	1	6		7	7		4	
Permitted Phases				2							7		
Actuated Green, G (s)		10.3	39.6	39.6		14.9	44.2		22.2	22.2	22.2	5.8	
Effective Green, g (s)		10.3	40.1	40.1		14.9	44.7		22.7	22.7	22.7	6.3	
Actuated g/C Ratio		0.10	0.40	0.40		0.15	0.45		0.23	0.23	0.23	0.06	
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)		169	1281	548		243	1438		351	353	325	102	
v/s Ratio Prot		0.08	c0.36			c0.19	0.30		0.21	c0.21		0.02	
v/s Ratio Perm				0.17							0.03		
v/c Ratio		0.75	0.91	0.41		1.26	0.67		0.95	0.95	0.14	0.29	
Uniform Delay, d1		43.6	28.3	21.5		42.5	21.8		38.0	38.1	30.9	44.7	
Progression Factor		0.95	1.16	3.34		0.78	1.60		1.00	1.00	1.00	1.00	
Incremental Delay, d2		9.9	7.4	1.4		139.2	1.4		33.9	34.4	0.1	1.2	
Delay (s)		51.5	40.0	73.4		172.4	36.3		71.9	72.4	31.0	45.9	
Level of Service		D	D	E		F	D		E	E	C	D	
Approach Delay (s)			51.0			69.3			62.6				
Approach LOS			D			E			E				
Intersection Summary													
HCM 2000 Control Delay			58.8		HCM 2000 Level of Service					E			
HCM 2000 Volume to Capacity ratio			0.94										
Actuated Cycle Length (s)			100.0	Sum of lost time (s)						16.5			
Intersection Capacity Utilization			84.9%	ICU Level of Service					E				
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/03/2022



Movement	SBT	SBR
Lane Configurations	↑	↑
Traffic Volume (vph)	30	77
Future Volume (vph)	30	77
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1716	1433
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1716	1433
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	32	83
RTOR Reduction (vph)	0	78
Lane Group Flow (vph)	32	5
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	5.8	5.8
Effective Green, g (s)	6.3	6.3
Actuated g/C Ratio	0.06	0.06
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	108	90
v/s Ratio Prot	c0.02	
v/s Ratio Perm		0.00
v/c Ratio	0.30	0.06
Uniform Delay, d1	44.7	44.1
Progression Factor	1.00	1.00
Incremental Delay, d2	1.1	0.2
Delay (s)	45.9	44.3
Level of Service	D	D
Approach Delay (s)	44.9	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/03/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations	⬇	⬆	⬆			⬆	⬆		⬆	⬆		⬆
Traffic Volume (vph)	14	119	1177	44	1	28	1082	38	24	35	8	58
Future Volume (vph)	14	119	1177	44	1	28	1082	38	24	35	8	58
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0			4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, 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	1.00	0.99			1.00	0.99		1.00	0.97		1.00
Flt Protected	0.95	0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)	1513	1549	3175			1631	3211		1630	1663		1630
Flt Permitted	0.95	0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (perm)	1513	1549	3175			1631	3211		1630	1663		1630
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)	16	132	1308	49	1	31	1202	42	27	39	9	64
RTOR Reduction (vph)	0	0	2	0	0	0	2	0	0	8	0	0
Lane Group Flow (vph)	14	134	1355	0	0	32	1242	0	27	40	0	64
Confl. Peds. (#/hr)				11		11			5		2	2
Confl. Bikes (#/hr)				1				2				
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	12.8	12.8	60.8			4.9	52.9		4.6	9.4		8.4
Effective Green, g (s)	12.8	12.8	61.3			4.9	53.4		4.6	9.4		8.4
Actuated g/C Ratio	0.13	0.13	0.61			0.05	0.53		0.05	0.09		0.08
Clearance Time (s)	4.0	4.0	4.5			4.0	4.5		4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)	193	198	1946			79	1714		74	156		136
v/s Ratio Prot	0.01	c0.09	c0.43			0.02	0.39		0.02	0.02		c0.04
v/s Ratio Perm												
v/c Ratio	0.07	0.68	0.70			0.41	0.72		0.36	0.26		0.47
Uniform Delay, d1	38.4	41.6	13.1			46.1	17.7		46.3	42.1		43.7
Progression Factor	1.18	1.23	0.62			1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1	5.3	1.3			2.5	2.7		2.2	0.6		1.9
Delay (s)	45.2	56.6	9.5			48.6	20.4		48.5	42.7		45.5
Level of Service	D	E	A			D	C		D	D		D
Approach Delay (s)			14.0				21.1			44.8		
Approach LOS			B				C			D		
Intersection Summary												
HCM 2000 Control Delay			19.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			63.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/03/2022



























Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	25	89
Future Volume (vph)	25	89
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frbp, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.88	
Flt Protected	1.00	
Satd. Flow (prot)	1496	
Flt Permitted	1.00	
Satd. Flow (perm)	1496	
Peak-hour factor, PHF	0.90	0.90
Adj. Flow (vph)	28	99
RTOR Reduction (vph)	86	0
Lane Group Flow (vph)	41	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.2	
Effective Green, g (s)	13.2	
Actuated g/C Ratio	0.13	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	197	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.21	
Uniform Delay, d1	38.7	
Progression Factor	1.00	
Incremental Delay, d2	0.4	
Delay (s)	39.1	
Level of Service	D	
Approach Delay (s)	41.3	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis
 7: Settlemier St/Boones Ferry Rd & OR 214

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	645	387	127	685	118	290	114	109	141	209	153
Future Volume (vph)	121	645	387	127	685	118	290	114	109	141	209	153
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. 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
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	1651	1419	1630	1651	1399	1599	1716	1424	1614	1683	1406
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630	1651	1419	1630	1651	1399	1599	1716	1424	1614	1683	1406
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	126	672	403	132	714	123	302	119	114	147	218	159
RTOR Reduction (vph)	0	0	160	0	0	65	0	0	90	0	0	135
Lane Group Flow (vph)	126	672	243	132	714	58	302	119	24	147	218	24
Confl. Peds. (#/hr)			3	3			4					4
Confl. Bikes (#/hr)						2			2			3
Heavy Vehicles (%)	2%	6%	2%	2%	6%	4%	4%	2%	2%	3%	4%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	8.1	51.2	51.2	11.7	54.8	54.8	19.6	24.0	24.0	12.7	17.1	17.1
Effective Green, g (s)	8.6	52.2	52.2	12.2	55.8	55.8	20.1	25.0	25.0	13.2	18.1	18.1
Actuated g/C Ratio	0.07	0.44	0.44	0.10	0.47	0.47	0.17	0.21	0.21	0.11	0.15	0.15
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	118	726	624	167	776	658	270	361	300	179	256	214
v/s Ratio Prot	c0.08	0.41		0.08	c0.43		c0.19	0.07		0.09	c0.13	
v/s Ratio Perm			0.17			0.04			0.02			0.02
v/c Ratio	1.07	0.93	0.39	0.79	0.92	0.09	1.12	0.33	0.08	0.82	0.85	0.11
Uniform Delay, d1	55.0	31.4	22.4	52.0	29.3	17.3	49.2	39.7	37.6	51.5	48.9	43.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	102.2	17.6	0.3	21.3	16.1	0.0	90.4	0.4	0.1	24.6	22.6	0.2
Delay (s)	157.2	49.0	22.7	73.3	45.4	17.4	139.7	40.1	37.7	76.2	71.5	43.5
Level of Service	F	D	C	E	D	B	F	D	D	E	E	D
Approach Delay (s)		51.5			45.7			95.8			64.3	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			59.2									E
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			118.6						16.0			
Intersection Capacity Utilization			90.4%									E
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary
 7: Settlemier St/Boones Ferry Rd & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	645	387	127	685	118	290	114	109	141	209	153
Future Volume (veh/h)	121	645	387	127	685	118	290	114	109	141	209	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1668	1723	1723	1668	1695	1695	1723	1723	1709	1695	1723
Adj Flow Rate, veh/h	126	672	403	132	714	123	302	119	114	147	218	159
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	6	2	2	6	4	4	2	2	3	4	2
Cap, veh/h	121	751	655	163	794	667	280	349	286	178	235	194
Arrive On Green	0.07	0.45	0.45	0.10	0.48	0.48	0.17	0.20	0.20	0.11	0.14	0.14
Sat Flow, veh/h	1641	1668	1455	1641	1668	1401	1615	1723	1411	1628	1695	1399
Grp Volume(v), veh/h	126	672	403	132	714	123	302	119	114	147	218	159
Grp Sat Flow(s),veh/h/ln	1641	1668	1455	1641	1668	1401	1615	1723	1411	1628	1695	1399
Q Serve(g_s), s	8.5	42.8	24.3	9.1	45.3	5.8	20.0	6.8	8.1	10.2	14.7	12.8
Cycle Q Clear(g_c), s	8.5	42.8	24.3	9.1	45.3	5.8	20.0	6.8	8.1	10.2	14.7	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	751	655	163	794	667	280	349	286	178	235	194
V/C Ratio(X)	1.04	0.89	0.62	0.81	0.90	0.18	1.08	0.34	0.40	0.83	0.93	0.82
Avail Cap(c_a), veh/h	121	794	693	185	859	722	280	349	286	197	235	194
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	29.2	24.1	50.9	27.7	17.4	47.7	39.5	40.0	50.3	49.2	48.3
Incr Delay (d2), s/veh	94.0	12.0	1.3	19.8	11.5	0.1	76.8	0.4	0.7	21.5	39.3	23.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	18.8	8.6	4.6	19.7	0.0	14.0	3.0	2.9	5.2	8.7	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	147.5	41.3	25.4	70.7	39.2	17.5	124.5	39.9	40.6	71.8	88.5	71.4
LnGrp LOS	F	D	C	E	D	B	F	D	D	E	F	E
Approach Vol, veh/h		1201			969			535			524	
Approach Delay, s/veh		47.1			40.8			87.8			78.6	
Approach LOS		D			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	56.0	24.0	20.0	12.5	59.0	16.6	27.4				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	12.5	54.0	19.5	15.0	8.0	58.5	13.5	21.0				
Max Q Clear Time (g_c+I1), s	11.1	44.8	22.0	16.7	10.5	47.3	12.2	8.8				
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	6.7	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	400	260	262	355	59	266	431	115	156	800	230
Future Volume (vph)	216	400	260	262	355	59	266	431	115	156	800	230
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		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	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1554	1636	1400	1614	1595		3131	3079	1233	1583	3020	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1554	1636	1400	1614	1595		3131	3079	1233	1583	3020	
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)	227	421	274	276	374	62	280	454	121	164	842	242
RTOR Reduction (vph)	0	0	211	0	5	0	0	0	82	0	20	0
Lane Group Flow (vph)	227	421	63	276	431	0	280	454	39	164	1064	0
Confl. Peds. (#/hr)	1		10	10		1	4		1	1		4
Heavy Vehicles (%)	7%	7%	4%	3%	8%	2%	3%	8%	18%	5%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	21.7	28.7	28.7	24.0	31.0		15.8	38.7	38.7	16.7	39.6	
Effective Green, g (s)	21.2	28.7	28.7	23.5	31.0		15.3	40.4	40.4	16.2	41.3	
Actuated g/C Ratio	0.17	0.23	0.23	0.19	0.25		0.12	0.32	0.32	0.13	0.33	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	263	376	321	303	396		383	996	399	205	999	
v/s Ratio Prot	0.15	0.26		c0.17	c0.27		c0.09	0.15		0.10	c0.35	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	0.86	1.12	0.20	0.91	1.09		0.73	0.46	0.10	0.80	1.06	
Uniform Delay, d1	50.4	48.0	38.7	49.6	46.9		52.8	33.5	29.5	52.7	41.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	23.9	82.9	0.2	29.8	71.5		6.6	0.2	0.1	19.1	47.4	
Delay (s)	74.3	131.0	39.0	79.4	118.4		59.4	33.7	29.6	71.8	89.2	
Level of Service	E	F	D	E	F		E	C	C	E	F	
Approach Delay (s)		89.7			103.3			41.5			86.9	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM 2000 Control Delay			80.3				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			124.8				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			95.2%				ICU Level of Service			F		
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	400	260	262	355	59	266	431	115	156	800	230
Future Volume (veh/h)	216	400	260	262	355	59	266	431	115	156	800	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1654	1654	1695	1709	1641	1723	1709	1641	1504	1682	1668	1668
Adj Flow Rate, veh/h	227	421	0	276	374	62	280	454	121	164	842	242
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	4	3	8	2	3	8	18	5	6	6
Cap, veh/h	249	360		296	330	55	333	1074	437	196	833	239
Arrive On Green	0.16	0.22	0.00	0.18	0.24	0.24	0.11	0.34	0.34	0.12	0.34	0.33
Sat Flow, veh/h	1576	1654	1437	1628	1370	227	3158	3118	1267	1602	2427	697
Grp Volume(v), veh/h	227	421	0	276	0	436	280	454	121	164	550	534
Grp Sat Flow(s),veh/h/ln	1576	1654	1437	1628	0	1597	1579	1559	1267	1602	1585	1540
Q Serve(g_s), s	16.9	26.0	0.0	20.0	0.0	28.8	10.4	13.4	8.3	12.0	41.0	41.0
Cycle Q Clear(g_c), s	16.9	26.0	0.0	20.0	0.0	28.8	10.4	13.4	8.3	12.0	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	249	360		296	0	385	333	1074	437	196	544	528
V/C Ratio(X)	0.91	1.17		0.93	0.00	1.13	0.84	0.42	0.28	0.84	1.01	1.01
Avail Cap(c_a), veh/h	343	360		354	0	385	555	1074	437	281	544	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	46.8	0.0	48.2	0.0	45.3	52.5	30.1	28.4	51.3	39.3	39.6
Incr Delay (d2), s/veh	21.2	102.1	0.0	27.8	0.0	86.7	4.5	0.2	0.3	12.0	41.3	42.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	20.7	0.0	10.1	0.0	20.2	4.2	4.9	2.5	5.3	21.3	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.7	148.9	0.0	76.0	0.0	132.0	57.0	30.3	28.6	63.3	80.6	81.8
LnGrp LOS	E	F		E	A	F	E	C	C	E	F	F
Approach Vol, veh/h		648			712			855			1248	
Approach Delay, s/veh		121.5			110.3			38.8			78.8	
Approach LOS		F			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	45.0	22.9	32.8	18.6	45.2	25.7	30.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	21.5	* 39	26.5	26.0	21.5	39.3	26.5	26.0				
Max Q Clear Time (g_c+I1), s	12.4	43.0	18.9	30.8	15.0	15.4	22.0	28.0				
Green Ext Time (p_c), s	0.7	0.0	0.4	0.0	0.2	5.2	0.2	0.0				

Intersection Summary

HCM 6th Ctrl Delay	83.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	204	55	19	528	669	122
Future Volume (Veh/h)	204	55	19	528	669	122
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	208	56	19	539	683	124
Pedestrians	4			2	15	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	0			0	1	
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1341	751	811			
vC1, stage 1 conf vol	749					
vC2, stage 2 conf vol	592					
vCu, unblocked vol	1341	751	811			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	44	86	98			
cM capacity (veh/h)	374	408	812			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	208	56	19	539	807	
Volume Left	208	0	19	0	0	
Volume Right	0	56	0	0	124	
cSH	374	408	812	1700	1700	
Volume to Capacity	0.56	0.14	0.02	0.32	0.47	
Queue Length 95th (ft)	81	12	2	0	0	
Control Delay (s)	26.0	15.2	9.5	0.0	0.0	
Lane LOS	D	C	A			
Approach Delay (s)	23.7		0.3		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization			65.3%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM 6th TWSC
 9: Evergreen Rd & Stacey Allison Wy

11/03/2022

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑	↗	
Traffic Vol, veh/h	204	55	19	528	669	122
Future Vol, veh/h	204	55	19	528	669	122
Conflicting Peds, #/hr	15	2	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	3	2
Mvmt Flow	208	56	19	539	683	124

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1341	751	811	0	-	0
Stage 1	749	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 168	411	815	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 163	409	812	-	-	-
Mov Cap-2 Maneuver	301	-	-	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	551	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	34.7	0.3	0
HCM LOS	D		



















Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	812	-	301	409	-	-
HCM Lane V/C Ratio	0.024	-	0.692	0.137	-	-
HCM Control Delay (s)	9.5	-	40	15.2	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	0.1	-	4.8	0.5	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis

10: Evergreen Rd & Hayes St

11/03/2022

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Sign Control		Stop			Stop			Stop			Stop				
Traffic Volume (vph)	59	64	1	140	114	123	2	424	95	169	556	12			
Future Volume (vph)	59	64	1	140	114	123	2	424	95	169	556	12			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Hourly flow rate (vph)	61	67	1	146	119	128	2	442	99	176	579	12			
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2									
Volume Total (vph)	129	393	2	541	176	591									
Volume Left (vph)	61	146	2	0	176	0									
Volume Right (vph)	1	128	0	99	0	12									
Hadj (s)	0.12	-0.09	0.53	-0.09	0.53	0.04									
Departure Headway (s)	9.2	7.7	8.6	7.9	8.4	7.9									
Degree Utilization, x	0.33	0.84	0.00	1.19	0.41	1.30									
Capacity (veh/h)	365	393	414	460	422	462									
Control Delay (s)	16.6	39.3	10.4	130.3	16.1	175.0									
Approach Delay (s)	16.6	39.3	129.9		138.5										
Approach LOS	C	E	F		F										
Intersection Summary															
Delay			106.1												
Level of Service			F												
Intersection Capacity Utilization			77.6%				ICU Level of Service				D				
Analysis Period (min)			15												

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/03/2022

Intersection	
Intersection Delay, s/veh	109.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	59	64	1	140	114	123	2	424	95	169	556	12
Future Vol, veh/h	59	64	1	140	114	123	2	424	95	169	556	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	2
Mvmt Flow	61	67	1	146	119	128	2	442	99	176	579	13
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	18.5	43	133.6	142.7
HCM LOS	C	E	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	48%	37%	100%	0%
Vol Thru, %	0%	82%	52%	30%	0%	98%
Vol Right, %	0%	18%	1%	33%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	519	124	377	169	568
LT Vol	2	0	59	140	169	0
Through Vol	0	424	64	114	0	556
RT Vol	0	95	1	123	0	12
Lane Flow Rate	2	541	129	393	176	592
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.005	1.192	0.331	0.841	0.414	1.31
Departure Headway (Hd)	9.044	8.39	10.438	8.56	8.923	8.405
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	398	438	347	428	407	438
Service Time	6.744	6.09	8.438	6.56	6.623	6.105
HCM Lane V/C Ratio	0.005	1.235	0.372	0.918	0.432	1.352
HCM Control Delay	11.8	134.1	18.5	43	17.8	179.9
HCM Lane LOS	B	F	C	E	C	F
HCM 95th-tile Q	0	19.9	1.4	8.1	2	25

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	33	170	1	28	39	152	370	14	28	531	57
Future Volume (Veh/h)	49	33	170	1	28	39	152	370	14	28	531	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	51	34	177	1	29	41	158	385	15	29	553	59
Pedestrians		10			8			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		1			1			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												1273
pX, platoon unblocked	0.97	0.97	0.97	0.97	0.97		0.97					
vC, conflicting volume	1414	1374	596	1555	1396	400	622			408		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1412	1371	568	1557	1393	400	594			408		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	26	70	64	97	74	94	83			97		
cM capacity (veh/h)	69	113	494	37	110	645	943			1142		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	51	211	71	558	641							
Volume Left	51	0	1	158	29							
Volume Right	0	177	41	15	59							
cSH	69	320	200	943	1142							
Volume to Capacity	0.74	0.66	0.36	0.17	0.03							
Queue Length 95th (ft)	85	110	38	15	2							
Control Delay (s)	144.2	35.5	32.7	4.2	0.7							
Lane LOS	F	E	D	A	A							
Approach Delay (s)	56.7		32.7	4.2	0.7							
Approach LOS	F		D									
Intersection Summary												
Average Delay			13.0									
Intersection Capacity Utilization			90.7%			ICU Level of Service				E		
Analysis Period (min)			15									

HCM 6th TWSC
11: Settlemier St & Hayes St

11/03/2022

Intersection												
Int Delay, s/veh	12.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	33	170	1	28	39	152	370	14	28	531	57
Future Vol, veh/h	49	33	170	1	28	39	152	370	14	28	531	57
Conflicting Peds, #/hr	0	0	4	4	0	0	10	0	8	8	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	7	2	5	2	2	2	2	4	2	2	2	2
Mvmt Flow	51	34	177	1	29	41	158	385	15	29	553	59

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1395	1375	597	1467	1397	401	622	0	0	408	0	0
Stage 1	651	651	-	717	717	-	-	-	-	-	-	-
Stage 2	744	724	-	750	680	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.52	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.17	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.018	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	116	145	497	106	141	649	959	-	-	1151	-	-
Stage 1	449	465	-	421	434	-	-	-	-	-	-	-
Stage 2	399	430	-	403	451	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	69	108	490	41	105	644	950	-	-	1142	-	-
Mov Cap-2 Maneuver	69	108	-	41	105	-	-	-	-	-	-	-
Stage 1	350	442	-	328	339	-	-	-	-	-	-	-
Stage 2	269	335	-	227	429	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	58.4		34.1		2.7		0.4	
HCM LOS	F		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	950	-	-	69	311	193	1142	-	-
HCM Lane V/C Ratio	0.167	-	-	0.74	0.68	0.367	0.026	-	-
HCM Control Delay (s)	9.5	0	-	142.8	38	34.1	8.2	0	-
HCM Lane LOS	A	A	-	F	E	D	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	3.4	4.6	1.6	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis
 12: Evergreen Rd & Hooper St

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	1	1	12	13	123
Future Volume (Veh/h)	84	1	1	12	13	123
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	99	1	1	14	15	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	104	88	160			
vC1, stage 1 conf vol	88					
vC2, stage 2 conf vol	16					
vCu, unblocked vol	104	88	160			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	100	100			
cM capacity (veh/h)	910	971	1419			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	100	1	14	160		
Volume Left	99	1	0	0		
Volume Right	1	0	0	145		
cSH	910	1419	1700	1700		
Volume to Capacity	0.11	0.00	0.01	0.09		
Queue Length 95th (ft)	9	0	0	0		
Control Delay (s)	9.4	7.5	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	9.4	0.5		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			20.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/03/2022

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	84	1	1	12	13	123
Future Vol, veh/h	84	1	1	12	13	123
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	20	20	2
Mvmt Flow	99	1	1	14	15	145

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	104	88	160	0	0
Stage 1	88	-	-	-	-
Stage 2	16	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	894	970	1419	-	-
Stage 1	935	-	-	-	-
Stage 2	1007	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	893	970	1419	-	-
Mov Cap-2 Maneuver	843	-	-	-	-
Stage 1	934	-	-	-	-
Stage 2	1007	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1419	-	844	-	-
HCM Lane V/C Ratio	0.001	-	0.118	-	-
HCM Control Delay (s)	7.5	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage (veh)					2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol	0					
vC2, stage 2 conf vol	0					
vCu, unblocked vol	0	0	0			
tC, single (s)	6.6	6.4	4.3			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.5	2.4			
p0 queue free %	100	100	100			
cM capacity (veh/h)	978	1034	1513			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM 6th TWSC
13: Evergreen Rd & North Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	20	20	20	10	10	20
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.6	6.4	4.3	-	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.38	-	-	-
Pot Cap-1 Maneuver	977	1033	1511	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	977	1033	1511	-	-	-
Mov Cap-2 Maneuver	892	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1511	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/03/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM 6th TWSC
 14: Evergreen Rd & South Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	10	10	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

15: Parr Rd & Industrial Road & Evergreen Rd

11/03/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	74	0	0	0	0	91	0	0	0
Future Volume (vph)	0	0	0	74	0	0	0	0	91	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	87	0	0	0	0	107	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	87	107	0								
Volume Left (vph)	0	87	0	0								
Volume Right (vph)	0	0	107	0								
Hadj (s)	0.00	0.30	-0.57	0.00								
Departure Headway (s)	4.2	4.4	3.5	4.2								
Degree Utilization, x	0.00	0.11	0.11	0.00								
Capacity (veh/h)	836	796	984	838								
Control Delay (s)	7.2	7.9	7.0	7.2								
Approach Delay (s)	0.0	7.9	7.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.4									
Level of Service			A									
Intersection Capacity Utilization			17.2%	ICU Level of Service								A
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/03/2022

Intersection

Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	74	0	0	0	0	91	0	0	0
Future Vol, veh/h	0	0	0	74	0	0	0	0	91	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	0	0	0	87	0	0	0	0	107	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	7.9	7.1	0
HCM LOS	-	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	100%
Vol Right, %	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	0	74	0
LT Vol	0	0	74	0
Through Vol	0	0	0	0
RT Vol	91	0	0	0
Lane Flow Rate	107	0	87	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.108	0	0.106	0
Departure Headway (Hd)	3.621	4.206	4.389	4.185
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	981	0	817	0
Service Time	1.678	2.257	2.415	2.255
HCM Lane V/C Ratio	0.109	0	0.106	0
HCM Control Delay	7.1	7.3	7.9	7.3
HCM Lane LOS	A	N	A	N
HCM 95th-tile Q	0.4	0	0.4	0

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
16: Industrial Road & East Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1 1
Stage 1	-	-	-	-	1 -
Stage 2	-	-	-	-	0 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1571	-	-	-	1001 1061
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001 1061
Mov Cap-2 Maneuver	-	-	-	-	1001 -
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
 17: Industrial Road & West Access

11/03/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1 1
Stage 1	-	-	-	-	1 -
Stage 2	-	-	-	-	0 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1571	-	-	-	1001 1061
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001 1061
Mov Cap-2 Maneuver	-	-	-	-	1001 -
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/03/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	89	74	21	13	3
Future Volume (Veh/h)	6	89	74	21	13	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	103	86	24	15	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	110				215	98
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110				215	98
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				98	100
cM capacity (veh/h)	1432				752	936
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	110	110	18			
Volume Left	7	0	15			
Volume Right	0	24	3			
cSH	1432	1700	778			
Volume to Capacity	0.00	0.06	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.5	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	0.5	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			20.4%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	6	89	74	21	13	3
Future Vol, veh/h	6	89	74	21	13	3
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	86	86	86	86	86	86
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	7	103	86	24	15	3





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	110	0	-	0	215 98
Stage 1	-	-	-	-	98 -
Stage 2	-	-	-	-	117 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1432	-	-	-	756 936
Stage 1	-	-	-	-	906 -
Stage 2	-	-	-	-	889 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1432	-	-	-	752 936
Mov Cap-2 Maneuver	-	-	-	-	752 -
Stage 1	-	-	-	-	901 -
Stage 2	-	-	-	-	889 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1432	-	-	-	781
HCM Lane V/C Ratio	0.005	-	-	-	0.024
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/03/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	82	80	78	54	84	8	74	137	47	4	153	114
Future Volume (vph)	82	80	78	54	84	8	74	137	47	4	153	114
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	95	93	91	63	98	9	86	159	55	5	178	133
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	95	184	63	107	245	55	183	133				
Volume Left (vph)	95	0	63	0	86	0	5	0				
Volume Right (vph)	0	91	0	9	0	55	0	133				
Hadj (s)	0.67	-0.31	0.53	-0.02	0.21	-0.67	0.06	-0.61				
Departure Headway (s)	7.1	6.1	7.2	6.6	6.5	5.6	6.3	5.7				
Degree Utilization, x	0.19	0.31	0.13	0.20	0.44	0.09	0.32	0.21				
Capacity (veh/h)	475	552	467	507	524	604	539	600				
Control Delay (s)	10.6	10.7	10.0	10.0	13.3	7.9	11.1	8.9				
Approach Delay (s)	10.7		10.0		12.3		10.2					
Approach LOS	B		A		B		B					
Intersection Summary												
Delay			10.9									
Level of Service			B									
Intersection Capacity Utilization			49.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/03/2022

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	80	78	54	84	8	74	137	47	4	153	114
Future Vol, veh/h	82	80	78	54	84	8	74	137	47	4	153	114
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	10	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	95	93	91	63	98	9	86	159	55	5	178	133
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.9	11.3	13.7	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	35%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	65%	0%	0%	51%	0%	91%	97%	0%
Vol Right, %	0%	100%	0%	49%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	211	47	82	158	54	92	157	114
LT Vol	74	0	82	0	54	0	4	0
Through Vol	137	0	0	80	0	84	153	0
RT Vol	0	47	0	78	0	8	0	114
Lane Flow Rate	245	55	95	184	63	107	183	133
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.451	0.087	0.193	0.32	0.128	0.201	0.328	0.212
Departure Headway (Hd)	6.614	5.724	7.278	6.279	7.337	6.765	6.459	5.752
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	542	622	491	570	486	527	553	620
Service Time	4.388	3.498	5.055	4.056	5.123	4.55	4.234	3.527
HCM Lane V/C Ratio	0.452	0.088	0.193	0.323	0.13	0.203	0.331	0.215
HCM Control Delay	14.8	9	11.8	12	11.2	11.3	12.4	10.1
HCM Lane LOS	B	A	B	B	B	B	B	B
HCM 95th-tile Q	2.3	0.3	0.7	1.4	0.4	0.7	1.4	0.8

HCM Unsignalized Intersection Capacity Analysis

22: Butteville Rd & Parr Rd

11/03/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	31	62	133	30	68	241
Future Volume (Veh/h)	31	62	133	30	68	241
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	36	72	155	35	79	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	610	172			190	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	610	172			190	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	92			94	
cM capacity (veh/h)	431	866			1384	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	108	190	359			
Volume Left	36	0	79			
Volume Right	72	35	0			
cSH	648	1700	1384			
Volume to Capacity	0.17	0.11	0.06			
Queue Length 95th (ft)	15	0	5			
Control Delay (s)	11.7	0.0	2.1			
Lane LOS	B		A			
Approach Delay (s)	11.7	0.0	2.1			
Approach LOS	B					
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			43.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/03/2022

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	62	133	30	68	241
Future Vol, veh/h	31	62	133	30	68	241
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	86	86	86	86	86	86
Heavy Vehicles, %	2	4	2	2	2	2
Mvmt Flow	36	72	155	35	79	280

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	611	173	0	0	190
Stage 1	173	-	-	-	-
Stage 2	438	-	-	-	-
Critical Hdwy	6.42	6.24	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.336	-	-	2.218
Pot Cap-1 Maneuver	457	865	-	-	1384
Stage 1	857	-	-	-	-
Stage 2	651	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	426	865	-	-	1384
Mov Cap-2 Maneuver	426	-	-	-	-
Stage 1	857	-	-	-	-
Stage 2	607	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	644	1384
HCM Lane V/C Ratio	-	-	0.168	0.057
HCM Control Delay (s)	-	-	11.7	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.2

HCM Unsignalized Intersection Capacity Analysis
 1: Butteville Rd & OR 219

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized		MOYes				MOYes
Traffic Volume (veh/h)	484	172	277	286	72	196
Future Volume (veh/h)	484	172	277	286	72	196
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	544	193	311	321	81	220
Approach Volume (veh/h)	544			632	81	
Crossing Volume (veh/h)	311			81	544	
High Capacity (veh/h)	1085			1300	901	
High v/c (veh/h)	0.50			0.49	0.09	
Low Capacity (veh/h)	890			1084	726	
Low v/c (veh/h)	0.61			0.58	0.11	
Intersection Summary						
Maximum v/c High	0.50					
Maximum v/c Low	0.61					
Intersection Capacity Utilization	71.3%			ICU Level of Service	C	

HCM 6th Roundabout
1: Butteville Rd & OR 219

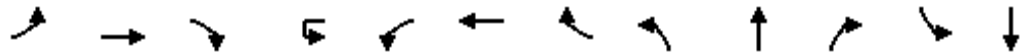
11/04/2022

Intersection				
Intersection Delay, s/veh	3.9			
Intersection LOS	A			
Approach	EB	WB	NB	
Entry Lanes	0	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	0	632	301	
Demand Flow Rate, veh/h	0	648	319	
Vehicles Circulating, veh/h	317	86	555	
Vehicles Exiting, veh/h	417	555	317	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	5.1	1.4	
Approach LOS	-	A	A	
Lane	Left	Right	Left	Bypass
Designated Moves	L	TR	L	R
Assumed Moves	L	TR	L	R
RT Channelized				Free
Lane Util	0.489	0.511	1.000	
Follow-Up Headway, s	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.328	233
Entry Flow, veh/h	317	331	86	1855
Cap Entry Lane, veh/h	1247	1320	886	0.943
Entry HV Adj Factor	0.981	0.971	0.942	220
Flow Entry, veh/h	311	321	81	1750
Cap Entry, veh/h	1224	1282	834	0.126
V/C Ratio	0.254	0.251	0.097	0.0
Control Delay, s/veh	5.2	5.0	5.3	A
LOS	A	A	A	0
95th %tile Queue, veh	1	1	0	

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	85	556	2	27	33	509	291	6	2	68	641	5
Future Volume (vph)	85	556	2	27	33	509	291	6	2	68	641	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3197	1434		1504	3260	1444	1385	1204		1548	1515
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3197	1434		1504	3260	1444	1385	1204		1548	1515
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)	89	585	2	28	35	536	306	6	2	72	675	5
RTOR Reduction (vph)	0	0	1	0	0	0	116	0	65	0	0	6
Lane Group Flow (vph)	89	585	1	0	63	536	190	6	9	0	378	369
Confl. Peds. (#/hr)	1		1		1		1	1				
Confl. Bikes (#/hr)			1							1		
Heavy Vehicles (%)	2%	4%	2%	0%	19%	2%	2%	20%	2%	23%	2%	20%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	8.2	25.0	33.0		7.4	24.2	53.6	8.0	8.0		29.4	29.4
Effective Green, g (s)	8.2	25.5	33.0		7.4	24.7	53.6	8.0	8.0		29.4	29.4
Actuated g/C Ratio	0.10	0.30	0.38		0.09	0.29	0.62	0.09	0.09		0.34	0.34
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	154	944	548		128	933	896	128	111		527	516
v/s Ratio Prot	0.05	c0.18	0.00		0.04	c0.16	0.07	0.00	c0.01		c0.24	0.24
v/s Ratio Perm			0.00				0.06					
v/c Ratio	0.58	0.62	0.00		0.49	0.57	0.21	0.05	0.08		0.72	0.72
Uniform Delay, d1	37.4	26.2	16.5		37.7	26.3	7.1	35.7	35.8		24.8	24.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.3	1.5	0.0		2.2	1.1	0.1	0.1	0.2		4.3	4.4
Delay (s)	41.7	27.7	16.5		39.8	27.4	7.2	35.8	36.0		29.1	29.2
Level of Service	D	C	B		D	C	A	D	D		C	C
Approach Delay (s)		29.5				21.4			36.0			29.2
Approach LOS		C				C			D			C

Intersection Summary		
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.61	C
Actuated Cycle Length (s)	86.3	Sum of lost time (s)
Intersection Capacity Utilization	59.8%	16.0
Analysis Period (min)	15	ICU Level of Service
		B
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 2: Woodland Avenue & OR 219/OR 214

11/04/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	69
Future Volume (vph)	69
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	73
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗	
Traffic Volume (vph)	0	884	407	0	918	749	0	0	0	857	0	387	
Future Volume (vph)	0	884	407	0	918	749	0	0	0	857	0	387	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0	
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00	
Frbp, ped/bikes		1.00	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	
Frt		1.00	0.85		1.00	0.85				1.00		0.85	
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (prot)		3228	1444		3260	1426				3131		1417	
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (perm)		3228	1444		3260	1426				3131		1417	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	0	911	420	0	946	772	0	0	0	884	0	399	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	57	
Lane Group Flow (vph)	0	911	420	0	946	772	0	0	0	884	0	342	
Confl. Peds. (#/hr)	4					4							
Heavy Vehicles (%)	0%	3%	3%	0%	2%	2%	0%	0%	0%	3%	0%	5%	
Turn Type		NA	Free		NA	Free				Prot		Perm	
Protected Phases		2			6					4			
Permitted Phases			Free			Free						4	
Actuated Green, G (s)		33.8	64.0		33.8	64.0				21.2		21.2	
Effective Green, g (s)		34.3	64.0		34.3	64.0				21.7		21.7	
Actuated g/C Ratio		0.54	1.00		0.54	1.00				0.34		0.34	
Clearance Time (s)		4.5			4.5					4.5		4.5	
Vehicle Extension (s)		6.0			6.0					2.5		2.5	
Lane Grp Cap (vph)		1730	1444		1747	1426				1061		480	
v/s Ratio Prot		0.28			0.29					c0.28			
v/s Ratio Perm			0.29			c0.54						0.24	
v/c Ratio		0.53	0.29		0.54	0.54				0.83		0.71	
Uniform Delay, d1		9.6	0.0		9.7	0.0				19.5		18.4	
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00	
Incremental Delay, d2		1.2	0.5		0.8	1.5				5.6		4.6	
Delay (s)		10.8	0.5		10.5	1.5				25.1		23.1	
Level of Service		B	A		B	A				C		C	
Approach Delay (s)		7.5			6.4			0.0			24.5		
Approach LOS		A			A			A			C		
Intersection Summary													
HCM 2000 Control Delay			12.1		HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio			0.69										
Actuated Cycle Length (s)			64.0		Sum of lost time (s)					8.0			
Intersection Capacity Utilization			60.8%		ICU Level of Service					B			
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	884	407	0	918	749	0	0	0	857	0	387
Future Volume (veh/h)	0	884	407	0	918	749	0	0	0	857	0	387
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1709	1709	0	1723	1723				1709	0	1682
Adj Flow Rate, veh/h	0	911	0	0	946	0				884	0	399
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	0	2	2				3	0	5
Cap, veh/h	0	1724		0	1738					1086	0	490
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3333	1448	0	3359	1460				3158	0	1425
Grp Volume(v), veh/h	0	911	0	0	946	0				884	0	399
Grp Sat Flow(s),veh/h/ln	0	1624	1448	0	1637	1460				1579	0	1425
Q Serve(g_s), s	0.0	11.7	0.0	0.0	12.2	0.0				16.3	0.0	16.3
Cycle Q Clear(g_c), s	0.0	11.7	0.0	0.0	12.2	0.0				16.3	0.0	16.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1724		0	1738					1086	0	490
V/C Ratio(X)	0.00	0.53		0.00	0.54					0.81	0.00	0.81
Avail Cap(c_a), veh/h	0	1724		0	1738					1184	0	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.71	0.00	0.00	0.59	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.8	0.0	0.0	9.9	0.0				19.1	0.0	19.1
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.6	0.0				4.0	0.0	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	0.0	0.0	3.6	0.0				5.8	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.6	0.0	0.0	10.5	0.0				23.1	0.0	27.5
LnGrp LOS	A	B		A	B					C	A	C
Approach Vol, veh/h		911			946						1283	
Approach Delay, s/veh		10.6			10.5						24.5	
Approach LOS		B			B						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		38.0		26.0		38.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		18.3		0.0						
Green Ext Time (p_c), s		0.0		3.2		0.0						

Intersection Summary

HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	1474	231	0	1376	315	719
Future Volume (vph)	1474	231	0	1376	315	719
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frbp, ped/bikes	1.00	0.98		1.00	0.99	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.92	0.85
Flt Protected	1.00	1.00		1.00	0.98	1.00
Satd. Flow (prot)	3260	1374		3260	2895	1259
Flt Permitted	1.00	1.00		1.00	0.98	1.00
Satd. Flow (perm)	3260	1374		3260	2895	1259
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1504	236	0	1404	321	734
RTOR Reduction (vph)	0	110	0	0	15	15
Lane Group Flow (vph)	1504	126	0	1404	673	352
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	6%	0%	2%	2%	6%
Turn Type	NA	Perm		NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases		2				8
Actuated Green, G (s)	53.1	53.1		53.1	37.0	37.0
Effective Green, g (s)	53.6	53.6		53.6	37.7	37.7
Actuated g/C Ratio	0.54	0.54		0.54	0.38	0.38
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1747	736		1747	1091	474
v/s Ratio Prot	c0.46			0.43	0.23	
v/s Ratio Perm		0.09				c0.28
v/c Ratio	0.86	0.17		0.80	0.62	0.74
Uniform Delay, d1	20.0	11.9		18.9	25.3	27.0
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.8	0.5		3.3	0.9	5.9
Delay (s)	25.8	12.4		22.2	26.2	32.8
Level of Service	C	B		C	C	C
Approach Delay (s)	24.0			22.2	28.5	
Approach LOS	C			C	C	

Intersection Summary

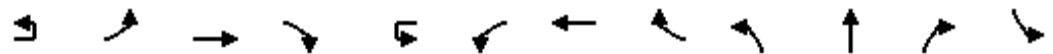
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘	
Traffic Volume (vph)	39	78	1084	626	14	279	873	18	666	27	191	28	
Future Volume (vph)	39	78	1084	626	14	279	873	18	666	27	191	28	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	1.00	1.00	
Frbp, ped/bikes		1.00	1.00	0.96		1.00	1.00		1.00	1.00	0.98	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	1.00	0.85		1.00	1.00		1.00	1.00	0.85	1.00	
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95	
Satd. Flow (prot)		1641	3197	1368		1631	3218		1548	1558	1436	1630	
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95	
Satd. Flow (perm)		1641	3197	1368		1631	3218		1548	1558	1436	1630	
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)	42	84	1166	673	15	300	939	19	716	29	205	30	
RTOR Reduction (vph)	0	0	0	403	0	0	1	0	0	0	155	0	
Lane Group Flow (vph)	0	126	1166	270	0	315	957	0	372	373	50	30	
Confl. Peds. (#/hr)				11		11			5		2	2	
Confl. Bikes (#/hr)				1				2			1		
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%	
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split	
Protected Phases	5	5	2		1	1	6		7	7		4	
Permitted Phases				2							7		
Actuated Green, G (s)		10.3	39.6	39.6		13.0	42.3		24.1	24.1	24.1	5.8	
Effective Green, g (s)		10.3	40.1	40.1		13.0	42.8		24.6	24.6	24.6	6.3	
Actuated g/C Ratio		0.10	0.40	0.40		0.13	0.43		0.25	0.25	0.25	0.06	
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)		169	1281	548		212	1377		380	383	353	102	
v/s Ratio Prot		0.08	c0.36			c0.19	c0.30		c0.24	0.24		0.02	
v/s Ratio Perm				0.20							0.04		
v/c Ratio		0.75	0.91	0.49		1.49	0.69		0.98	0.97	0.14	0.29	
Uniform Delay, d1		43.6	28.3	22.4		43.5	23.3		37.4	37.4	29.5	44.7	
Progression Factor		0.96	1.18	3.38		0.79	1.58		1.00	1.00	1.00	1.00	
Incremental Delay, d2		9.3	6.9	1.8		236.4	1.8		40.1	38.8	0.1	1.2	
Delay (s)		51.0	40.2	77.4		270.6	38.6		77.5	76.2	29.6	45.9	
Level of Service		D	D	E		F	D		E	E	C	D	
Approach Delay (s)			53.6				96.1			66.7			
Approach LOS			D				F			E			
Intersection Summary													
HCM 2000 Control Delay			68.6		HCM 2000 Level of Service					E			
HCM 2000 Volume to Capacity ratio			0.96										
Actuated Cycle Length (s)			100.0		Sum of lost time (s)					16.5			
Intersection Capacity Utilization			87.6%		ICU Level of Service					E			
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



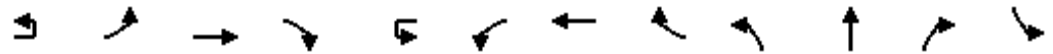
Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	30	77
Future Volume (vph)	30	77
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1716	1433
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1716	1433
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	32	83
RTOR Reduction (vph)	0	78
Lane Group Flow (vph)	32	5
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	5.8	5.8
Effective Green, g (s)	6.3	6.3
Actuated g/C Ratio	0.06	0.06
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	108	90
v/s Ratio Prot	c0.02	
v/s Ratio Perm		0.00
v/c Ratio	0.30	0.06
Uniform Delay, d1	44.7	44.1
Progression Factor	1.00	1.00
Incremental Delay, d2	1.1	0.2
Delay (s)	45.9	44.3
Level of Service	D	D
Approach Delay (s)	44.9	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations	⬇	⬆	⬆			⬆	⬆		⬆	⬆		⬆
Traffic Volume (vph)	11	119	1181	44	1	28	1088	38	24	35	8	58
Future Volume (vph)	11	119	1181	44	1	28	1088	38	24	35	8	58
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0			4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, 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	1.00	0.99			1.00	0.99		1.00	0.97		1.00
Flt Protected	0.95	0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)	1513	1549	3175			1631	3211		1630	1663		1630
Flt Permitted	0.95	0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (perm)	1513	1549	3175			1631	3211		1630	1663		1630
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)	12	132	1312	49	1	31	1209	42	27	39	9	64
RTOR Reduction (vph)	0	0	2	0	0	0	2	0	0	8	0	0
Lane Group Flow (vph)	11	133	1359	0	0	32	1249	0	27	40	0	64
Confl. Peds. (#/hr)				11		11			5		2	2
Confl. Bikes (#/hr)				1				2				
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	12.7	12.7	60.8			4.9	53.0		4.6	9.4		8.4
Effective Green, g (s)	12.7	12.7	61.3			4.9	53.5		4.6	9.4		8.4
Actuated g/C Ratio	0.13	0.13	0.61			0.05	0.54		0.05	0.09		0.08
Clearance Time (s)	4.0	4.0	4.5			4.0	4.5		4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)	192	196	1946			79	1717		74	156		136
v/s Ratio Prot	0.01	c0.09	c0.43			0.02	0.39		0.02	0.02		c0.04
v/s Ratio Perm												
v/c Ratio	0.06	0.68	0.70			0.41	0.73		0.36	0.26		0.47
Uniform Delay, d1	38.4	41.7	13.1			46.1	17.7		46.3	42.1		43.7
Progression Factor	1.18	1.23	0.62			1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1	5.4	1.4			2.5	2.7		2.2	0.6		1.9
Delay (s)	45.2	56.7	9.5			48.6	20.4		48.5	42.7		45.5
Level of Service	D	E	A			D	C		D	D		D
Approach Delay (s)			14.0			21.1			44.8			
Approach LOS			B			C			D			
Intersection Summary												
HCM 2000 Control Delay			19.4			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			63.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



























Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	25	89
Future Volume (vph)	25	89
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frbp, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.88	
Flt Protected	1.00	
Satd. Flow (prot)	1496	
Flt Permitted	1.00	
Satd. Flow (perm)	1496	
Peak-hour factor, PHF	0.90	0.90
Adj. Flow (vph)	28	99
RTOR Reduction (vph)	86	0
Lane Group Flow (vph)	41	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.2	
Effective Green, g (s)	13.2	
Actuated g/C Ratio	0.13	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	197	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.21	
Uniform Delay, d1	38.7	
Progression Factor	1.00	
Incremental Delay, d2	0.4	
Delay (s)	39.1	
Level of Service	D	
Approach Delay (s)	41.3	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	121	649	387	133	691	118	290	118	113	141	215	153	
Future Volume (vph)	121	649	387	133	691	118	290	118	113	141	215	153	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96	
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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1630	1651	1419	1630	1651	1399	1599	1716	1424	1614	1683	1406	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1630	1651	1419	1630	1651	1399	1599	1716	1424	1614	1683	1406	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	126	676	403	139	720	123	302	123	118	147	224	159	
RTOR Reduction (vph)	0	0	159	0	0	65	0	0	93	0	0	135	
Lane Group Flow (vph)	126	676	244	139	720	58	302	123	25	147	224	24	
Confl. Peds. (#/hr)			3	3			4					4	
Confl. Bikes (#/hr)						2			2			3	
Heavy Vehicles (%)	2%	6%	2%	2%	6%	4%	4%	2%	2%	3%	4%	2%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	8.0	51.4	51.4	11.9	55.3	55.3	19.6	24.0	24.0	12.7	17.1	17.1	
Effective Green, g (s)	8.5	52.4	52.4	12.4	56.3	56.3	20.1	25.0	25.0	13.2	18.1	18.1	
Actuated g/C Ratio	0.07	0.44	0.44	0.10	0.47	0.47	0.17	0.21	0.21	0.11	0.15	0.15	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	116	726	624	169	781	661	270	360	299	179	255	213	
v/s Ratio Prot	c0.08	0.41		0.09	c0.44		c0.19	0.07		0.09	c0.13		
v/s Ratio Perm			0.17			0.04			0.02			0.02	
v/c Ratio	1.09	0.93	0.39	0.82	0.92	0.09	1.12	0.34	0.08	0.82	0.88	0.11	
Uniform Delay, d1	55.2	31.6	22.5	52.2	29.3	17.2	49.5	40.0	37.8	51.7	49.4	43.5	
Progression 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	
Incremental Delay, d2	108.6	18.6	0.3	25.9	16.2	0.0	90.4	0.4	0.1	24.6	26.9	0.2	
Delay (s)	163.9	50.2	22.8	78.2	45.5	17.3	139.9	40.4	37.9	76.4	76.3	43.7	
Level of Service	F	D	C	E	D	B	F	D	D	E	E	D	
Approach Delay (s)		52.9			46.6			95.2			66.5		
Approach LOS		D			D			F			E		
Intersection Summary													
HCM 2000 Control Delay			60.3									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.97										
Actuated Cycle Length (s)			119.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			91.0%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary
 7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	121	649	387	133	691	118	290	118	113	141	215	153
Future Volume (veh/h)	121	649	387	133	691	118	290	118	113	141	215	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1668	1723	1723	1668	1695	1695	1723	1723	1709	1695	1723
Adj Flow Rate, veh/h	126	676	403	139	720	123	302	123	118	147	224	159
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	6	2	2	6	4	4	2	2	3	4	2
Cap, veh/h	120	747	651	170	797	670	279	347	284	178	234	193
Arrive On Green	0.07	0.45	0.45	0.10	0.48	0.48	0.17	0.20	0.20	0.11	0.14	0.14
Sat Flow, veh/h	1641	1668	1455	1641	1668	1401	1615	1723	1411	1628	1695	1398
Grp Volume(v), veh/h	126	676	403	139	720	123	302	123	118	147	224	159
Grp Sat Flow(s),veh/h/ln	1641	1668	1455	1641	1668	1401	1615	1723	1411	1628	1695	1398
Q Serve(g_s), s	8.5	43.6	24.5	9.6	45.9	5.8	20.0	7.1	8.4	10.2	15.2	12.8
Cycle Q Clear(g_c), s	8.5	43.6	24.5	9.6	45.9	5.8	20.0	7.1	8.4	10.2	15.2	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	747	651	170	797	670	279	347	284	178	234	193
V/C Ratio(X)	1.05	0.91	0.62	0.82	0.90	0.18	1.08	0.35	0.42	0.83	0.96	0.82
Avail Cap(c_a), veh/h	120	792	690	184	856	719	279	347	284	197	234	193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	29.7	24.5	50.9	27.8	17.3	47.9	39.8	40.3	50.5	49.6	48.6
Incr Delay (d2), s/veh	95.2	13.3	1.3	22.0	12.1	0.1	78.1	0.5	0.7	21.7	46.6	23.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	19.4	8.7	4.9	20.0	0.0	14.1	3.1	3.0	5.2	9.4	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.9	43.0	25.8	72.8	39.8	17.4	126.0	40.3	41.1	72.2	96.2	72.2
LnGrp LOS	F	D	C	E	D	B	F	D	D	E	F	E
Approach Vol, veh/h		1205			982			543			530	
Approach Delay, s/veh		48.3			41.7			88.1			82.3	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	55.9	24.0	20.0	12.5	59.4	16.7	27.3				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	12.5	54.0	19.5	15.0	8.0	58.5	13.5	21.0				
Max Q Clear Time (g_c+I1), s	11.6	45.6	22.0	17.2	10.5	47.9	12.2	9.1				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	6.5	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	58.5
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	402	260	262	358	59	266	431	115	156	800	233
Future Volume (vph)	218	402	260	262	358	59	266	431	115	156	800	233
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		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	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1554	1636	1400	1614	1596		3131	3079	1233	1583	3019	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1554	1636	1400	1614	1596		3131	3079	1233	1583	3019	
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)	229	423	274	276	377	62	280	454	121	164	842	245
RTOR Reduction (vph)	0	0	211	0	5	0	0	0	82	0	20	0
Lane Group Flow (vph)	229	423	63	276	434	0	280	454	39	164	1067	0
Confl. Peds. (#/hr)	1		10	10		1	4		1	1		4
Heavy Vehicles (%)	7%	7%	4%	3%	8%	2%	3%	8%	18%	5%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	21.8	28.7	28.7	24.0	30.9		15.8	38.7	38.7	16.7	39.6	
Effective Green, g (s)	21.3	28.7	28.7	23.5	30.9		15.3	40.4	40.4	16.2	41.3	
Actuated g/C Ratio	0.17	0.23	0.23	0.19	0.25		0.12	0.32	0.32	0.13	0.33	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	265	376	321	303	395		383	996	399	205	999	
v/s Ratio Prot	0.15	0.26		c0.17	c0.27		c0.09	0.15		0.10	c0.35	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	0.86	1.12	0.20	0.91	1.10		0.73	0.46	0.10	0.80	1.07	
Uniform Delay, d1	50.3	48.0	38.7	49.6	47.0		52.8	33.5	29.5	52.7	41.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	23.9	84.8	0.2	29.8	75.0		6.6	0.2	0.1	19.1	48.5	
Delay (s)	74.2	132.9	39.0	79.4	122.0		59.4	33.7	29.6	71.8	90.2	
Level of Service	E	F	D	E	F		E	C	C	E	F	
Approach Delay (s)		90.6			105.6			41.5			87.8	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM 2000 Control Delay			81.3				HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			124.8				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			95.4%				ICU Level of Service				F	
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	402	260	262	358	59	266	431	115	156	800	233
Future Volume (veh/h)	218	402	260	262	358	59	266	431	115	156	800	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1654	1654	1695	1709	1641	1723	1709	1641	1504	1682	1668	1668
Adj Flow Rate, veh/h	229	423	0	276	377	62	280	454	121	164	842	245
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	4	3	8	2	3	8	18	5	6	6
Cap, veh/h	251	360		296	329	54	333	1074	437	196	830	241
Arrive On Green	0.16	0.22	0.00	0.18	0.24	0.24	0.11	0.34	0.34	0.12	0.34	0.33
Sat Flow, veh/h	1576	1654	1437	1628	1371	226	3158	3118	1267	1602	2420	704
Grp Volume(v), veh/h	229	423	0	276	0	439	280	454	121	164	551	536
Grp Sat Flow(s),veh/h/ln	1576	1654	1437	1628	0	1597	1579	1559	1267	1602	1585	1538
Q Serve(g_s), s	17.1	26.0	0.0	20.0	0.0	28.7	10.4	13.4	8.3	12.0	41.0	41.0
Cycle Q Clear(g_c), s	17.1	26.0	0.0	20.0	0.0	28.7	10.4	13.4	8.3	12.0	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	251	360		296	0	383	333	1074	437	196	544	528
V/C Ratio(X)	0.91	1.18		0.93	0.00	1.15	0.84	0.42	0.28	0.84	1.01	1.02
Avail Cap(c_a), veh/h	343	360		354	0	383	555	1074	437	281	544	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	46.8	0.0	48.2	0.0	45.4	52.5	30.1	28.4	51.3	39.3	39.6
Incr Delay (d2), s/veh	21.5	104.2	0.0	27.8	0.0	91.7	4.5	0.2	0.3	12.0	42.1	43.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	20.9	0.0	10.1	0.0	20.7	4.2	4.9	2.5	5.3	21.5	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	151.0	0.0	76.0	0.0	137.1	57.0	30.3	28.6	63.3	81.4	82.6
LnGrp LOS	E	F		E	A	F	E	C	C	E	F	F
Approach Vol, veh/h		652			715			855			1251	
Approach Delay, s/veh		122.9			113.5			38.8			79.6	
Approach LOS		F			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	45.0	23.0	32.7	18.6	45.2	25.7	30.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	21.5	* 39	26.5	26.0	21.5	39.3	26.5	26.0				
Max Q Clear Time (g_c+I1), s	12.4	43.0	19.1	30.7	15.0	15.4	22.0	28.0				
Green Ext Time (p_c), s	0.7	0.0	0.4	0.0	0.2	5.2	0.2	0.0				

Intersection Summary

HCM 6th Ctrl Delay	84.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	204	55	19	605	774	122
Future Volume (Veh/h)	204	55	19	605	774	122
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	208	56	19	617	790	124
Pedestrians	4			2	15	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	0			0	1	
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1526	858	918			
vC1, stage 1 conf vol	856					
vC2, stage 2 conf vol	670					
vCu, unblocked vol	1526	858	918			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	37	84	97			
cM capacity (veh/h)	331	354	740			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	208	56	19	617	914	
Volume Left	208	0	19	0	0	
Volume Right	0	56	0	0	124	
cSH	331	354	740	1700	1700	
Volume to Capacity	0.63	0.16	0.03	0.36	0.54	
Queue Length 95th (ft)	101	14	2	0	0	
Control Delay (s)	32.7	17.1	10.0	0.0	0.0	
Lane LOS	D	C	A			
Approach Delay (s)	29.4		0.3		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			71.3%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM 6th TWSC
 9: Evergreen Rd & Stacey Allison Wy

11/04/2022

Intersection						
Int Delay, s/veh	7.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑	↗	
Traffic Vol, veh/h	204	55	19	605	774	122
Future Vol, veh/h	204	55	19	605	774	122
Conflicting Peds, #/hr	15	2	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	3	2
Mvmt Flow	208	56	19	617	790	124

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1526	858	918	0	-	0
Stage 1	856	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 130	357	743	-	-	-
Stage 1	416	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 126	355	740	-	-	-
Mov Cap-2 Maneuver	262	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48.1	0.3	0
HCM LOS	E		



















Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	740	-	262	355	-	-
HCM Lane V/C Ratio	0.026	-	0.795	0.158	-	-
HCM Control Delay (s)	10	-	56.5	17	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	6.1	0.6	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis

10: Evergreen Rd & Hayes St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	59	64	1	161	114	123	2	501	110	169	661	12
Future Volume (vph)	59	64	1	161	114	123	2	501	110	169	661	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	61	67	1	168	119	128	2	522	115	176	689	12
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	129	415	2	637	176	701						
Volume Left (vph)	61	168	2	0	176	0						
Volume Right (vph)	1	128	0	115	0	12						
Hadj (s)	0.12	-0.07	0.53	-0.09	0.53	0.04						
Departure Headway (s)	9.3	7.7	8.7	8.0	8.6	8.1						
Degree Utilization, x	0.33	0.89	0.00	1.42	0.42	1.57						
Capacity (veh/h)	363	462	409	460	416	450						
Control Delay (s)	16.9	46.5	10.5	223.1	16.4	287.5						
Approach Delay (s)	16.9	46.5	222.4		233.1							
Approach LOS	C	E	F		F							
Intersection Summary												
Delay			178.6									
Level of Service			F									
Intersection Capacity Utilization			85.2%		ICU Level of Service		E					
Analysis Period (min)			15									

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/04/2022

Intersection

Intersection Delay, s/veh	180.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↵		↵	↵	
Traffic Vol, veh/h	59	64	1	161	114	123	2	501	110	169	661	12
Future Vol, veh/h	59	64	1	161	114	123	2	501	110	169	661	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	2
Mvmt Flow	61	67	1	168	119	128	2	522	115	176	689	13
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	20.3	53.6	222.1	233.3
HCM LOS	C	F	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	48%	40%	100%	0%
Vol Thru, %	0%	82%	52%	29%	0%	98%
Vol Right, %	0%	18%	1%	31%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	611	124	398	169	673
LT Vol	2	0	59	161	169	0
Through Vol	0	501	64	114	0	661
RT Vol	0	110	1	123	0	12
Lane Flow Rate	2	636	129	415	176	701
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.005	1.411	0.336	0.893	0.417	1.562
Departure Headway (Hd)	9.42	8.765	11.556	9.208	9.407	8.888
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	382	420	314	398	386	414
Service Time	7.12	6.465	9.556	7.208	7.107	6.588
HCM Lane V/C Ratio	0.005	1.514	0.411	1.043	0.456	1.693
HCM Control Delay	12.2	222.8	20.3	53.6	18.7	287.2
HCM Lane LOS	B	F	C	F	C	F
HCM 95th-tile Q	0	28.7	1.4	9.1	2	35.2

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	36	173	1	33	39	157	370	14	28	531	69
Future Volume (Veh/h)	57	36	173	1	33	39	157	370	14	28	531	69
Sign Control	Stop		Stop				Free				Free	
Grade	0%		0%				0%				0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	59	38	180	1	34	41	164	385	15	29	553	72
Pedestrians	10		8				4					
Lane Width (ft)	12.0		12.0				12.0					
Walking Speed (ft/s)	3.5		3.5				3.5					
Percent Blockage	1		1				0					
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												1273
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	1436	1393	603	1578	1422	400	635			408		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1433	1389	568	1582	1418	400	601			408		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	4	65	63	97	67	94	82			97		
cM capacity (veh/h)	61	108	491	33	104	645	930			1142		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	59	218	76	564	654							
Volume Left	59	0	1	164	29							
Volume Right	0	180	41	15	72							
cSH	61	304	180	930	1142							
Volume to Capacity	0.96	0.72	0.42	0.18	0.03							
Queue Length 95th (ft)	114	129	48	16	2							
Control Delay (s)	214.0	42.0	38.8	4.4	0.7							
Lane LOS	F	E	E	A	A							
Approach Delay (s)	78.7		38.8	4.4	0.7							
Approach LOS	F		E									
Intersection Summary												
Average Delay			17.6									
Intersection Capacity Utilization			92.2%	ICU Level of Service		F						
Analysis Period (min)			15									

HCM 6th TWSC
11: Settlemier St & Hayes St

11/04/2022

Intersection												
Int Delay, s/veh	17.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	36	173	1	33	39	157	370	14	28	531	69
Future Vol, veh/h	57	36	173	1	33	39	157	370	14	28	531	69
Conflicting Peds, #/hr	0	0	4	4	0	0	10	0	8	8	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	7	2	5	2	2	2	2	4	2	2	2	2
Mvmt Flow	59	38	180	1	34	41	164	385	15	29	553	72

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1415	1393	603	1489	1422	401	635	0	0	408	0	0
Stage 1	657	657	-	729	729	-	-	-	-	-	-	-
Stage 2	758	736	-	760	693	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.52	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.17	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.018	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	112	142	493	102	136	649	948	-	-	1151	-	-
Stage 1	446	462	-	414	428	-	-	-	-	-	-	-
Stage 2	392	425	-	398	445	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	62	104	486	37	99	644	939	-	-	1142	-	-
Mov Cap-2 Maneuver	62	104	-	37	99	-	-	-	-	-	-	-
Stage 1	343	439	-	318	329	-	-	-	-	-	-	-
Stage 2	255	327	-	219	423	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	79.9		41.2		2.8		0.4	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	939	-	-	62	298	173	1142	-	-
HCM Lane V/C Ratio	0.174	-	-	0.958	0.731	0.44	0.026	-	-
HCM Control Delay (s)	9.6	0	-	212	43.9	41.2	8.2	0	-
HCM Lane LOS	A	A	-	F	E	E	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	4.6	5.3	2	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	1	1	106	139	123
Future Volume (Veh/h)	84	1	1	106	139	123
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	99	1	1	125	164	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	364	236	309			
vC1, stage 1 conf vol	236					
vC2, stage 2 conf vol	127					
vCu, unblocked vol	364	236	309			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	100	100			
cM capacity (veh/h)	751	802	1252			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	100	1	125	309		
Volume Left	99	1	0	0		
Volume Right	1	0	0	145		
cSH	752	1252	1700	1700		
Volume to Capacity	0.13	0.00	0.07	0.18		
Queue Length 95th (ft)	11	0	0	0		
Control Delay (s)	10.5	7.9	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	10.5	0.1		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			27.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/04/2022

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	84	1	1	106	139	123
Future Vol, veh/h	84	1	1	106	139	123
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	20	20	2
Mvmt Flow	99	1	1	125	164	145

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	364	237	309	0	0
Stage 1	237	-	-	-	-
Stage 2	127	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	635	802	1252	-	-
Stage 1	802	-	-	-	-
Stage 2	899	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	634	802	1252	-	-
Mov Cap-2 Maneuver	672	-	-	-	-
Stage 1	801	-	-	-	-
Stage 2	899	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1252	-	673	-	-
HCM Lane V/C Ratio	0.001	-	0.149	-	-
HCM Control Delay (s)	7.9	-	11.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	0	0	79	110	18
Future Volume (Veh/h)	15	0	0	79	110	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	0	0	93	129	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None TWLTL					
Median storage (veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	232	140	150			
vC1, stage 1 conf vol	140					
vC2, stage 2 conf vol	93					
vCu, unblocked vol	232	140	150			
tC, single (s)	6.6	6.4	4.3			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.5	2.4			
p0 queue free %	98	100	100			
cM capacity (veh/h)	795	863	1328			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	18	93	150			
Volume Left	18	0	0			
Volume Right	0	0	21			
cSH	795	1328	1700			
Volume to Capacity	0.02	0.00	0.09			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	9.6	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.6	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			17.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
13: Evergreen Rd & North Access

11/04/2022

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	0	0	79	110	18
Future Vol, veh/h	15	0	0	79	110	18
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	85	85	85	85	85	85
Heavy Vehicles, %	20	20	20	10	10	20
Mvmt Flow	18	0	0	93	129	21

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	233	140	150	0	0
Stage 1	140	-	-	-	-
Stage 2	93	-	-	-	-
Critical Hdwy	6.6	6.4	4.3	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.38	-	-
Pot Cap-1 Maneuver	717	862	1328	-	-
Stage 1	844	-	-	-	-
Stage 2	887	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	717	862	1328	-	-
Mov Cap-2 Maneuver	721	-	-	-	-
Stage 1	844	-	-	-	-
Stage 2	887	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1328	-	721	-	-
HCM Lane V/C Ratio	-	-	0.024	-	-
HCM Control Delay (s)	0	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	0	0	0	0	110
Future Volume (Veh/h)	79	0	0	0	0	110
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	93	0	0	0	0	129
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	64	64	129			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64	64	129			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	100	100			
cM capacity (veh/h)	941	1000	1457			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	93	0	129			
Volume Left	93	0	0			
Volume Right	0	0	129			
cSH	941	1700	1700			
Volume to Capacity	0.10	0.00	0.08			
Queue Length 95th (ft)	8	0	0			
Control Delay (s)	9.2	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.2	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			18.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 14: Evergreen Rd & South Access

11/04/2022

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	0	0	0	0	110
Future Vol, veh/h	79	0	0	0	0	110
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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	10	10	2
Mvmt Flow	93	0	0	0	0	129

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	65	65	129	0	0
Stage 1	65	-	-	-	-
Stage 2	0	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	941	999	1457	-	-
Stage 1	958	-	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	941	999	1457	-	-
Mov Cap-2 Maneuver	941	-	-	-	-
Stage 1	958	-	-	-	-
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1457	-	941	-	-
HCM Lane V/C Ratio	-	-	0.099	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

HCM Unsignalized Intersection Capacity Analysis
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	74	0	0	0	0	91	0	0	0
Future Volume (vph)	0	0	0	74	0	0	0	0	91	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	87	0	0	0	0	107	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	87	107	0								
Volume Left (vph)	0	87	0	0								
Volume Right (vph)	0	0	107	0								
Hadj (s)	0.00	0.30	-0.57	0.00								
Departure Headway (s)	4.2	4.4	3.5	4.2								
Degree Utilization, x	0.00	0.11	0.11	0.00								
Capacity (veh/h)	836	796	984	838								
Control Delay (s)	7.2	7.9	7.0	7.2								
Approach Delay (s)	0.0	7.9	7.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.4									
Level of Service			A									
Intersection Capacity Utilization			17.2%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	74	0	0	0	0	91	0	0	0
Future Vol, veh/h	0	0	0	74	0	0	0	0	91	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	0	0	0	87	0	0	0	0	107	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	7.9	7.1	0
HCM LOS	-	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	100%
Vol Right, %	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	0	74	0
LT Vol	0	0	74	0
Through Vol	0	0	0	0
RT Vol	91	0	0	0
Lane Flow Rate	107	0	87	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.108	0	0.106	0
Departure Headway (Hd)	3.621	4.206	4.389	4.185
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	981	0	817	0
Service Time	1.678	2.257	2.415	2.255
HCM Lane V/C Ratio	0.109	0	0.106	0
HCM Control Delay	7.1	7.3	7.9	7.3
HCM Lane LOS	A	N	A	N
HCM 95th-tile Q	0.4	0	0.4	0

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.04	0.02			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
16: Industrial Road & East Access

11/04/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1 1
Stage 1	-	-	-	-	1 -
Stage 2	-	-	-	-	0 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1571	-	-	-	1001 1061
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001 1061
Mov Cap-2 Maneuver	-	-	-	-	1001 -
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	- -

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	1572				1003	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.03	0.03			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
17: Industrial Road & West Access

11/04/2022

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	1
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	0
Critical Hdwy	4.2	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.29	-	-	-	3.59
Pot Cap-1 Maneuver	1571	-	-	-	1001
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	1001
Mov Cap-2 Maneuver	-	-	-	-	1001
Stage 1	-	-	-	-	1002
Stage 2	-	-	-	-	-

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)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	6	89	74	21	13	3
Future Volume (Veh/h)	6	89	74	21	13	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	103	86	24	15	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	110				215	98
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110				215	98
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				98	100
cM capacity (veh/h)	1432				752	936
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	110	110	18			
Volume Left	7	0	15			
Volume Right	0	24	3			
cSH	1432	1700	778			
Volume to Capacity	0.00	0.06	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.5	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	0.5	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			20.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
20: Parr Rd & Stubb Rd

11/04/2022

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	6	89	74	21	13	3
Future Vol, veh/h	6	89	74	21	13	3
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	86	86	86	86	86	86
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	7	103	86	24	15	3





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	110	0	-	0	215 98
Stage 1	-	-	-	-	98 -
Stage 2	-	-	-	-	117 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1432	-	-	-	756 936
Stage 1	-	-	-	-	906 -
Stage 2	-	-	-	-	889 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1432	-	-	-	752 936
Mov Cap-2 Maneuver	-	-	-	-	752 -
Stage 1	-	-	-	-	901 -
Stage 2	-	-	-	-	889 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1432	-	-	-	781
HCM Lane V/C Ratio	0.005	-	-	-	0.024
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	82	80	78	54	84	8	74	142	47	4	156	114
Future Volume (vph)	82	80	78	54	84	8	74	142	47	4	156	114
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	95	93	91	63	98	9	86	165	55	5	181	133
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	95	184	63	107	251	55	186	133				
Volume Left (vph)	95	0	63	0	86	0	5	0				
Volume Right (vph)	0	91	0	9	0	55	0	133				
Hadj (s)	0.67	-0.31	0.53	-0.02	0.21	-0.67	0.06	-0.61				
Departure Headway (s)	7.1	6.2	7.2	6.6	6.5	5.6	6.4	5.7				
Degree Utilization, x	0.19	0.32	0.13	0.20	0.45	0.09	0.33	0.21				
Capacity (veh/h)	473	549	465	505	524	603	538	598				
Control Delay (s)	10.6	10.8	10.0	10.0	13.5	7.9	11.2	9.0				
Approach Delay (s)	10.7		10.0		12.5		10.3					
Approach LOS	B		B		B		B					
Intersection Summary												
Delay			11.0									
Level of Service			B									
Intersection Capacity Utilization			50.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↶	↷		↶	↷
Traffic Vol, veh/h	82	80	78	54	84	8	74	142	47	4	156	114
Future Vol, veh/h	82	80	78	54	84	8	74	142	47	4	156	114
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	10	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	95	93	91	63	98	9	86	165	55	5	181	133
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12	11.3	13.9	11.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	34%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	66%	0%	0%	51%	0%	91%	97%	0%
Vol Right, %	0%	100%	0%	49%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	216	47	82	158	54	92	160	114
LT Vol	74	0	82	0	54	0	4	0
Through Vol	142	0	0	80	0	84	156	0
RT Vol	0	47	0	78	0	8	0	114
Lane Flow Rate	251	55	95	184	63	107	186	133
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.462	0.087	0.194	0.322	0.129	0.202	0.335	0.213
Departure Headway (Hd)	6.625	5.74	7.312	6.312	7.373	6.8	6.48	5.772
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	540	620	488	566	483	524	553	618
Service Time	4.4	3.514	5.089	4.089	5.159	4.586	4.254	3.546
HCM Lane V/C Ratio	0.465	0.089	0.195	0.325	0.13	0.204	0.336	0.215
HCM Control Delay	15	9.1	11.9	12.1	11.3	11.3	12.5	10.1
HCM Lane LOS	B	A	B	B	B	B	B	B
HCM 95th-tile Q	2.4	0.3	0.7	1.4	0.4	0.7	1.5	0.8

HCM Unsignalized Intersection Capacity Analysis
 22: Butteville Rd & Parr Rd

11/04/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	31	62	139	30	68	245
Future Volume (Veh/h)	31	62	139	30	68	245
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	36	72	162	35	79	285
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	622	180			197	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	622	180			197	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	92			94	
cM capacity (veh/h)	424	858			1376	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	108	197	364			
Volume Left	36	0	79			
Volume Right	72	35	0			
cSH	640	1700	1376			
Volume to Capacity	0.17	0.12	0.06			
Queue Length 95th (ft)	15	0	5			
Control Delay (s)	11.8	0.0	2.1			
Lane LOS	B		A			
Approach Delay (s)	11.8	0.0	2.1			
Approach LOS	B					
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization		44.0%		ICU Level of Service		A
Analysis Period (min)		15				

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/04/2022

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	62	139	30	68	245
Future Vol, veh/h	31	62	139	30	68	245
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	86	86	86	86	86	86
Heavy Vehicles, %	2	4	2	2	2	2
Mvmt Flow	36	72	162	35	79	285

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	623	180	0	0	197
Stage 1	180	-	-	-	-
Stage 2	443	-	-	-	-
Critical Hdwy	6.42	6.24	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.336	-	-	2.218
Pot Cap-1 Maneuver	450	858	-	-	1376
Stage 1	851	-	-	-	-
Stage 2	647	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	419	858	-	-	1376
Mov Cap-2 Maneuver	419	-	-	-	-
Stage 1	851	-	-	-	-
Stage 2	603	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	636	1376
HCM Lane V/C Ratio	-	-	0.17	0.057
HCM Control Delay (s)	-	-	11.8	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.2

HCM Unsignalized Intersection Capacity Analysis
 1: Butteville Rd & OR 219

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized		MOYes				MOYes
Traffic Volume (veh/h)	472	184	310	278	80	229
Future Volume (veh/h)	472	184	310	278	80	229
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	530	207	348	312	90	257
Approach Volume (veh/h)	530			660	90	
Crossing Volume (veh/h)	348			90	530	
High Capacity (veh/h)	1054			1291	911	
High v/c (veh/h)	0.50			0.51	0.10	
Low Capacity (veh/h)	862			1076	735	
Low v/c (veh/h)	0.62			0.61	0.12	
Intersection Summary						
Maximum v/c High			0.51			
Maximum v/c Low			0.62			
Intersection Capacity Utilization			75.1%		ICU Level of Service	D

HCM 6th Roundabout
1: Butteville Rd & OR 219

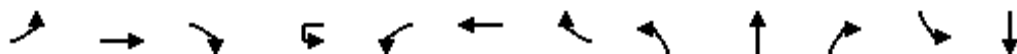
11/04/2022

Intersection				
Intersection Delay, s/veh	3.9			
Intersection LOS	A			
Approach	EB	WB	NB	
Entry Lanes	0	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	0	660	347	
Demand Flow Rate, veh/h	0	676	367	
Vehicles Circulating, veh/h	355	95	541	
Vehicles Exiting, veh/h	416	541	355	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	5.3	1.4	
Approach LOS	-	A	A	
Lane	Left	Right	Left	Bypass
Designated Moves	L	TR	L	R
Assumed Moves	L	TR	L	R
RT Channelized				Free
Lane Util	0.525	0.475	1.000	
Follow-Up Headway, s	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.328	272
Entry Flow, veh/h	355	321	95	1855
Cap Entry Lane, veh/h	1237	1310	897	0.943
Entry HV Adj Factor	0.980	0.971	0.947	257
Flow Entry, veh/h	348	312	90	1750
Cap Entry, veh/h	1212	1272	849	0.147
V/C Ratio	0.287	0.245	0.106	0.0
Control Delay, s/veh	5.6	5.0	5.3	A
LOS	A	A	A	1
95th %tile Queue, veh	1	1	0	

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	85	578	2	27	33	534	291	6	2	68	641	5
Future Volume (vph)	85	578	2	27	33	534	291	6	2	68	641	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3197	1434		1504	3260	1444	1385	1204		1548	1515
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3197	1434		1504	3260	1444	1385	1204		1548	1515
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)	89	608	2	28	35	562	306	6	2	72	675	5
RTOR Reduction (vph)	0	0	1	0	0	0	114	0	65	0	0	6
Lane Group Flow (vph)	89	608	1	0	63	562	192	6	9	0	378	369
Confl. Peds. (#/hr)	1		1		1		1	1				
Confl. Bikes (#/hr)			1							1		
Heavy Vehicles (%)	2%	4%	2%	0%	19%	2%	2%	20%	2%	23%	2%	20%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	8.3	26.2	34.2		7.5	25.4	55.1	8.0	8.0		29.7	29.7
Effective Green, g (s)	8.3	26.7	34.2		7.5	25.9	55.1	8.0	8.0		29.7	29.7
Actuated g/C Ratio	0.09	0.30	0.39		0.09	0.29	0.63	0.09	0.09		0.34	0.34
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	153	971	557		128	960	905	126	109		523	511
v/s Ratio Prot	0.05	c0.19	0.00		0.04	c0.17	0.07	0.00	c0.01		c0.24	0.24
v/s Ratio Perm			0.00				0.06					
v/c Ratio	0.58	0.63	0.00		0.49	0.59	0.21	0.05	0.08		0.72	0.72
Uniform Delay, d1	38.1	26.3	16.4		38.4	26.4	7.1	36.5	36.6		25.5	25.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.6	1.5	0.0		2.2	1.2	0.1	0.1	0.2		4.6	4.7
Delay (s)	42.7	27.8	16.4		40.5	27.6	7.1	36.6	36.8		30.1	30.2
Level of Service	D	C	B		D	C	A	D	D		C	C
Approach Delay (s)		29.7				21.7			36.8			30.1
Approach LOS		C				C			D			C

Intersection Summary

HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	87.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/04/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	69
Future Volume (vph)	69
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	73
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗	
Traffic Volume (vph)	0	873	440	0	912	716	0	0	0	826	0	418	
Future Volume (vph)	0	873	440	0	912	716	0	0	0	826	0	418	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0	
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00	
Frbp, ped/bikes		1.00	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	
Frt		1.00	0.85		1.00	0.85				1.00		0.85	
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (prot)		3228	1444		3260	1426				3131		1417	
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (perm)		3228	1444		3260	1426				3131		1417	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	0	900	454	0	940	738	0	0	0	852	0	431	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	59	
Lane Group Flow (vph)	0	900	454	0	940	738	0	0	0	852	0	372	
Confl. Peds. (#/hr)	4					4							
Heavy Vehicles (%)	0%	3%	3%	0%	2%	2%	0%	0%	0%	3%	0%	5%	
Turn Type		NA	Free		NA	Free				Prot		Perm	
Protected Phases		2			6					4			
Permitted Phases			Free			Free						4	
Actuated Green, G (s)		34.1	64.0		34.1	64.0				20.9		20.9	
Effective Green, g (s)		34.6	64.0		34.6	64.0				21.4		21.4	
Actuated g/C Ratio		0.54	1.00		0.54	1.00				0.33		0.33	
Clearance Time (s)		4.5			4.5					4.5		4.5	
Vehicle Extension (s)		6.0			6.0					2.5		2.5	
Lane Grp Cap (vph)		1745	1444		1762	1426				1046		473	
v/s Ratio Prot		0.28			0.29					c0.27			
v/s Ratio Perm			0.31			c0.52						0.26	
v/c Ratio		0.52	0.31		0.53	0.52				0.81		0.79	
Uniform Delay, d1		9.4	0.0		9.5	0.0				19.5		19.2	
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00	
Incremental Delay, d2		1.1	0.6		0.7	1.3				4.8		8.2	
Delay (s)		10.5	0.6		10.2	1.3				24.3		27.4	
Level of Service		B	A		B	A				C		C	
Approach Delay (s)		7.1			6.3			0.0			25.4		
Approach LOS		A			A			A			C		
Intersection Summary													
HCM 2000 Control Delay			12.2		HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio			0.67										
Actuated Cycle Length (s)			64.0		Sum of lost time (s)					8.0			
Intersection Capacity Utilization			62.1%		ICU Level of Service					B			
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary
 3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	873	440	0	912	716	0	0	0	826	0	418
Future Volume (veh/h)	0	873	440	0	912	716	0	0	0	826	0	418
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1709	1709	0	1723	1723				1709	0	1682
Adj Flow Rate, veh/h	0	900	0	0	940	0				852	0	431
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	0	2	2				3	0	5
Cap, veh/h	0	1687		0	1700					1123	0	507
Arrive On Green	0.00	0.52	0.00	0.00	0.52	0.00				0.36	0.00	0.36
Sat Flow, veh/h	0	3333	1448	0	3359	1460				3158	0	1425
Grp Volume(v), veh/h	0	900	0	0	940	0				852	0	431
Grp Sat Flow(s),veh/h/ln	0	1624	1448	0	1637	1460				1579	0	1425
Q Serve(g_s), s	0.0	11.8	0.0	0.0	12.4	0.0				15.2	0.0	17.9
Cycle Q Clear(g_c), s	0.0	11.8	0.0	0.0	12.4	0.0				15.2	0.0	17.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1687		0	1700					1123	0	507
V/C Ratio(X)	0.00	0.53		0.00	0.55					0.76	0.00	0.85
Avail Cap(c_a), veh/h	0	1687		0	1700					1184	0	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.70	0.00	0.00	0.62	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.2	0.0	0.0	10.4	0.0				18.2	0.0	19.1
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.7	0.0				2.6	0.0	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	0.0	0.0	3.7	0.0				5.3	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.1	0.0	0.0	11.0	0.0				20.8	0.0	30.7
LnGrp LOS	A	B		A	B					C	A	C
Approach Vol, veh/h		900			940						1283	
Approach Delay, s/veh		11.1			11.0						24.1	
Approach LOS		B			B						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		37.2		26.8		37.2						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		19.9		0.0						
Green Ext Time (p_c), s		0.0		2.4		0.0						

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	1426	237	0	1330	321	713
Future Volume (vph)	1426	237	0	1330	321	713
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frbp, ped/bikes	1.00	0.98		1.00	0.99	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.92	0.85
Flt Protected	1.00	1.00		1.00	0.98	1.00
Satd. Flow (prot)	3260	1374		3260	2899	1259
Flt Permitted	1.00	1.00		1.00	0.98	1.00
Satd. Flow (perm)	3260	1374		3260	2899	1259
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1455	242	0	1357	328	728
RTOR Reduction (vph)	0	112	0	0	17	17
Lane Group Flow (vph)	1455	130	0	1357	675	347
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	6%	0%	2%	2%	6%
Turn Type	NA	Perm		NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases		2				8
Actuated Green, G (s)	53.1	53.1		53.1	37.0	37.0
Effective Green, g (s)	53.6	53.6		53.6	37.7	37.7
Actuated g/C Ratio	0.54	0.54		0.54	0.38	0.38
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1747	736		1747	1092	474
v/s Ratio Prot	c0.45			0.42	0.23	
v/s Ratio Perm		0.09				c0.28
v/c Ratio	0.83	0.18		0.78	0.62	0.73
Uniform Delay, d1	19.4	11.9		18.4	25.3	26.8
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.8	0.5		2.8	0.9	5.4
Delay (s)	24.3	12.4		21.3	26.2	32.2
Level of Service	C	B		C	C	C
Approach Delay (s)	22.6			21.3	28.3	
Approach LOS	C			C	C	

Intersection Summary

HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↗	↘	↙
Traffic Volume (vph)	39	78	1084	572	11	279	873	18	615	27	191	28
Future Volume (vph)	39	78	1084	572	11	279	873	18	615	27	191	28
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	1.00	1.00
Frbp, ped/bikes		1.00	1.00	0.96		1.00	1.00		1.00	1.00	0.98	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	1.00	0.85		1.00	1.00		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (prot)		1641	3197	1368		1631	3218		1548	1559	1436	1630
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		1641	3197	1368		1631	3218		1548	1559	1436	1630
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)	42	84	1166	615	12	300	939	19	661	29	205	30
RTOR Reduction (vph)	0	0	0	368	0	0	1	0	0	0	157	0
Lane Group Flow (vph)	0	126	1166	247	0	312	957	0	344	346	48	30
Confl. Peds. (#/hr)				11		11			5		2	2
Confl. Bikes (#/hr)				1				2			1	
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split
Protected Phases	5	5	2		1	1	6		7	7		4
Permitted Phases				2							7	
Actuated Green, G (s)		10.3	39.6	39.6		14.2	43.5		22.9	22.9	22.9	5.8
Effective Green, g (s)		10.3	40.1	40.1		14.2	44.0		23.4	23.4	23.4	6.3
Actuated g/C Ratio		0.10	0.40	0.40		0.14	0.44		0.23	0.23	0.23	0.06
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)		169	1281	548		231	1415		362	364	336	102
v/s Ratio Prot		0.08	c0.36			c0.19	c0.30		c0.22	0.22		0.02
v/s Ratio Perm				0.18							0.03	
v/c Ratio		0.75	0.91	0.45		1.35	0.68		0.95	0.95	0.14	0.29
Uniform Delay, d1		43.6	28.3	21.9		42.9	22.3		37.7	37.7	30.4	44.7
Progression Factor		0.96	1.14	3.22		0.79	1.59		1.00	1.00	1.00	1.00
Incremental Delay, d2		9.7	7.2	1.6		177.6	1.5		34.4	34.4	0.1	1.2
Delay (s)		51.6	39.5	72.0		211.3	37.1		72.2	72.1	30.5	45.9
Level of Service		D	D	E		F	D		E	E	C	D
Approach Delay (s)			50.8				79.9			62.6		
Approach LOS			D				E			E		
Intersection Summary												
HCM 2000 Control Delay			61.9				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		16.5			
Intersection Capacity Utilization			85.9%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



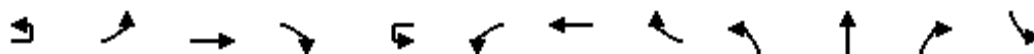
Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	30	77
Future Volume (vph)	30	77
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frbp, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1716	1433
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1716	1433
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	32	83
RTOR Reduction (vph)	0	78
Lane Group Flow (vph)	32	5
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	5.8	5.8
Effective Green, g (s)	6.3	6.3
Actuated g/C Ratio	0.06	0.06
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	108	90
v/s Ratio Prot	c0.02	
v/s Ratio Perm		0.00
v/c Ratio	0.30	0.06
Uniform Delay, d1	44.7	44.1
Progression Factor	1.00	1.00
Incremental Delay, d2	1.1	0.2
Delay (s)	45.9	44.3
Level of Service	D	D
Approach Delay (s)	44.9	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations	↔	↔	↕↔			↕↔	↕↔		↕	↕		↕
Traffic Volume (vph)	14	119	1179	44	1	28	1088	38	24	35	8	58
Future Volume (vph)	14	119	1179	44	1	28	1088	38	24	35	8	58
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0			4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, 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	1.00	0.99			1.00	0.99		1.00	0.97		1.00
Flt Protected	0.95	0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)	1513	1549	3175			1631	3211		1630	1663		1630
Flt Permitted	0.95	0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (perm)	1513	1549	3175			1631	3211		1630	1663		1630
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)	16	132	1310	49	1	31	1209	42	27	39	9	64
RTOR Reduction (vph)	0	0	2	0	0	0	2	0	0	8	0	0
Lane Group Flow (vph)	14	134	1357	0	0	32	1249	0	27	40	0	64
Confl. Peds. (#/hr)				11		11			5		2	2
Confl. Bikes (#/hr)				1				2				
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	12.8	12.8	60.8			4.9	52.9		4.6	9.4		8.4
Effective Green, g (s)	12.8	12.8	61.3			4.9	53.4		4.6	9.4		8.4
Actuated g/C Ratio	0.13	0.13	0.61			0.05	0.53		0.05	0.09		0.08
Clearance Time (s)	4.0	4.0	4.5			4.0	4.5		4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)	193	198	1946			79	1714		74	156		136
v/s Ratio Prot	0.01	c0.09	c0.43			0.02	0.39		0.02	0.02		c0.04
v/s Ratio Perm												
v/c Ratio	0.07	0.68	0.70			0.41	0.73		0.36	0.26		0.47
Uniform Delay, d1	38.4	41.6	13.1			46.1	17.8		46.3	42.1		43.7
Progression Factor	1.18	1.23	0.62			1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1	5.3	1.4			2.5	2.8		2.2	0.6		1.9
Delay (s)	45.3	56.5	9.5			48.6	20.5		48.5	42.7		45.5
Level of Service	D	E	A			D	C		D	D		D
Approach Delay (s)			14.0				21.2			44.8		
Approach LOS			B				C			D		
Intersection Summary												
HCM 2000 Control Delay			19.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			63.1%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



























Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	25	89
Future Volume (vph)	25	89
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.88	
Flt Protected	1.00	
Satd. Flow (prot)	1496	
Flt Permitted	1.00	
Satd. Flow (perm)	1496	
Peak-hour factor, PHF	0.90	0.90
Adj. Flow (vph)	28	99
RTOR Reduction (vph)	86	0
Lane Group Flow (vph)	41	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.2	
Effective Green, g (s)	13.2	
Actuated g/C Ratio	0.13	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	197	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.21	
Uniform Delay, d1	38.7	
Progression Factor	1.00	
Incremental Delay, d2	0.4	
Delay (s)	39.1	
Level of Service	D	
Approach Delay (s)	41.3	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	121	649	387	133	691	118	290	118	113	141	215	153	
Future Volume (vph)	121	649	387	133	691	118	290	118	113	141	215	153	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96	
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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1630	1651	1419	1630	1651	1399	1599	1716	1424	1614	1683	1406	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1630	1651	1419	1630	1651	1399	1599	1716	1424	1614	1683	1406	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	126	676	403	139	720	123	302	123	118	147	224	159	
RTOR Reduction (vph)	0	0	159	0	0	65	0	0	93	0	0	135	
Lane Group Flow (vph)	126	676	244	139	720	58	302	123	25	147	224	24	
Confl. Peds. (#/hr)			3	3			4					4	
Confl. Bikes (#/hr)						2			2			3	
Heavy Vehicles (%)	2%	6%	2%	2%	6%	4%	4%	2%	2%	3%	4%	2%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	8.0	51.4	51.4	11.9	55.3	55.3	19.6	24.0	24.0	12.7	17.1	17.1	
Effective Green, g (s)	8.5	52.4	52.4	12.4	56.3	56.3	20.1	25.0	25.0	13.2	18.1	18.1	
Actuated g/C Ratio	0.07	0.44	0.44	0.10	0.47	0.47	0.17	0.21	0.21	0.11	0.15	0.15	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	116	726	624	169	781	661	270	360	299	179	255	213	
v/s Ratio Prot	c0.08	0.41		0.09	c0.44		c0.19	0.07		0.09	c0.13		
v/s Ratio Perm			0.17			0.04			0.02			0.02	
v/c Ratio	1.09	0.93	0.39	0.82	0.92	0.09	1.12	0.34	0.08	0.82	0.88	0.11	
Uniform Delay, d1	55.2	31.6	22.5	52.2	29.3	17.2	49.5	40.0	37.8	51.7	49.4	43.5	
Progression 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	
Incremental Delay, d2	108.6	18.6	0.3	25.9	16.2	0.0	90.4	0.4	0.1	24.6	26.9	0.2	
Delay (s)	163.9	50.2	22.8	78.2	45.5	17.3	139.9	40.4	37.9	76.4	76.3	43.7	
Level of Service	F	D	C	E	D	B	F	D	D	E	E	D	
Approach Delay (s)		52.9			46.6			95.2			66.5		
Approach LOS		D			D			F			E		
Intersection Summary													
HCM 2000 Control Delay			60.3									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.97										
Actuated Cycle Length (s)			119.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			91.0%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	121	649	387	133	691	118	290	118	113	141	215	153
Future Volume (veh/h)	121	649	387	133	691	118	290	118	113	141	215	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1668	1723	1723	1668	1695	1695	1723	1723	1709	1695	1723
Adj Flow Rate, veh/h	126	676	403	139	720	123	302	123	118	147	224	159
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	6	2	2	6	4	4	2	2	3	4	2
Cap, veh/h	120	747	651	170	797	670	279	347	284	178	234	193
Arrive On Green	0.07	0.45	0.45	0.10	0.48	0.48	0.17	0.20	0.20	0.11	0.14	0.14
Sat Flow, veh/h	1641	1668	1455	1641	1668	1401	1615	1723	1411	1628	1695	1398
Grp Volume(v), veh/h	126	676	403	139	720	123	302	123	118	147	224	159
Grp Sat Flow(s),veh/h/ln	1641	1668	1455	1641	1668	1401	1615	1723	1411	1628	1695	1398
Q Serve(g_s), s	8.5	43.6	24.5	9.6	45.9	5.8	20.0	7.1	8.4	10.2	15.2	12.8
Cycle Q Clear(g_c), s	8.5	43.6	24.5	9.6	45.9	5.8	20.0	7.1	8.4	10.2	15.2	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	747	651	170	797	670	279	347	284	178	234	193
V/C Ratio(X)	1.05	0.91	0.62	0.82	0.90	0.18	1.08	0.35	0.42	0.83	0.96	0.82
Avail Cap(c_a), veh/h	120	792	690	184	856	719	279	347	284	197	234	193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	29.7	24.5	50.9	27.8	17.3	47.9	39.8	40.3	50.5	49.6	48.6
Incr Delay (d2), s/veh	95.2	13.3	1.3	22.0	12.1	0.1	78.1	0.5	0.7	21.7	46.6	23.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	19.4	8.7	4.9	20.0	0.0	14.1	3.1	3.0	5.2	9.4	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.9	43.0	25.8	72.8	39.8	17.4	126.0	40.3	41.1	72.2	96.2	72.2
LnGrp LOS	F	D	C	E	D	B	F	D	D	E	F	E
Approach Vol, veh/h		1205			982			543			530	
Approach Delay, s/veh		48.3			41.7			88.1			82.3	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	55.9	24.0	20.0	12.5	59.4	16.7	27.3				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	12.5	54.0	19.5	15.0	8.0	58.5	13.5	21.0				
Max Q Clear Time (g_c+I1), s	11.6	45.6	22.0	17.2	10.5	47.9	12.2	9.1				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	6.5	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	58.5
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	402	260	262	358	59	266	431	115	156	800	233
Future Volume (vph)	218	402	260	262	358	59	266	431	115	156	800	233
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		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	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1554	1636	1400	1614	1596		3131	3079	1233	1583	3019	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1554	1636	1400	1614	1596		3131	3079	1233	1583	3019	
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)	229	423	274	276	377	62	280	454	121	164	842	245
RTOR Reduction (vph)	0	0	211	0	5	0	0	0	82	0	20	0
Lane Group Flow (vph)	229	423	63	276	434	0	280	454	39	164	1067	0
Confl. Peds. (#/hr)	1		10	10		1	4		1	1		4
Heavy Vehicles (%)	7%	7%	4%	3%	8%	2%	3%	8%	18%	5%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	21.8	28.7	28.7	24.0	30.9		15.8	38.7	38.7	16.7	39.6	
Effective Green, g (s)	21.3	28.7	28.7	23.5	30.9		15.3	40.4	40.4	16.2	41.3	
Actuated g/C Ratio	0.17	0.23	0.23	0.19	0.25		0.12	0.32	0.32	0.13	0.33	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	265	376	321	303	395		383	996	399	205	999	
v/s Ratio Prot	0.15	0.26		c0.17	c0.27		c0.09	0.15		0.10	c0.35	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	0.86	1.12	0.20	0.91	1.10		0.73	0.46	0.10	0.80	1.07	
Uniform Delay, d1	50.3	48.0	38.7	49.6	47.0		52.8	33.5	29.5	52.7	41.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	23.9	84.8	0.2	29.8	75.0		6.6	0.2	0.1	19.1	48.5	
Delay (s)	74.2	132.9	39.0	79.4	122.0		59.4	33.7	29.6	71.8	90.2	
Level of Service	E	F	D	E	F		E	C	C	E	F	
Approach Delay (s)		90.6			105.6			41.5			87.8	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM 2000 Control Delay			81.3				HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			124.8				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			95.4%				ICU Level of Service				F	
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	402	260	262	358	59	266	431	115	156	800	233
Future Volume (veh/h)	218	402	260	262	358	59	266	431	115	156	800	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1654	1654	1695	1709	1641	1723	1709	1641	1504	1682	1668	1668
Adj Flow Rate, veh/h	229	423	0	276	377	62	280	454	121	164	842	245
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	4	3	8	2	3	8	18	5	6	6
Cap, veh/h	251	360		296	329	54	333	1074	437	196	830	241
Arrive On Green	0.16	0.22	0.00	0.18	0.24	0.24	0.11	0.34	0.34	0.12	0.34	0.33
Sat Flow, veh/h	1576	1654	1437	1628	1371	226	3158	3118	1267	1602	2420	704
Grp Volume(v), veh/h	229	423	0	276	0	439	280	454	121	164	551	536
Grp Sat Flow(s),veh/h/ln	1576	1654	1437	1628	0	1597	1579	1559	1267	1602	1585	1538
Q Serve(g_s), s	17.1	26.0	0.0	20.0	0.0	28.7	10.4	13.4	8.3	12.0	41.0	41.0
Cycle Q Clear(g_c), s	17.1	26.0	0.0	20.0	0.0	28.7	10.4	13.4	8.3	12.0	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	251	360		296	0	383	333	1074	437	196	544	528
V/C Ratio(X)	0.91	1.18		0.93	0.00	1.15	0.84	0.42	0.28	0.84	1.01	1.02
Avail Cap(c_a), veh/h	343	360		354	0	383	555	1074	437	281	544	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	46.8	0.0	48.2	0.0	45.4	52.5	30.1	28.4	51.3	39.3	39.6
Incr Delay (d2), s/veh	21.5	104.2	0.0	27.8	0.0	91.7	4.5	0.2	0.3	12.0	42.1	43.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	20.9	0.0	10.1	0.0	20.7	4.2	4.9	2.5	5.3	21.5	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	151.0	0.0	76.0	0.0	137.1	57.0	30.3	28.6	63.3	81.4	82.6
LnGrp LOS	E	F		E	A	F	E	C	C	E	F	F
Approach Vol, veh/h		652			715			855			1251	
Approach Delay, s/veh		122.9			113.5			38.8			79.6	
Approach LOS		F			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	45.0	23.0	32.7	18.6	45.2	25.7	30.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	21.5	* 39	26.5	26.0	21.5	39.3	26.5	26.0				
Max Q Clear Time (g_c+I1), s	12.4	43.0	19.1	30.7	15.0	15.4	22.0	28.0				
Green Ext Time (p_c), s	0.7	0.0	0.4	0.0	0.2	5.2	0.2	0.0				

Intersection Summary

HCM 6th Ctrl Delay	84.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	204	55	19	554	720	122
Future Volume (Veh/h)	204	55	19	554	720	122
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	208	56	19	565	735	124
Pedestrians	4			2	15	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	0			0	1	
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1419	803	863			
vC1, stage 1 conf vol	801					
vC2, stage 2 conf vol	618					
vCu, unblocked vol	1419	803	863			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	41	85	98			
cM capacity (veh/h)	355	381	776			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	208	56	19	565	859	
Volume Left	208	0	19	0	0	
Volume Right	0	56	0	0	124	
cSH	355	381	776	1700	1700	
Volume to Capacity	0.59	0.15	0.02	0.33	0.51	
Queue Length 95th (ft)	89	13	2	0	0	
Control Delay (s)	28.6	16.1	9.8	0.0	0.0	
Lane LOS	D	C	A			
Approach Delay (s)	25.9		0.3	0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			68.3%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM 6th TWSC
9: Evergreen Rd & Stacey Allison Wy

11/04/2022

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	204	55	19	554	720	122
Future Vol, veh/h	204	55	19	554	720	122
Conflicting Peds, #/hr	15	2	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	3	2
Mvmt Flow	208	56	19	565	735	124

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1419	803	863	0	-	0
Stage 1	801	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 151	383	779	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 146	381	776	-	-	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	536	-	-	-	-	-



















Approach	EB	NB	SB
HCM Control Delay, s	39.9	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	776	-	283	381	-	-
HCM Lane V/C Ratio	0.025	-	0.736	0.147	-	-
HCM Control Delay (s)	9.8	-	46.3	16.1	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	0.1	-	5.3	0.5	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis
 10: Evergreen Rd & Hayes St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	59	64	1	140	114	123	2	450	95	169	607	12
Future Volume (vph)	59	64	1	140	114	123	2	450	95	169	607	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	61	67	1	146	119	128	2	469	99	176	632	12
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	129	393	2	568	176	644						
Volume Left (vph)	61	146	2	0	176	0						
Volume Right (vph)	1	128	0	99	0	12						
Hadj (s)	0.12	-0.09	0.53	-0.09	0.53	0.04						
Departure Headway (s)	9.2	7.7	8.6	7.9	8.4	7.9						
Degree Utilization, x	0.33	0.84	0.00	1.25	0.41	1.42						
Capacity (veh/h)	364	393	415	462	422	465						
Control Delay (s)	16.6	39.3	10.4	153.4	16.1	223.3						
Approach Delay (s)	16.6	39.3	152.9		178.9							
Approach LOS	C	E	F		F							
Intersection Summary												
Delay			131.5									
Level of Service			F									
Intersection Capacity Utilization			79.1%	ICU Level of Service	D							
Analysis Period (min)			15									

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/04/2022

Intersection	
Intersection Delay, s/veh	135.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	59	64	1	140	114	123	2	450	95	169	607	12
Future Vol, veh/h	59	64	1	140	114	123	2	450	95	169	607	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	2
Mvmt Flow	61	67	1	146	119	128	2	469	99	176	632	13
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	19	43.8	157.3	183.3
HCM LOS	C	E	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	48%	37%	100%	0%
Vol Thru, %	0%	83%	52%	30%	0%	98%
Vol Right, %	0%	17%	1%	33%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	545	124	377	169	619
LT Vol	2	0	59	140	169	0
Through Vol	0	450	64	114	0	607
RT Vol	0	95	1	123	0	12
Lane Flow Rate	2	568	129	393	176	645
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.005	1.253	0.331	0.841	0.414	1.427
Departure Headway (Hd)	9.156	8.508	10.763	8.779	9.012	8.494
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	393	431	336	416	401	432
Service Time	6.856	6.208	8.763	6.779	6.712	6.194
HCM Lane V/C Ratio	0.005	1.318	0.384	0.945	0.439	1.493
HCM Control Delay	11.9	157.8	19	43.8	17.9	228.4
HCM Lane LOS	B	F	C	E	C	F
HCM 95th-tile Q	0	22.3	1.4	8	2	30.1

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	33	170	1	28	39	152	378	14	28	543	57
Future Volume (Veh/h)	49	33	170	1	28	39	152	378	14	28	543	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	51	34	177	1	29	41	158	394	15	29	566	59
Pedestrians		10			8			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		1			1			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												1273
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	1436	1396	610	1577	1418	410	635			417		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1434	1392	575	1580	1415	410	601			417		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	21	69	64	97	72	94	83			97		
cM capacity (veh/h)	65	109	486	34	105	637	930			1133		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	51	211	71	567	654							
Volume Left	51	0	1	158	29							
Volume Right	0	177	41	15	59							
cSH	65	312	192	930	1133							
Volume to Capacity	0.79	0.68	0.37	0.17	0.03							
Queue Length 95th (ft)	90	115	40	15	2							
Control Delay (s)	160.6	37.7	34.3	4.2	0.7							
Lane LOS	F	E	D	A	A							
Approach Delay (s)	61.6		34.3	4.2	0.7							
Approach LOS	F		D									
Intersection Summary												
Average Delay			13.8									
Intersection Capacity Utilization			91.9%		ICU Level of Service				F			
Analysis Period (min)			15									

HCM 6th TWSC
 11: Settlemier St & Hayes St

11/04/2022

Intersection												
Int Delay, s/veh	13.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	33	170	1	28	39	152	378	14	28	543	57
Future Vol, veh/h	49	33	170	1	28	39	152	378	14	28	543	57
Conflicting Peds, #/hr	0	0	4	4	0	0	10	0	8	8	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	7	2	5	2	2	2	2	4	2	2	2	2
Mvmt Flow	51	34	177	1	29	41	158	394	15	29	566	59

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1417	1397	610	1489	1419	410	635	0	0	417	0	0
Stage 1	664	664	-	726	726	-	-	-	-	-	-	-
Stage 2	753	733	-	763	693	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.52	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.17	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.018	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	112	141	489	102	137	642	948	-	-	1142	-	-
Stage 1	442	458	-	416	430	-	-	-	-	-	-	-
Stage 2	394	426	-	397	445	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	66	104	482	39	101	637	939	-	-	1133	-	-
Mov Cap-2 Maneuver	66	104	-	39	101	-	-	-	-	-	-	-
Stage 1	343	435	-	323	334	-	-	-	-	-	-	-
Stage 2	263	331	-	221	423	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	62.7		35.5		2.7		0.4	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	939	-	-	66	303	187	1133	-	-
HCM Lane V/C Ratio	0.169	-	-	0.773	0.698	0.379	0.026	-	-
HCM Control Delay (s)	9.6	0	-	155.5	40.3	35.5	8.3	0	-
HCM Lane LOS	A	A	-	F	E	E	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	3.5	4.9	1.6	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	1	1	45	76	123
Future Volume (Veh/h)	84	1	1	45	76	123
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	99	1	1	53	89	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	216	162	234			
vC1, stage 1 conf vol	162					
vC2, stage 2 conf vol	55					
vCu, unblocked vol	216	162	234			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	100	100			
cM capacity (veh/h)	834	883	1333			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	100	1	53	234		
Volume Left	99	1	0	0		
Volume Right	1	0	0	145		
cSH	834	1333	1700	1700		
Volume to Capacity	0.12	0.00	0.03	0.14		
Queue Length 95th (ft)	10	0	0	0		
Control Delay (s)	9.9	7.7	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	9.9	0.1		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			24.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/04/2022

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	84	1	1	45	76	123
Future Vol, veh/h	84	1	1	45	76	123
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	20	20	2
Mvmt Flow	99	1	1	53	89	145

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	217	162	234	0	-	0
Stage 1	162	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	771	883	1333	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	770	883	1333	-	-	-
Mov Cap-2 Maneuver	762	-	-	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1333	-	763	-	-
HCM Lane V/C Ratio	0.001	-	0.131	-	-
HCM Control Delay (s)	7.7	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	0	3	29	57	6
Future Volume (Veh/h)	4	0	3	29	57	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	5	0	4	34	67	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage (veh)					2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	112	70	74			
vC1, stage 1 conf vol	70					
vC2, stage 2 conf vol	42					
vCu, unblocked vol	112	70	74			
tC, single (s)	6.6	6.4	4.3			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.5	2.4			
p0 queue free %	99	100	100			
cM capacity (veh/h)	871	944	1419			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	5	38	74			
Volume Left	5	4	0			
Volume Right	0	0	7			
cSH	871	1419	1700			
Volume to Capacity	0.01	0.00	0.04			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.2	0.8	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.2	0.8	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			14.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
13: Evergreen Rd & North Access

11/04/2022

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	0	3	29	57	6
Future Vol, veh/h	4	0	3	29	57	6
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	85	85	85	85	85	85
Heavy Vehicles, %	20	20	20	10	10	20
Mvmt Flow	5	0	4	34	67	7

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	113	71	74	0	0
Stage 1	71	-	-	-	-
Stage 2	42	-	-	-	-
Critical Hdwy	6.6	6.4	4.3	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.38	-	-
Pot Cap-1 Maneuver	842	943	1419	-	-
Stage 1	908	-	-	-	-
Stage 2	936	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	839	943	1419	-	-
Mov Cap-2 Maneuver	802	-	-	-	-
Stage 1	905	-	-	-	-
Stage 2	936	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1419	-	802	-	-
HCM Lane V/C Ratio	0.002	-	0.006	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	31	35	18	27	30
Future Volume (Veh/h)	14	31	35	18	27	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	16	36	41	21	32	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	152	50	67			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152	50	67			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	96	97			
cM capacity (veh/h)	817	1019	1535			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	52	62	67			
Volume Left	16	41	0			
Volume Right	36	0	35			
cSH	947	1535	1700			
Volume to Capacity	0.05	0.03	0.04			
Queue Length 95th (ft)	4	2	0			
Control Delay (s)	9.0	5.0	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.0	5.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			19.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 14: Evergreen Rd & South Access

11/04/2022

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	14	31	35	18	27	30
Future Vol, veh/h	14	31	35	18	27	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	10	10	2
Mvmt Flow	16	36	41	21	32	35

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	153	50	67	0	0
Stage 1	50	-	-	-	-
Stage 2	103	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	839	1018	1535	-	-
Stage 1	972	-	-	-	-
Stage 2	921	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	816	1018	1535	-	-
Mov Cap-2 Maneuver	816	-	-	-	-
Stage 1	946	-	-	-	-
Stage 2	921	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	4.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1535	-	945	-	-
HCM Lane V/C Ratio	0.027	-	0.056	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	9	28	74	13	18	28	27	91	20	23	13
Future Volume (vph)	8	9	28	74	13	18	28	27	91	20	23	13
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	9	11	33	87	15	21	33	32	107	24	27	15
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	53	123	172	66								
Volume Left (vph)	9	87	33	24								
Volume Right (vph)	33	21	107	15								
Hadj (s)	-0.21	0.12	-0.27	-0.01								
Departure Headway (s)	4.4	4.6	4.1	4.5								
Degree Utilization, x	0.06	0.16	0.20	0.08								
Capacity (veh/h)	771	733	831	752								
Control Delay (s)	7.7	8.5	8.1	7.9								
Approach Delay (s)	7.7	8.5	8.1	7.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.1									
Level of Service			A									
Intersection Capacity Utilization			30.1%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

Intersection

Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	9	28	74	13	18	28	27	91	20	23	13
Future Vol, veh/h	8	9	28	74	13	18	28	27	91	20	23	13
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	9	11	33	87	15	21	33	32	107	24	27	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	8.5	8.2	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	18%	70%	36%
Vol Thru, %	18%	20%	12%	41%
Vol Right, %	62%	62%	17%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	45	105	56
LT Vol	28	8	74	20
Through Vol	27	9	13	23
RT Vol	91	28	18	13
Lane Flow Rate	172	53	124	66
Geometry Grp	1	1	1	1
Degree of Util (X)	0.197	0.063	0.158	0.082
Departure Headway (Hd)	4.137	4.313	4.618	4.46
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	869	831	778	805
Service Time	2.151	2.335	2.638	2.477
HCM Lane V/C Ratio	0.198	0.064	0.159	0.082
HCM Control Delay	8.2	7.6	8.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.2	0.6	0.3

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	27	38	16	18	0
Future Volume (Veh/h)	0	27	38	16	18	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	32	45	19	21	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	64				86	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64				86	54
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				98	100
cM capacity (veh/h)	1489				895	990
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	32	64	21			
Volume Left	0	0	21			
Volume Right	0	19	0			
cSH	1489	1700	895			
Volume to Capacity	0.00	0.04	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
16: Industrial Road & East Access

11/04/2022

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	27	38	16	18	0
Future Vol, veh/h	0	27	38	16	18	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	32	45	19	21	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	64	0	-	0	87 55
Stage 1	-	-	-	-	55 -
Stage 2	-	-	-	-	32 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1489	-	-	-	895 990
Stage 1	-	-	-	-	947 -
Stage 2	-	-	-	-	970 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1489	-	-	-	895 990
Mov Cap-2 Maneuver	-	-	-	-	895 -
Stage 1	-	-	-	-	947 -
Stage 2	-	-	-	-	970 -

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	895
HCM Lane V/C Ratio	-	-	-	-	0.024
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	38	27	0
Future Volume (Veh/h)	0	0	0	38	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	45	32	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	45				22	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45				22	22
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				97	100
cM capacity (veh/h)	1513				974	1032
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	45	32			
Volume Left	0	0	32			
Volume Right	0	45	0			
cSH	1700	1700	974			
Volume to Capacity	0.00	0.03	0.03			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	8.8			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
 17: Industrial Road & West Access

11/04/2022

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	38	27	0
Future Vol, veh/h	0	0	0	38	27	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	0	0	45	32	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	45	0	-	0	23
Stage 1	-	-	-	-	23
Stage 2	-	-	-	-	0
Critical Hdwy	4.2	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.29	-	-	-	3.59
Pot Cap-1 Maneuver	1513	-	-	-	973
Stage 1	-	-	-	-	979
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1513	-	-	-	973
Mov Cap-2 Maneuver	-	-	-	-	973
Stage 1	-	-	-	-	979
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1513	-	-	-	973
HCM Lane V/C Ratio	-	-	-	-	0.033
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	103	94	21	13	7
Future Volume (Veh/h)	9	103	94	21	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	10	120	109	24	15	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	133			261	121	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	133			261	121	
tC, single (s)	4.2			6.5	6.3	
tC, 2 stage (s)						
tF (s)	2.3			3.6	3.4	
p0 queue free %	99			98	99	
cM capacity (veh/h)	1404			706	909	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	130	133	23			
Volume Left	10	0	15			
Volume Right	0	24	8			
cSH	1404	1700	765			
Volume to Capacity	0.01	0.08	0.03			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.6	0.0	9.8			
Lane LOS	A		A			
Approach Delay (s)	0.6	0.0	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			23.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	9	103	94	21	13	7
Future Vol, veh/h	9	103	94	21	13	7
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	86	86	86	86	86	86
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	10	120	109	24	15	8





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	133	0	-	0	261
Stage 1	-	-	-	-	121
Stage 2	-	-	-	-	140
Critical Hdwy	4.2	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.29	-	-	-	3.59
Pot Cap-1 Maneuver	1404	-	-	-	711
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	868
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1404	-	-	-	705
Mov Cap-2 Maneuver	-	-	-	-	705
Stage 1	-	-	-	-	878
Stage 2	-	-	-	-	868

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1404	-	-	-	765
HCM Lane V/C Ratio	0.007	-	-	-	0.03
HCM Control Delay (s)	7.6	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	90	83	81	54	88	8	78	137	47	4	153	126
Future Volume (vph)	90	83	81	54	88	8	78	137	47	4	153	126
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	105	97	94	63	102	9	91	159	55	5	178	147
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	105	191	63	111	250	55	183	147				
Volume Left (vph)	105	0	63	0	91	0	5	0				
Volume Right (vph)	0	94	0	9	0	55	0	147				
Hadj (s)	0.67	-0.31	0.53	-0.02	0.22	-0.67	0.06	-0.61				
Departure Headway (s)	7.2	6.2	7.3	6.7	6.6	5.7	6.4	5.7				
Degree Utilization, x	0.21	0.33	0.13	0.21	0.46	0.09	0.33	0.23				
Capacity (veh/h)	471	546	461	500	516	593	531	591				
Control Delay (s)	10.9	11.0	10.1	10.2	13.8	8.0	11.3	9.3				
Approach Delay (s)	11.0		10.2		12.8		10.4					
Approach LOS	B		B		B		B					
Intersection Summary												
Delay			11.2									
Level of Service			B									
Intersection Capacity Utilization			50.2%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	83	81	54	88	8	78	137	47	4	153	126
Future Vol, veh/h	90	83	81	54	88	8	78	137	47	4	153	126
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	10	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	105	97	94	63	102	9	91	159	55	5	178	147
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12.3	11.5	14.2	11.7
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	36%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	64%	0%	0%	51%	0%	92%	97%	0%
Vol Right, %	0%	100%	0%	49%	0%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	47	90	164	54	96	157	126
LT Vol	78	0	90	0	54	0	4	0
Through Vol	137	0	0	83	0	88	153	0
RT Vol	0	47	0	81	0	8	0	126
Lane Flow Rate	250	55	105	191	63	112	183	147
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.467	0.089	0.214	0.337	0.13	0.213	0.333	0.238
Departure Headway (Hd)	6.727	5.83	7.361	6.361	7.445	6.875	6.558	5.85
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	533	610	486	561	478	518	544	609
Service Time	4.51	3.612	5.145	4.145	5.24	4.669	4.341	3.632
HCM Lane V/C Ratio	0.469	0.09	0.216	0.34	0.132	0.216	0.336	0.241
HCM Control Delay	15.3	9.2	12.2	12.4	11.4	11.5	12.6	10.5
HCM Lane LOS	C	A	B	B	B	B	B	B
HCM 95th-tile Q	2.5	0.3	0.8	1.5	0.4	0.8	1.5	0.9

HCM Unsignalized Intersection Capacity Analysis
 22: Butteville Rd & Parr Rd

11/04/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	109	133	36	117	241
Future Volume (Veh/h)	35	109	133	36	117	241
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	41	127	155	42	136	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	728	176			197	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	728	176			197	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	85			90	
cM capacity (veh/h)	352	862			1376	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	168	197	416			
Volume Left	41	0	136			
Volume Right	127	42	0			
cSH	637	1700	1376			
Volume to Capacity	0.26	0.12	0.10			
Queue Length 95th (ft)	26	0	8			
Control Delay (s)	12.7	0.0	3.2			
Lane LOS	B		A			
Approach Delay (s)	12.7	0.0	3.2			
Approach LOS	B					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			50.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/04/2022

Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	109	133	36	117	241
Future Vol, veh/h	35	109	133	36	117	241
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	86	86	86	86	86	86
Heavy Vehicles, %	2	4	2	2	2	2
Mvmt Flow	41	127	155	42	136	280

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	728	176	0	0	197
Stage 1	176	-	-	-	-
Stage 2	552	-	-	-	-
Critical Hdwy	6.42	6.24	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.336	-	-	2.218
Pot Cap-1 Maneuver	390	862	-	-	1376
Stage 1	855	-	-	-	-
Stage 2	577	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	344	862	-	-	1376
Mov Cap-2 Maneuver	344	-	-	-	-
Stage 1	855	-	-	-	-
Stage 2	509	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	631	1376
HCM Lane V/C Ratio	-	-	0.265	0.099
HCM Control Delay (s)	-	-	12.8	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.1	0.3

HCM Unsignalized Intersection Capacity Analysis
 1: Butteville Rd & OR 219

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized		MOYes				MOYes
Traffic Volume (veh/h)	464	194	336	278	83	246
Future Volume (veh/h)	464	194	336	278	83	246
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	521	218	378	312	93	276
Approach Volume (veh/h)	521			690	93	
Crossing Volume (veh/h)	378			93	521	
High Capacity (veh/h)	1029			1288	918	
High v/c (veh/h)	0.51			0.54	0.10	
Low Capacity (veh/h)	839			1073	741	
Low v/c (veh/h)	0.62			0.64	0.13	
Intersection Summary						
Maximum v/c High			0.54			
Maximum v/c Low			0.64			
Intersection Capacity Utilization			77.5%		ICU Level of Service	D

HCM 6th Roundabout
1: Butteville Rd & OR 219

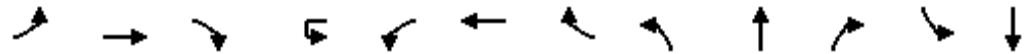
11/04/2022

Intersection				
Intersection Delay, s/veh	4.0			
Intersection LOS	A			
Approach	EB	WB	NB	
Entry Lanes	0	2	1	
Conflicting Circle Lanes	2	2	2	
Adj Approach Flow, veh/h	0	690	369	
Demand Flow Rate, veh/h	0	707	392	
Vehicles Circulating, veh/h	386	99	531	
Vehicles Exiting, veh/h	420	531	386	
Ped Vol Crossing Leg, #/h	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	5.5	1.3	
Approach LOS	-	A	A	
Lane	Left	Right	Left	Bypass
Designated Moves	L	TR	L	R
Assumed Moves	L	TR	L	R
RT Channelized				Free
Lane Util	0.546	0.454	1.000	
Follow-Up Headway, s	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.328	293
Entry Flow, veh/h	386	321	99	1855
Cap Entry Lane, veh/h	1232	1305	904	0.943
Entry HV Adj Factor	0.979	0.971	0.939	276
Flow Entry, veh/h	378	312	93	1750
Cap Entry, veh/h	1207	1267	849	0.158
V/C Ratio	0.313	0.246	0.109	0.0
Control Delay, s/veh	5.9	5.0	5.3	A
LOS	A	A	A	1
95th %tile Queue, veh	1	1	0	

HCM Signalized Intersection Capacity Analysis

2: Woodland Avenue & OR 219/OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	85	589	2	27	33	560	291	6	2	68	641	5
Future Volume (vph)	85	589	2	27	33	560	291	6	2	68	641	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00	1.00	1.00		0.95	0.95
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	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		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (prot)	1630	3197	1433		1504	3260	1444	1385	1204		1548	1515
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96
Satd. Flow (perm)	1630	3197	1433		1504	3260	1444	1385	1204		1548	1515
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)	89	620	2	28	35	589	306	6	2	72	675	5
RTOR Reduction (vph)	0	0	1	0	0	0	108	0	65	0	0	6
Lane Group Flow (vph)	89	620	1	0	63	589	198	6	9	0	378	369
Confl. Peds. (#/hr)	1		1		1		1	1				
Confl. Bikes (#/hr)			1							1		
Heavy Vehicles (%)	2%	4%	2%	0%	19%	2%	2%	20%	2%	23%	2%	20%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Split	NA		Split	NA
Protected Phases	5	2	8	1	1	6	4	8	8		4	4
Permitted Phases			2				6					
Actuated Green, G (s)	8.3	27.4	35.5		7.5	26.6	56.5	8.1	8.1		29.9	29.9
Effective Green, g (s)	8.3	27.9	35.5		7.5	27.1	56.5	8.1	8.1		29.9	29.9
Actuated g/C Ratio	0.09	0.31	0.40		0.08	0.30	0.63	0.09	0.09		0.33	0.33
Clearance Time (s)	4.0	4.5	4.0		4.0	4.5	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.5	4.2	2.5		2.5	4.2	2.5	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	151	997	569		126	988	912	125	109		517	506
v/s Ratio Prot	0.05	c0.19	0.00		0.04	c0.18	0.07	0.00	c0.01		c0.24	0.24
v/s Ratio Perm			0.00				0.06					
v/c Ratio	0.59	0.62	0.00		0.50	0.60	0.22	0.05	0.08		0.73	0.73
Uniform Delay, d1	38.9	26.2	16.3		39.2	26.5	7.0	37.1	37.2		26.2	26.2
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.8	1.4	0.0		2.3	1.2	0.1	0.1	0.2		5.0	4.9
Delay (s)	43.7	27.7	16.3		41.4	27.7	7.1	37.2	37.5		31.2	31.1
Level of Service	D	C	B		D	C	A	D	D		C	C
Approach Delay (s)		29.7				22.0			37.4			31.1
Approach LOS		C				C			D			C

Intersection Summary

HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 2: Woodland Avenue & OR 219/OR 214

11/04/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	69
Future Volume (vph)	69
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	73
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗	
Traffic Volume (vph)	0	861	463	0	921	724	0	0	0	843	0	435	
Future Volume (vph)	0	861	463	0	921	724	0	0	0	843	0	435	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0		4.0	
Lane Util. Factor		0.95	1.00		0.95	1.00				0.97		1.00	
Frbp, ped/bikes		1.00	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	
Frt		1.00	0.85		1.00	0.85				1.00		0.85	
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (prot)		3228	1444		3260	1426				3131		1417	
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (perm)		3228	1444		3260	1426				3131		1417	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	0	888	477	0	949	746	0	0	0	869	0	448	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	57	
Lane Group Flow (vph)	0	888	477	0	949	746	0	0	0	869	0	391	
Confl. Peds. (#/hr)	4					4							
Heavy Vehicles (%)	0%	3%	3%	0%	2%	2%	0%	0%	0%	3%	0%	5%	
Turn Type		NA	Free		NA	Free				Prot		Perm	
Protected Phases		2			6					4			
Permitted Phases			Free			Free						4	
Actuated Green, G (s)		33.6	64.0		33.6	64.0				21.4		21.4	
Effective Green, g (s)		34.1	64.0		34.1	64.0				21.9		21.9	
Actuated g/C Ratio		0.53	1.00		0.53	1.00				0.34		0.34	
Clearance Time (s)		4.5			4.5					4.5		4.5	
Vehicle Extension (s)		6.0			6.0					2.5		2.5	
Lane Grp Cap (vph)		1719	1444		1736	1426				1071		484	
v/s Ratio Prot		0.28			0.29					c0.28			
v/s Ratio Perm			0.33			c0.52						0.28	
v/c Ratio		0.52	0.33		0.55	0.52				0.81		0.81	
Uniform Delay, d1		9.6	0.0		9.9	0.0				19.2		19.1	
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00	
Incremental Delay, d2		1.1	0.6		0.8	1.4				4.6		9.4	
Delay (s)		10.8	0.6		10.7	1.4				23.8		28.5	
Level of Service		B	A		B	A				C		C	
Approach Delay (s)		7.2			6.6			0.0			25.4		
Approach LOS		A			A			A			C		
Intersection Summary													
HCM 2000 Control Delay			12.4									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.67										
Actuated Cycle Length (s)			64.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			63.6%									ICU Level of Service	B
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary
 3: OR 214 & I-5 SB Ramp

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	861	463	0	921	724	0	0	0	843	0	435
Future Volume (veh/h)	0	861	463	0	921	724	0	0	0	843	0	435
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1709	1709	0	1723	1723				1709	0	1682
Adj Flow Rate, veh/h	0	888	0	0	949	0				869	0	448
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	0	2	2				3	0	5
Cap, veh/h	0	1667		0	1681					1141	0	515
Arrive On Green	0.00	0.51	0.00	0.00	0.51	0.00				0.36	0.00	0.36
Sat Flow, veh/h	0	3333	1448	0	3359	1460				3158	0	1425
Grp Volume(v), veh/h	0	888	0	0	949	0				869	0	448
Grp Sat Flow(s),veh/h/ln	0	1624	1448	0	1637	1460				1579	0	1425
Q Serve(g_s), s	0.0	11.7	0.0	0.0	12.7	0.0				15.5	0.0	18.7
Cycle Q Clear(g_c), s	0.0	11.7	0.0	0.0	12.7	0.0				15.5	0.0	18.7
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1667		0	1681					1141	0	515
V/C Ratio(X)	0.00	0.53		0.00	0.56					0.76	0.00	0.87
Avail Cap(c_a), veh/h	0	1667		0	1681					1184	0	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.70	0.00	0.00	0.60	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.4	0.0	0.0	10.7	0.0				18.0	0.0	19.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.7	0.0				2.7	0.0	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	0.0	0.0	3.9	0.0				5.4	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.3	0.0	0.0	11.3	0.0				20.7	0.0	32.8
LnGrp LOS	A	B		A	B					C	A	C
Approach Vol, veh/h		888			949						1317	
Approach Delay, s/veh		11.3			11.3						24.8	
Approach LOS		B			B						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		36.9		27.1		36.9						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		31.5		23.5		31.5						
Max Q Clear Time (g_c+I1), s		0.0		20.7		0.0						
Green Ext Time (p_c), s		0.0		1.9		0.0						

Intersection Summary

HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

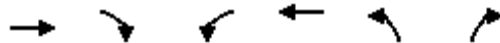
Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: I-5 NB Ramp & OR 214

11/04/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑↑	↑
Traffic Volume (vph)	1337	241	0	1341	330	726
Future Volume (vph)	1337	241	0	1341	330	726
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.7	4.7
Lane Util. Factor	0.95	1.00		*0.95	0.97	0.91
Frbp, ped/bikes	1.00	0.98		1.00	0.99	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.92	0.85
Flt Protected	1.00	1.00		1.00	0.98	1.00
Satd. Flow (prot)	3260	1374		3260	2900	1259
Flt Permitted	1.00	1.00		1.00	0.98	1.00
Satd. Flow (perm)	3260	1374		3260	2900	1259
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1364	246	0	1368	337	741
RTOR Reduction (vph)	0	114	0	0	22	22
Lane Group Flow (vph)	1364	132	0	1368	686	348
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	6%	0%	2%	2%	6%
Turn Type	NA	Perm		NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases		2				8
Actuated Green, G (s)	53.1	53.1		53.1	37.0	37.0
Effective Green, g (s)	53.6	53.6		53.6	37.7	37.7
Actuated g/C Ratio	0.54	0.54		0.54	0.38	0.38
Clearance Time (s)	4.5	4.5		4.5	5.4	5.4
Vehicle Extension (s)	4.0	4.0		6.0	2.5	2.5
Lane Grp Cap (vph)	1747	736		1747	1093	474
v/s Ratio Prot	0.42			c0.42	0.24	
v/s Ratio Perm		0.10				c0.28
v/c Ratio	0.78	0.18		0.78	0.63	0.73
Uniform Delay, d1	18.5	11.9		18.6	25.4	26.8
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.5	0.5		2.9	1.0	5.5
Delay (s)	22.1	12.4		21.5	26.4	32.3
Level of Service	C	B		C	C	C
Approach Delay (s)	20.6			21.5	28.4	
Approach LOS	C			C	C	

Intersection Summary

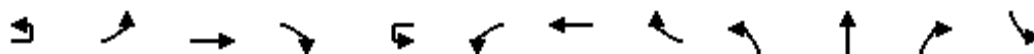
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (vph)	39	78	1074	517	11	279	873	18	635	27	191	28
Future Volume (vph)	39	78	1074	517	11	279	873	18	635	27	191	28
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.95	0.95	1.00	1.00
Frbp, ped/bikes		1.00	1.00	0.96		1.00	1.00		1.00	1.00	0.98	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	1.00	0.85		1.00	1.00		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (prot)		1641	3197	1368		1631	3218		1548	1558	1436	1630
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		1641	3197	1368		1631	3218		1548	1558	1436	1630
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)	42	84	1155	556	12	300	939	19	683	29	205	30
RTOR Reduction (vph)	0	0	0	333	0	0	1	0	0	0	156	0
Lane Group Flow (vph)	0	126	1155	223	0	312	957	0	355	357	49	30
Confl. Peds. (#/hr)				11		11			5		2	2
Confl. Bikes (#/hr)				1				2			1	
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Split	NA	Perm	Split
Protected Phases	5	5	2		1	1	6		7	7		4
Permitted Phases				2							7	
Actuated Green, G (s)		10.3	39.6	39.6		13.5	42.8		23.6	23.6	23.6	5.8
Effective Green, g (s)		10.3	40.1	40.1		13.5	43.3		24.1	24.1	24.1	6.3
Actuated g/C Ratio		0.10	0.40	0.40		0.14	0.43		0.24	0.24	0.24	0.06
Clearance Time (s)		4.0	4.5	4.5		4.0	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	6.2	6.2		2.5	6.2		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)		169	1281	548		220	1393		373	375	346	102
v/s Ratio Prot		0.08	c0.36			c0.19	c0.30		c0.23	0.23		0.02
v/s Ratio Perm				0.16								0.03
v/c Ratio		0.75	0.90	0.41		1.42	0.69		0.95	0.95	0.14	0.29
Uniform Delay, d1		43.6	28.1	21.4		43.2	22.9		37.4	37.4	29.8	44.7
Progression Factor		0.99	1.12	3.02		0.79	1.58		1.00	1.00	1.00	1.00
Incremental Delay, d2		10.4	7.1	1.4		206.9	1.7		34.1	34.0	0.1	1.2
Delay (s)		53.5	38.6	66.2		241.1	37.8		71.5	71.4	30.0	45.9
Level of Service		D	D	E		F	D		E	E	C	D
Approach Delay (s)			48.0				87.8			62.2		
Approach LOS			D				F			E		
Intersection Summary												
HCM 2000 Control Delay			63.1				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		16.5			
Intersection Capacity Utilization			86.2%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Evergreen Rd & OR 214

11/04/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	30	77
Future Volume (vph)	30	77
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1716	1433
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1716	1433
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	32	83
RTOR Reduction (vph)	0	78
Lane Group Flow (vph)	32	5
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	5.8	5.8
Effective Green, g (s)	6.3	6.3
Actuated g/C Ratio	0.06	0.06
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	108	90
v/s Ratio Prot	c0.02	
v/s Ratio Perm		0.00
v/c Ratio	0.30	0.06
Uniform Delay, d1	44.7	44.1
Progression Factor	1.00	1.00
Incremental Delay, d2	1.1	0.2
Delay (s)	45.9	44.3
Level of Service	D	D
Approach Delay (s)	44.9	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations	↔	↔	↕			↕	↕		↕	↕		↕
Traffic Volume (vph)	14	119	1164	44	1	28	1088	38	24	35	8	58
Future Volume (vph)	14	119	1164	44	1	28	1088	38	24	35	8	58
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	0.91	0.95	0.95				1.00	0.95	1.00	1.00		1.00
Frpb, 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	1.00	0.99				1.00	0.99	1.00	0.97		1.00
Flt Protected	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (prot)	1513	1549	3175				1631	3211	1630	1663		1630
Flt Permitted	0.95	0.95	1.00				0.95	1.00	0.95	1.00		0.95
Satd. Flow (perm)	1513	1549	3175				1631	3211	1630	1663		1630
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)	16	132	1293	49	1	31	1209	42	27	39	9	64
RTOR Reduction (vph)	0	0	2	0	0	0	2	0	0	8	0	0
Lane Group Flow (vph)	14	134	1340	0	0	32	1249	0	27	40	0	64
Confl. Peds. (#/hr)				11			11		5		2	2
Confl. Bikes (#/hr)				1				2				
Heavy Vehicles (%)	0%	2%	4%	4%	0%	2%	3%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA		Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases												
Actuated Green, G (s)	12.8	12.8	60.8				4.9	52.9	4.6	9.4		8.4
Effective Green, g (s)	12.8	12.8	61.3				4.9	53.4	4.6	9.4		8.4
Actuated g/C Ratio	0.13	0.13	0.61				0.05	0.53	0.05	0.09		0.08
Clearance Time (s)	4.0	4.0	4.5				4.0	4.5	4.0	4.0		4.0
Vehicle Extension (s)	2.5	2.5	6.2				2.5	6.2	2.5	2.5		2.5
Lane Grp Cap (vph)	193	198	1946				79	1714	74	156		136
v/s Ratio Prot	0.01	c0.09	0.42				0.02	c0.39	0.02	0.02		c0.04
v/s Ratio Perm												
v/c Ratio	0.07	0.68	0.69				0.41	0.73	0.36	0.26		0.47
Uniform Delay, d1	38.4	41.6	13.0				46.1	17.8	46.3	42.1		43.7
Progression Factor	1.17	1.23	0.62				1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.1	5.3	1.3				2.5	2.8	2.2	0.6		1.9
Delay (s)	45.1	56.5	9.4				48.6	20.5	48.5	42.7		45.5
Level of Service	D	E	A				D	C	D	D		D
Approach Delay (s)			14.0				21.2			44.8		
Approach LOS			B				C			D		
Intersection Summary												
HCM 2000 Control Delay			19.5				HCM 2000 Level of Service					B
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			62.6%				ICU Level of Service					B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Oregon Way & OR 214

11/04/2022



























Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	25	89
Future Volume (vph)	25	89
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frbp, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.88	
Flt Protected	1.00	
Satd. Flow (prot)	1496	
Flt Permitted	1.00	
Satd. Flow (perm)	1496	
Peak-hour factor, PHF	0.90	0.90
Adj. Flow (vph)	28	99
RTOR Reduction (vph)	86	0
Lane Group Flow (vph)	41	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.2	
Effective Green, g (s)	13.2	
Actuated g/C Ratio	0.13	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	197	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.21	
Uniform Delay, d1	38.7	
Progression Factor	1.00	
Incremental Delay, d2	0.4	
Delay (s)	39.1	
Level of Service	D	
Approach Delay (s)	41.3	
Approach LOS	D	
Intersection Summary		

HCM 6th Edition cannot analyze u-turn movements.

HCM Signalized Intersection Capacity Analysis

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	115	638	387	133	691	118	290	118	113	141	215	153	
Future Volume (vph)	115	638	387	133	691	118	290	118	113	141	215	153	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. 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	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96	
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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1630	1651	1419	1630	1651	1399	1599	1716	1424	1614	1683	1406	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1630	1651	1419	1630	1651	1399	1599	1716	1424	1614	1683	1406	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	120	665	403	139	720	123	302	123	118	147	224	159	
RTOR Reduction (vph)	0	0	162	0	0	65	0	0	93	0	0	135	
Lane Group Flow (vph)	120	665	241	139	720	58	302	123	25	147	224	24	
Confl. Peds. (#/hr)			3	3			4					4	
Confl. Bikes (#/hr)						2			2			3	
Heavy Vehicles (%)	2%	6%	2%	2%	6%	4%	4%	2%	2%	3%	4%	2%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	8.0	50.9	50.9	11.9	54.8	54.8	19.6	24.0	24.0	12.7	17.1	17.1	
Effective Green, g (s)	8.5	51.9	51.9	12.4	55.8	55.8	20.1	25.0	25.0	13.2	18.1	18.1	
Actuated g/C Ratio	0.07	0.44	0.44	0.10	0.47	0.47	0.17	0.21	0.21	0.11	0.15	0.15	
Clearance Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	116	723	621	170	777	658	271	362	300	179	257	214	
v/s Ratio Prot	c0.07	0.40		0.09	c0.44		c0.19	0.07		0.09	c0.13		
v/s Ratio Perm			0.17			0.04			0.02			0.02	
v/c Ratio	1.03	0.92	0.39	0.82	0.93	0.09	1.11	0.34	0.08	0.82	0.87	0.11	
Uniform Delay, d1	55.0	31.3	22.5	51.9	29.4	17.3	49.2	39.7	37.5	51.5	49.1	43.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	93.1	16.7	0.3	24.7	16.9	0.0	88.9	0.4	0.1	24.6	25.8	0.2	
Delay (s)	148.1	48.0	22.8	76.7	46.3	17.3	138.1	40.1	37.6	76.1	74.9	43.5	
Level of Service	F	D	C	E	D	B	F	D	D	E	E	D	
Approach Delay (s)		49.6			47.0			94.1			65.8		
Approach LOS		D			D			F			E		
Intersection Summary													
HCM 2000 Control Delay			58.9									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.96										
Actuated Cycle Length (s)			118.5									Sum of lost time (s)	16.0
Intersection Capacity Utilization			90.6%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

7: Settlemier St/Boones Ferry Rd & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	115	638	387	133	691	118	290	118	113	141	215	153
Future Volume (veh/h)	115	638	387	133	691	118	290	118	113	141	215	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1668	1723	1723	1668	1695	1695	1723	1723	1709	1695	1723
Adj Flow Rate, veh/h	120	665	403	139	720	123	302	123	118	147	224	159
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	6	2	2	6	4	4	2	2	3	4	2
Cap, veh/h	120	747	651	170	797	670	279	347	284	178	234	193
Arrive On Green	0.07	0.45	0.45	0.10	0.48	0.48	0.17	0.20	0.20	0.11	0.14	0.14
Sat Flow, veh/h	1641	1668	1455	1641	1668	1401	1615	1723	1411	1628	1695	1398
Grp Volume(v), veh/h	120	665	403	139	720	123	302	123	118	147	224	159
Grp Sat Flow(s),veh/h/ln	1641	1668	1455	1641	1668	1401	1615	1723	1411	1628	1695	1398
Q Serve(g_s), s	8.5	42.4	24.5	9.6	45.9	5.8	20.0	7.1	8.4	10.2	15.2	12.8
Cycle Q Clear(g_c), s	8.5	42.4	24.5	9.6	45.9	5.8	20.0	7.1	8.4	10.2	15.2	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	747	651	170	797	670	279	347	284	178	234	193
V/C Ratio(X)	1.00	0.89	0.62	0.82	0.90	0.18	1.08	0.35	0.42	0.83	0.96	0.82
Avail Cap(c_a), veh/h	120	792	690	184	856	719	279	347	284	197	234	193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	29.4	24.5	50.9	27.8	17.3	47.9	39.8	40.3	50.5	49.6	48.6
Incr Delay (d2), s/veh	81.1	11.6	1.3	22.0	12.1	0.1	78.1	0.5	0.7	21.7	46.6	23.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	18.6	8.7	4.9	20.0	0.0	14.1	3.1	3.0	5.2	9.4	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	134.8	41.0	25.8	72.8	39.8	17.4	126.0	40.3	41.1	72.2	96.2	72.2
LnGrp LOS	F	D	C	E	D	B	F	D	D	E	F	E
Approach Vol, veh/h		1188			982			543			530	
Approach Delay, s/veh		45.3			41.7			88.1			82.3	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	55.9	24.0	20.0	12.5	59.4	16.7	27.3				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	12.5	54.0	19.5	15.0	8.0	58.5	13.5	21.0				
Max Q Clear Time (g_c+I1), s	11.6	44.4	22.0	17.2	10.5	47.9	12.2	9.1				
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	6.5	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	57.4
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

8: 99 E & OR 214

11/04/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	398	260	262	358	59	266	431	115	156	800	233
Future Volume (vph)	215	398	260	262	358	59	266	431	115	156	800	233
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		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	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1554	1636	1400	1614	1596		3131	3079	1233	1583	3019	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1554	1636	1400	1614	1596		3131	3079	1233	1583	3019	
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)	226	419	274	276	377	62	280	454	121	164	842	245
RTOR Reduction (vph)	0	0	211	0	5	0	0	0	82	0	20	0
Lane Group Flow (vph)	226	419	63	276	434	0	280	454	39	164	1067	0
Confl. Peds. (#/hr)	1		10	10		1	4		1	1		4
Heavy Vehicles (%)	7%	7%	4%	3%	8%	2%	3%	8%	18%	5%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	21.6	28.6	28.6	24.0	31.0		15.8	38.7	38.7	16.7	39.6	
Effective Green, g (s)	21.1	28.6	28.6	23.5	31.0		15.3	40.4	40.4	16.2	41.3	
Actuated g/C Ratio	0.17	0.23	0.23	0.19	0.25		0.12	0.32	0.32	0.13	0.33	
Clearance Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	5.7	5.7	3.5	5.7	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	262	375	321	304	396		384	997	399	205	999	
v/s Ratio Prot	0.15	0.26		c0.17	c0.27		c0.09	0.15		0.10	c0.35	
v/s Ratio Perm			0.04						0.03			
v/c Ratio	0.86	1.12	0.20	0.91	1.10		0.73	0.46	0.10	0.80	1.07	
Uniform Delay, d1	50.4	48.0	38.8	49.5	46.9		52.7	33.4	29.4	52.7	41.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	23.9	82.2	0.2	28.9	74.0		6.4	0.2	0.1	19.1	48.5	
Delay (s)	74.3	130.2	39.0	78.4	120.9		59.1	33.7	29.5	71.8	90.2	
Level of Service	E	F	D	E	F		E	C	C	E	F	
Approach Delay (s)		89.3			104.5			41.4			87.8	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM 2000 Control Delay			80.7				HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			124.7				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			95.3%				ICU Level of Service				F	
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

8: 99 E & OR 214

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	398	260	262	358	59	266	431	115	156	800	233
Future Volume (veh/h)	215	398	260	262	358	59	266	431	115	156	800	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1654	1654	1695	1709	1641	1723	1709	1641	1504	1682	1668	1668
Adj Flow Rate, veh/h	226	419	0	276	377	62	280	454	121	164	842	245
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	4	3	8	2	3	8	18	5	6	6
Cap, veh/h	248	360		296	332	55	333	1074	437	196	830	241
Arrive On Green	0.16	0.22	0.00	0.18	0.24	0.24	0.11	0.34	0.34	0.12	0.34	0.33
Sat Flow, veh/h	1576	1654	1437	1628	1371	226	3158	3118	1267	1602	2420	704
Grp Volume(v), veh/h	226	419	0	276	0	439	280	454	121	164	551	536
Grp Sat Flow(s),veh/h/ln	1576	1654	1437	1628	0	1597	1579	1559	1267	1602	1585	1538
Q Serve(g_s), s	16.9	26.0	0.0	20.0	0.0	28.9	10.4	13.4	8.3	12.0	41.0	41.0
Cycle Q Clear(g_c), s	16.9	26.0	0.0	20.0	0.0	28.9	10.4	13.4	8.3	12.0	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	248	360		296	0	386	333	1074	437	196	544	528
V/C Ratio(X)	0.91	1.16		0.93	0.00	1.14	0.84	0.42	0.28	0.84	1.01	1.02
Avail Cap(c_a), veh/h	343	360		354	0	386	555	1074	437	281	544	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	46.8	0.0	48.2	0.0	45.3	52.5	30.1	28.4	51.3	39.3	39.6
Incr Delay (d2), s/veh	21.0	100.0	0.0	27.8	0.0	88.3	4.5	0.2	0.3	12.0	42.1	43.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	20.5	0.0	10.1	0.0	20.5	4.2	4.9	2.5	5.3	21.5	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.6	146.8	0.0	76.0	0.0	133.6	57.0	30.3	28.6	63.3	81.4	82.6
LnGrp LOS	E	F		E	A	F	E	C	C	E	F	F
Approach Vol, veh/h		645			715			855			1251	
Approach Delay, s/veh		120.1			111.4			38.8			79.6	
Approach LOS		F			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	45.0	22.8	32.9	18.6	45.2	25.7	30.0				
Change Period (Y+Rc), s	5.7	* 5.7	3.5	4.0	3.5	5.7	3.5	4.0				
Max Green Setting (Gmax), s	21.5	* 39	26.5	26.0	21.5	39.3	26.5	26.0				
Max Q Clear Time (g_c+I1), s	12.4	43.0	18.9	30.9	15.0	15.4	22.0	28.0				
Green Ext Time (p_c), s	0.7	0.0	0.4	0.0	0.2	5.2	0.2	0.0				

Intersection Summary

HCM 6th Ctrl Delay 83.6

HCM 6th LOS F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM Unsignalized Intersection Capacity Analysis

9: Evergreen Rd & Stacey Allison Wy

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	189	55	19	574	750	122
Future Volume (Veh/h)	189	55	19	574	750	122
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	193	56	19	586	765	124
Pedestrians	4			2	15	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	0			0	1	
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1470	833	893			
vC1, stage 1 conf vol	831					
vC2, stage 2 conf vol	639					
vCu, unblocked vol	1470	833	893			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	44	85	97			
cM capacity (veh/h)	343	366	757			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	193	56	19	586	889	
Volume Left	193	0	19	0	0	
Volume Right	0	56	0	0	124	
cSH	343	366	757	1700	1700	
Volume to Capacity	0.56	0.15	0.03	0.34	0.52	
Queue Length 95th (ft)	82	13	2	0	0	
Control Delay (s)	28.2	16.6	9.9	0.0	0.0	
Lane LOS	D	C	A			
Approach Delay (s)	25.6		0.3	0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization			69.1%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM 6th TWSC
 9: Evergreen Rd & Stacey Allison Wy

11/04/2022

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	189	55	19	574	750	122
Future Vol, veh/h	189	55	19	574	750	122
Conflicting Peds, #/hr	15	2	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	3	2
Mvmt Flow	193	56	19	586	765	124

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1470	833	893	0	-	0
Stage 1	831	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 140	369	759	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 135	367	756	-	-	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	416	-	-	-	-	-
Stage 2	524	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.6	0.3	0
HCM LOS	E		



















Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	756	-	272	367	-	-
HCM Lane V/C Ratio	0.026	-	0.709	0.153	-	-
HCM Control Delay (s)	9.9	-	45	16.6	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	0.1	-	4.9	0.5	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis

10: Evergreen Rd & Hayes St

11/04/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control		Stop			Stop			Stop			Stop		
Traffic Volume (vph)	59	64	1	140	114	123	2	470	95	169	637	12	
Future Volume (vph)	59	64	1	140	114	123	2	470	95	169	637	12	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Hourly flow rate (vph)	61	67	1	146	119	128	2	490	99	176	664	12	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total (vph)	129	393	2	589	176	676							
Volume Left (vph)	61	146	2	0	176	0							
Volume Right (vph)	1	128	0	99	0	12							
Hadj (s)	0.12	-0.09	0.53	-0.08	0.53	0.04							
Departure Headway (s)	9.2	7.7	8.6	7.9	8.4	7.9							
Degree Utilization, x	0.33	0.84	0.00	1.30	0.41	1.49							
Capacity (veh/h)	365	393	415	463	423	457							
Control Delay (s)	16.6	39.3	10.4	172.1	16.1	253.4							
Approach Delay (s)	16.6	39.3	171.5		204.3								
Approach LOS	C	E	F		F								
Intersection Summary													
Delay			149.1										
Level of Service			F										
Intersection Capacity Utilization			80.2%		ICU Level of Service						D		
Analysis Period (min)			15										

HCM 6th AWSC
10: Evergreen Rd & Hayes St

11/04/2022

Intersection	
Intersection Delay, s/veh	149.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	59	64	1	140	114	123	2	470	95	169	637	12
Future Vol, veh/h	59	64	1	140	114	123	2	470	95	169	637	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	3	2
Mvmt Flow	61	67	1	146	119	128	2	490	99	176	664	13
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	19.2	44.4	170	202.5
HCM LOS	C	E	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	48%	37%	100%	0%
Vol Thru, %	0%	83%	52%	30%	0%	98%
Vol Right, %	0%	17%	1%	33%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	565	124	377	169	649
LT Vol	2	0	59	140	169	0
Through Vol	0	470	64	114	0	637
RT Vol	0	95	1	123	0	12
Lane Flow Rate	2	589	129	393	176	676
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.005	1.285	0.331	0.842	0.409	1.479
Departure Headway (Hd)	9.211	8.566	10.93	8.888	9.062	8.544
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	391	430	331	412	400	433
Service Time	6.911	6.266	8.93	6.888	6.762	6.244
HCM Lane V/C Ratio	0.005	1.37	0.39	0.954	0.44	1.561
HCM Control Delay	12	170.6	19.2	44.4	17.9	250.6
HCM Lane LOS	B	F	C	E	C	F
HCM 95th-tile Q	0	23.6	1.4	8	1.9	32.4

HCM Unsignalized Intersection Capacity Analysis

11: Settlemier St & Hayes St

11/04/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	28	170	1	28	39	152	378	14	28	543	57
Future Volume (Veh/h)	49	28	170	1	28	39	152	378	14	28	543	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	51	29	177	1	29	41	158	394	15	29	566	59
Pedestrians		10			8			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		1			1			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												1273
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	1436	1396	610	1574	1418	410	635			417		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1434	1393	576	1577	1415	410	602			417		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	21	73	64	97	72	94	83			97		
cM capacity (veh/h)	65	109	486	36	105	637	931			1133		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	51	206	71	567	654							
Volume Left	51	0	1	158	29							
Volume Right	0	177	41	15	59							
cSH	65	326	193	931	1133							
Volume to Capacity	0.79	0.63	0.37	0.17	0.03							
Queue Length 95th (ft)	90	101	40	15	2							
Control Delay (s)	160.3	33.1	34.1	4.2	0.7							
Lane LOS	F	D	D	A	A							
Approach Delay (s)	58.4		34.1	4.2	0.7							
Approach LOS	F		D									
Intersection Summary												
Average Delay			13.1									
Intersection Capacity Utilization			91.6%		ICU Level of Service				F			
Analysis Period (min)			15									

HCM 6th TWSC
11: Settlemier St & Hayes St

11/04/2022

Intersection												
Int Delay, s/veh	12.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	28	170	1	28	39	152	378	14	28	543	57
Future Vol, veh/h	49	28	170	1	28	39	152	378	14	28	543	57
Conflicting Peds, #/hr	0	0	4	4	0	0	10	0	8	8	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	140	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	7	2	5	2	2	2	2	4	2	2	2	2
Mvmt Flow	51	29	177	1	29	41	158	394	15	29	566	59

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1417	1397	610	1487	1419	410	635	0	0	417	0	0
Stage 1	664	664	-	726	726	-	-	-	-	-	-	-
Stage 2	753	733	-	761	693	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.52	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.17	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.018	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	112	141	489	103	137	642	948	-	-	1142	-	-
Stage 1	442	458	-	416	430	-	-	-	-	-	-	-
Stage 2	394	426	-	398	445	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	66	104	482	41	101	637	939	-	-	1133	-	-
Mov Cap-2 Maneuver	66	104	-	41	101	-	-	-	-	-	-	-
Stage 1	343	435	-	323	334	-	-	-	-	-	-	-
Stage 2	263	331	-	225	423	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	58.9		35.5		2.7		0.4	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	939	-	-	66	318	187	1133	-	-
HCM Lane V/C Ratio	0.169	-	-	0.773	0.649	0.379	0.026	-	-
HCM Control Delay (s)	9.6	0	-	155.5	35	35.5	8.3	0	-
HCM Lane LOS	A	A	-	F	E	E	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	3.5	4.2	1.6	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

12: Evergreen Rd & Hooper St

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	1	1	58	94	123
Future Volume (Veh/h)	13	1	1	58	94	123
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	15	1	1	68	111	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage (veh)			2	2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	254	184	256			
vC1, stage 1 conf vol	184					
vC2, stage 2 conf vol	70					
vCu, unblocked vol	254	184	256			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	100	100			
cM capacity (veh/h)	811	859	1309			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	16	1	68	256		
Volume Left	15	1	0	0		
Volume Right	1	0	0	145		
cSH	814	1309	1700	1700		
Volume to Capacity	0.02	0.00	0.04	0.15		
Queue Length 95th (ft)	2	0	0	0		
Control Delay (s)	9.5	7.8	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	9.5	0.1		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			23.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
12: Evergreen Rd & Hooper St

11/04/2022

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	1	1	58	94	123
Future Vol, veh/h	13	1	1	58	94	123
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	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	20	20	2
Mvmt Flow	15	1	1	68	111	145

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	254	184	256	0	0
Stage 1	184	-	-	-	-
Stage 2	70	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	735	858	1309	-	-
Stage 1	848	-	-	-	-
Stage 2	953	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	734	858	1309	-	-
Mov Cap-2 Maneuver	738	-	-	-	-
Stage 1	847	-	-	-	-
Stage 2	953	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1309	-	745	-	-
HCM Lane V/C Ratio	0.001	-	0.022	-	-
HCM Control Delay (s)	7.8	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Evergreen Rd & North Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	0	3	42	75	6
Future Volume (Veh/h)	3	0	3	42	75	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	0	4	49	88	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None TWLTL					
Median storage (veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	148	92	95			
vC1, stage 1 conf vol	92					
vC2, stage 2 conf vol	57					
vCu, unblocked vol	148	92	95			
tC, single (s)	6.6	6.4	4.3			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.5	2.4			
p0 queue free %	100	100	100			
cM capacity (veh/h)	847	919	1393			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	4	53	95			
Volume Left	4	4	0			
Volume Right	0	0	7			
cSH	847	1393	1700			
Volume to Capacity	0.00	0.00	0.06			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.3	0.6	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.3	0.6	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.5					
Intersection Capacity Utilization	15.1%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM 6th TWSC
13: Evergreen Rd & North Access

11/04/2022

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	3	0	3	42	75	6
Future Vol, veh/h	3	0	3	42	75	6
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	85	85	85	85	85	85
Heavy Vehicles, %	20	20	20	10	10	20
Mvmt Flow	4	0	4	49	88	7

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	149	92	95	0	0
Stage 1	92	-	-	-	-
Stage 2	57	-	-	-	-
Critical Hdwy	6.6	6.4	4.3	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.38	-	-
Pot Cap-1 Maneuver	803	918	1393	-	-
Stage 1	888	-	-	-	-
Stage 2	922	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	801	918	1393	-	-
Mov Cap-2 Maneuver	776	-	-	-	-
Stage 1	885	-	-	-	-
Stage 2	922	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1393	-	776	-	-
HCM Lane V/C Ratio	0.003	-	0.005	-	-
HCM Control Delay (s)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Evergreen Rd & South Access

11/04/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	41	35	31	45	30
Future Volume (Veh/h)	13	41	35	31	45	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	15	48	41	36	53	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	188	70	88			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	188	70	88			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	95	97			
cM capacity (veh/h)	779	992	1508			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	63	77	88			
Volume Left	15	41	0			
Volume Right	48	0	35			
cSH	931	1508	1700			
Volume to Capacity	0.07	0.03	0.05			
Queue Length 95th (ft)	5	2	0			
Control Delay (s)	9.1	4.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.1	4.1	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			20.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
 14: Evergreen Rd & South Access

11/04/2022

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	41	35	31	45	30
Future Vol, veh/h	13	41	35	31	45	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	10	10	2
Mvmt Flow	15	48	41	36	53	35

















Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	189	71	88	0	0
Stage 1	71	-	-	-	-
Stage 2	118	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	800	991	1508	-	-
Stage 1	952	-	-	-	-
Stage 2	907	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	778	991	1508	-	-
Mov Cap-2 Maneuver	778	-	-	-	-
Stage 1	925	-	-	-	-
Stage 2	907	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1508	-	930	-	-
HCM Lane V/C Ratio	0.027	-	0.068	-	-
HCM Control Delay (s)	7.5	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	29	17	57	74	13	28	28	30	91	34	27	13
Future Volume (vph)	29	17	57	74	13	28	28	30	91	34	27	13
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	34	20	67	87	15	33	33	35	107	40	32	15
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	121	135	175	87								
Volume Left (vph)	34	87	33	40								
Volume Right (vph)	67	33	107	15								
Hadj (s)	-0.15	0.06	-0.26	0.04								
Departure Headway (s)	4.5	4.7	4.4	4.8								
Degree Utilization, x	0.15	0.18	0.21	0.12								
Capacity (veh/h)	735	711	775	701								
Control Delay (s)	8.4	8.7	8.5	8.4								
Approach Delay (s)	8.4	8.7	8.5	8.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.5									
Level of Service			A									
Intersection Capacity Utilization			30.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 15: Parr Rd & Industrial Road & Evergreen Rd

11/04/2022

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	29	17	57	74	13	28	28	30	91	34	27	13
Future Vol, veh/h	29	17	57	74	13	28	28	30	91	34	27	13
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	5	3	10	6	2	2	5	10	2	2	3	5
Mvmt Flow	34	20	67	87	15	33	33	35	107	40	32	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	8.8	8.6	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	28%	64%	46%
Vol Thru, %	20%	17%	11%	36%
Vol Right, %	61%	55%	24%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	103	115	74
LT Vol	28	29	74	34
Through Vol	30	17	13	27
RT Vol	91	57	28	13
Lane Flow Rate	175	121	135	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.212	0.151	0.178	0.114
Departure Headway (Hd)	4.361	4.472	4.724	4.721
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	822	801	759	757
Service Time	2.395	2.508	2.758	2.759
HCM Lane V/C Ratio	0.213	0.151	0.178	0.115
HCM Control Delay	8.6	8.3	8.8	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.5	0.6	0.4

HCM Unsignalized Intersection Capacity Analysis

16: Industrial Road & East Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	98	38	16	18	0
Future Volume (Veh/h)	0	98	38	16	18	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	115	45	19	21	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	64				170	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64				170	54
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				97	100
cM capacity (veh/h)	1489				803	990
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	115	64	21			
Volume Left	0	0	21			
Volume Right	0	19	0			
cSH	1489	1700	803			
Volume to Capacity	0.00	0.04	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.6			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.6			
Approach LOS			A			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			15.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM 6th TWSC
 16: Industrial Road & East Access

11/04/2022

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	98	38	16	18	0
Future Vol, veh/h	0	98	38	16	18	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	115	45	19	21	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	64	0	-	0	170 55
Stage 1	-	-	-	-	55 -
Stage 2	-	-	-	-	115 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1489	-	-	-	802 990
Stage 1	-	-	-	-	947 -
Stage 2	-	-	-	-	890 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1489	-	-	-	802 990
Mov Cap-2 Maneuver	-	-	-	-	802 -
Stage 1	-	-	-	-	947 -
Stage 2	-	-	-	-	890 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	802
HCM Lane V/C Ratio	-	-	-	-	0.026
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis

17: Industrial Road & West Access

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (veh/h)	0	37	0	38	27	0
Future Volume (Veh/h)	0	37	0	38	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	44	0	45	32	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	45				66	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45				66	22
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				97	100
cM capacity (veh/h)	1513				919	1032
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	44	45	32			
Volume Left	0	0	32			
Volume Right	0	45	0			
cSH	1513	1700	919			
Volume to Capacity	0.00	0.03	0.03			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
17: Industrial Road & West Access

11/04/2022

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	0	37	0	38	27	0
Future Vol, veh/h	0	37	0	38	27	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	85	85	85	85	85	85
Heavy Vehicles, %	10	5	5	10	10	10
Mvmt Flow	0	44	0	45	32	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	45	0	-	0	67 23
Stage 1	-	-	-	-	23 -
Stage 2	-	-	-	-	44 -
Critical Hdwy	4.2	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.29	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1513	-	-	-	919 1031
Stage 1	-	-	-	-	979 -
Stage 2	-	-	-	-	958 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1513	-	-	-	919 1031
Mov Cap-2 Maneuver	-	-	-	-	919 -
Stage 1	-	-	-	-	979 -
Stage 2	-	-	-	-	958 -

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1513	-	-	-	919
HCM Lane V/C Ratio	-	-	-	-	0.035
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis

20: Parr Rd & Stubb Rd

11/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	114	111	21	13	11
Future Volume (Veh/h)	9	114	111	21	13	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	10	133	129	24	15	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	153			294	141	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	153			294	141	
tC, single (s)	4.2			6.5	6.3	
tC, 2 stage (s)						
tF (s)	2.3			3.6	3.4	
p0 queue free %	99			98	99	
cM capacity (veh/h)	1380			675	886	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	143	153	28			
Volume Left	10	0	15			
Volume Right	0	24	13			
cSH	1380	1700	759			
Volume to Capacity	0.01	0.09	0.04			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.6	0.0	9.9			
Lane LOS	A		A			
Approach Delay (s)	0.6	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			24.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	9	114	111	21	13	11
Future Vol, veh/h	9	114	111	21	13	11
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	86	86	86	86	86	86
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	10	133	129	24	15	13





















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	153	0	-	0	294
Stage 1	-	-	-	-	141
Stage 2	-	-	-	-	153
Critical Hdwy	4.2	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.29	-	-	-	3.59
Pot Cap-1 Maneuver	1380	-	-	-	680
Stage 1	-	-	-	-	867
Stage 2	-	-	-	-	856
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1380	-	-	-	675
Mov Cap-2 Maneuver	-	-	-	-	675
Stage 1	-	-	-	-	860
Stage 2	-	-	-	-	856

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1380	-	-	-	758
HCM Lane V/C Ratio	0.008	-	-	-	0.037
HCM Control Delay (s)	7.6	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop				Stop			Stop	
Traffic Volume (vph)	96	86	83	54	101	8	78	137	47	4	153	130
Future Volume (vph)	96	86	83	54	101	8	78	137	47	4	153	130
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	112	100	97	63	117	9	91	159	55	5	178	151
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	112	197	63	126	250	55	183	151				
Volume Left (vph)	112	0	63	0	91	0	5	0				
Volume Right (vph)	0	97	0	9	0	55	0	151				
Hadj (s)	0.67	-0.31	0.53	-0.02	0.22	-0.67	0.06	-0.61				
Departure Headway (s)	7.3	6.3	7.3	6.8	6.7	5.8	6.5	5.8				
Degree Utilization, x	0.23	0.34	0.13	0.24	0.46	0.09	0.33	0.25				
Capacity (veh/h)	468	541	458	496	508	582	523	581				
Control Delay (s)	11.2	11.3	10.2	10.6	14.1	8.2	11.5	9.5				
Approach Delay (s)	11.3		10.5		13.1		10.6					
Approach LOS	B		B		B		B					
Intersection Summary												
Delay			11.4									
Level of Service			B									
Intersection Capacity Utilization			50.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th AWSC
 21: Boones Ferry Rd/Settlemer Rd & Parr Rd/Front St

11/04/2022

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	86	83	54	101	8	78	137	47	4	153	130
Future Vol, veh/h	96	86	83	54	101	8	78	137	47	4	153	130
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	10	2	2	2	2	2	2	2	2	2	3	5
Mvmt Flow	112	100	97	63	117	9	91	159	55	5	178	151
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12.6	11.9	14.6	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	36%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	64%	0%	0%	51%	0%	93%	97%	0%
Vol Right, %	0%	100%	0%	49%	0%	7%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	47	96	169	54	109	157	130
LT Vol	78	0	96	0	54	0	4	0
Through Vol	137	0	0	86	0	101	153	0
RT Vol	0	47	0	83	0	8	0	130
Lane Flow Rate	250	55	112	197	63	127	183	151
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.475	0.09	0.23	0.351	0.133	0.248	0.338	0.25
Departure Headway (Hd)	6.843	5.945	7.431	6.432	7.613	7.049	6.668	5.959
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	597	480	554	474	512	535	597
Service Time	4.64	3.742	5.229	4.23	5.313	4.749	4.466	3.757
HCM Lane V/C Ratio	0.478	0.092	0.233	0.356	0.133	0.248	0.342	0.253
HCM Control Delay	15.8	9.3	12.5	12.7	11.5	12.1	12.9	10.8
HCM Lane LOS	C	A	B	B	B	B	B	B
HCM 95th-tile Q	2.5	0.3	0.9	1.6	0.5	1	1.5	1

HCM Unsignalized Intersection Capacity Analysis

22: Butteville Rd & Parr Rd

11/04/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	38	129	133	40	147	241
Future Volume (Veh/h)	38	129	133	40	147	241
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	44	150	155	47	171	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	800	178			202	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	800	178			202	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	83			88	
cM capacity (veh/h)	310	859			1370	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	194	202	451			
Volume Left	44	0	171			
Volume Right	150	47	0			
cSH	613	1700	1370			
Volume to Capacity	0.32	0.12	0.12			
Queue Length 95th (ft)	34	0	11			
Control Delay (s)	13.6	0.0	3.8			
Lane LOS	B		A			
Approach Delay (s)	13.6	0.0	3.8			
Approach LOS	B					
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization		53.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM 6th TWSC
22: Butteville Rd & Parr Rd

11/04/2022

Intersection						
Int Delay, s/veh	4.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	129	133	40	147	241
Future Vol, veh/h	38	129	133	40	147	241
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	86	86	86	86	86	86
Heavy Vehicles, %	2	4	2	2	2	2
Mvmt Flow	44	150	155	47	171	280

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	801	179	0	0	202
Stage 1	179	-	-	-	-
Stage 2	622	-	-	-	-
Critical Hdwy	6.42	6.24	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.336	-	-	2.218
Pot Cap-1 Maneuver	354	859	-	-	1370
Stage 1	852	-	-	-	-
Stage 2	535	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	302	859	-	-	1370
Mov Cap-2 Maneuver	302	-	-	-	-
Stage 1	852	-	-	-	-
Stage 2	456	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	605	1370
HCM Lane V/C Ratio	-	-	0.321	0.125
HCM Control Delay (s)	-	-	13.7	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.4	0.4

APPENDIX I
**QUEUING
ANALYSIS**

Queuing and Blocking Report

11/05/2022

Intersection: 1: Butteville Rd & OR 219

Movement	EB	EB	WB	WB	B40	NB
Directions Served	TR	R	UL	T	T	UL
Maximum Queue (ft)	138	37	267	115	19	28
Average Queue (ft)	40	1	105	18	1	13
95th Queue (ft)	93	27	220	68	14	31
Link Distance (ft)	234	234	241	241	1426	442
Upstream Blk Time (%)			1	0		
Queuing Penalty (veh)			3	0		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Woodland Avenue & OR 219/OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	UL	T	T	R	L	TR	L	LTR
Maximum Queue (ft)	72	112	152	19	145	290	295	169	5	91	164	223
Average Queue (ft)	24	37	67	1	58	115	114	11	0	26	69	103
95th Queue (ft)	57	87	127	8	113	225	227	72	5	67	124	181
Link Distance (ft)		1426	1426			981	981			940	489	489
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			140	225			95	110			
Storage Blk Time (%)			1			1	11			0		
Queuing Penalty (veh)			0			1	5			0		

Intersection: 3: OR 214 & I-5 SB Ramp

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	95	144	225	192	95	163	118
Average Queue (ft)	39	72	97	79	48	61	9
95th Queue (ft)	75	123	176	158	85	112	60
Link Distance (ft)	981	981	700	700	1124	1124	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)						90	
Storage Blk Time (%)						1	0
Queuing Penalty (veh)						2	0

Queuing and Blocking Report

11/05/2022

Intersection: 4: I-5 NB Ramp & OR 214

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	LR	R
Maximum Queue (ft)	179	206	212	228	240	320	286
Average Queue (ft)	87	111	141	183	80	181	142
95th Queue (ft)	152	183	219	246	161	281	246
Link Distance (ft)	700	700			1207	1207	1207
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Evergreen Rd & OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	UL	T	T	R	UL	T	TR	L	LT	R	L	T
Maximum Queue (ft)	270	353	332	306	354	451	431	346	404	348	38	70
Average Queue (ft)	93	211	206	34	197	232	208	272	357	203	7	20
95th Queue (ft)	200	306	305	170	386	398	346	354	423	485	29	56
Link Distance (ft)		400	400			551	551		348			324
Upstream Blk Time (%)		0	0			0	0	0	25	1		
Queuing Penalty (veh)		0	0			2	0	0	0	0		
Storage Bay Dist (ft)	175			250	375			325		225	70	
Storage Blk Time (%)	0	15	4		7	1		0	42		0	1
Queuing Penalty (veh)	0	14	10		30	1		2	242		0	0

Intersection: 5: Evergreen Rd & OR 214

Movement	SB
Directions Served	R
Maximum Queue (ft)	58
Average Queue (ft)	13
95th Queue (ft)	46
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	60
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Queuing and Blocking Report

11/05/2022

Intersection: 6: Oregon Way & OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	U	UL	T	TR	UL	T	TR	L	TR	L	TR
Maximum Queue (ft)	16	83	267	298	22	342	270	62	70	24	78
Average Queue (ft)	1	29	55	69	3	135	89	19	19	2	25
95th Queue (ft)	9	67	195	215	15	263	216	49	53	13	52
Link Distance (ft)			551	551		628	628		237		355
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300	300			150			150		50	
Storage Blk Time (%)			0			7					1
Queuing Penalty (veh)			0			0					0

Intersection: 22: Butteville Rd & Parr Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	62	38
Average Queue (ft)	26	6
95th Queue (ft)	47	24
Link Distance (ft)	4290	1171
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 314

Queuing and Blocking Report

11/05/2022

Intersection: 1: Butteville Rd & OR 219

Movement	EB	WB	WB	B40	B40	NB
Directions Served	TR	UL	T	T	T	UL
Maximum Queue (ft)	108	292	157	65	13	43
Average Queue (ft)	41	124	18	4	1	15
95th Queue (ft)	85	250	80	44	12	37
Link Distance (ft)	234	241	241	1426	1426	442
Upstream Blk Time (%)		2	0			
Queuing Penalty (veh)		10	0			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Woodland Avenue & OR 219/OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	UL	T	T	R	L	TR	L	LTR
Maximum Queue (ft)	72	124	154	14	181	263	289	128	5	80	172	224
Average Queue (ft)	23	35	66	1	54	108	106	8	0	25	64	94
95th Queue (ft)	58	92	123	6	124	216	226	55	4	63	121	171
Link Distance (ft)		1426	1426				981	981			940	489
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			140	225			95	110			
Storage Blk Time (%)			1			1	10			0		
Queuing Penalty (veh)			0			1	5			0		

Intersection: 3: OR 214 & I-5 SB Ramp

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	98	152	178	176	85	131	90
Average Queue (ft)	37	68	96	79	43	50	7
95th Queue (ft)	77	121	159	141	75	96	52
Link Distance (ft)	981	981	700	700	1124	1124	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							90
Storage Blk Time (%)						0	0
Queuing Penalty (veh)						1	0

Intersection: 4: I-5 NB Ramp & OR 214

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	LR	R
Maximum Queue (ft)	161	185	211	225	221	310	273
Average Queue (ft)	81	99	143	172	72	182	135
95th Queue (ft)	138	161	214	243	149	272	227
Link Distance (ft)	700	700			1207	1207	1207
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Evergreen Rd & OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	UL	T	T	R	UL	T	TR	L	LT	R	L	T
Maximum Queue (ft)	269	350	380	310	266	418	425	340	401	348	49	59
Average Queue (ft)	84	211	214	36	151	223	206	256	343	180	11	18
95th Queue (ft)	189	319	332	194	276	365	349	352	423	464	38	51
Link Distance (ft)		400	400			551	551		348			324
Upstream Blk Time (%)			0					0	19	1		
Queuing Penalty (veh)			1					0	0	0		
Storage Bay Dist (ft)	175			250	375			325		225	70	
Storage Blk Time (%)	0	17	5	0	0	1		0	36			0
Queuing Penalty (veh)	0	16	11	0	1	1		1	199			0

Intersection: 5: Evergreen Rd & OR 214

Movement	SB
Directions Served	R
Maximum Queue (ft)	64
Average Queue (ft)	14
95th Queue (ft)	49
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	60
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Queuing and Blocking Report

11/05/2022

Intersection: 6: Oregon Way & OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	U	UL	T	TR	UL	T	TR	L	TR	L	TR
Maximum Queue (ft)	16	137	348	360	22	383	320	65	65	20	64
Average Queue (ft)	1	30	65	78	2	143	96	21	17	1	25
95th Queue (ft)	9	89	214	233	12	300	233	53	49	8	52
Link Distance (ft)			551	551		628	628		237		355
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300	300			150			150		50	
Storage Blk Time (%)		0	1			6					2
Queuing Penalty (veh)		0	0			0					0

Intersection: 22: Butteville Rd & Parr Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	65	57
Average Queue (ft)	34	14
95th Queue (ft)	54	42
Link Distance (ft)	4290	1171
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 248

Queuing and Blocking Report

11/05/2022

Intersection: 1: Butteville Rd & OR 219

Movement	EB	EB	WB	WB	NB
Directions Served	TR	R	UL	T	UL
Maximum Queue (ft)	258	226	160	102	60
Average Queue (ft)	123	19	62	10	16
95th Queue (ft)	241	118	134	50	42
Link Distance (ft)	234	234	241	241	442
Upstream Blk Time (%)	5	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Woodland Avenue & OR 219/OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	UL	T	T	R	L	TR	L	LTR
Maximum Queue (ft)	146	229	274	12	128	259	270	195	30	127	369	421
Average Queue (ft)	53	107	151	0	49	113	114	44	4	43	172	230
95th Queue (ft)	104	206	256	5	103	202	207	127	19	92	329	389
Link Distance (ft)		1426	1426			981	981			940	489	489
Upstream Blk Time (%)											0	1
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	225			140	225			95	110			
Storage Blk Time (%)		1	13			0	14	0		1		
Queuing Penalty (veh)		0	0			0	41	0		0		

Intersection: 3: OR 214 & I-5 SB Ramp

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	T	T	L	L	R
Maximum Queue (ft)	622	646	272	530	536	154	242	120
Average Queue (ft)	266	312	85	259	254	78	100	53
95th Queue (ft)	677	747	327	492	488	130	180	147
Link Distance (ft)	981	981		700	700	1124	1124	
Upstream Blk Time (%)	0	1		0				
Queuing Penalty (veh)	1	5		0				
Storage Bay Dist (ft)			240					90
Storage Blk Time (%)		24				5	2	
Queuing Penalty (veh)		96				21	7	

Queuing and Blocking Report

11/05/2022

Intersection: 4: I-5 NB Ramp & OR 214

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	LR	R
Maximum Queue (ft)	526	537	218	224	457	589	522
Average Queue (ft)	294	324	150	194	148	313	283
95th Queue (ft)	517	531	219	210	449	622	577
Link Distance (ft)	700	700			1207	1207	1207
Upstream Blk Time (%)	1	1					
Queuing Penalty (veh)	4	4					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Evergreen Rd & OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	UL	T	T	R	UL	T	TR	L	LT	R	L	T
Maximum Queue (ft)	270	426	436	310	450	574	592	345	398	348	77	104
Average Queue (ft)	132	320	320	197	387	416	314	259	332	188	25	39
95th Queue (ft)	269	467	470	394	538	697	582	353	424	469	63	83
Link Distance (ft)		400	400			551	551		348			324
Upstream Blk Time (%)		10	10			21	1	0	19	1		
Queuing Penalty (veh)		89	89			130	8	0	0	0		
Storage Bay Dist (ft)	175			250	375			325		225	70	
Storage Blk Time (%)	1	36	22	0	54	1		0	43		2	4
Queuing Penalty (veh)	6	43	136	2	235	4		2	227		2	5

Intersection: 5: Evergreen Rd & OR 214

Movement	SB
Directions Served	R
Maximum Queue (ft)	58
Average Queue (ft)	27
95th Queue (ft)	62
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	60
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Queuing and Blocking Report

11/05/2022

Intersection: 6: Oregon Way & OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	U	UL	T	TR	UL	T	TR	L	TR	L	TR
Maximum Queue (ft)	40	204	369	385	250	586	562	77	82	83	129
Average Queue (ft)	6	92	72	100	70	377	325	24	28	37	57
95th Queue (ft)	26	164	229	260	224	685	652	59	66	71	108
Link Distance (ft)			551	551		628	628		237		355
Upstream Blk Time (%)						17	6				
Queuing Penalty (veh)						0	0				
Storage Bay Dist (ft)	300	300			150			150		50	
Storage Blk Time (%)			1			46				16	12
Queuing Penalty (veh)			1			13				19	7

Intersection: 22: Butteville Rd & Parr Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	56	57
Average Queue (ft)	28	11
95th Queue (ft)	47	37
Link Distance (ft)	4290	1171
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 1198

Queuing and Blocking Report

11/05/2022

Intersection: 1: Butteville Rd & OR 219

Movement	EB	EB	WB	WB	NB
Directions Served	TR	R	UL	T	UL
Maximum Queue (ft)	264	240	185	59	57
Average Queue (ft)	139	34	68	8	19
95th Queue (ft)	273	152	147	39	46
Link Distance (ft)	234	234	241	241	442
Upstream Blk Time (%)	5	1	0		
Queuing Penalty (veh)	0	0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Woodland Avenue & OR 219/OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	UL	T	T	R	L	TR	L	LTR
Maximum Queue (ft)	205	507	528	103	126	228	274	173	36	157	444	483
Average Queue (ft)	72	183	226	6	48	121	121	43	4	50	208	263
95th Queue (ft)	193	518	555	63	105	203	220	131	22	120	438	474
Link Distance (ft)		1426	1426			981	981			940	489	489
Upstream Blk Time (%)											10	14
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	225			140	225			95	110			
Storage Blk Time (%)	0	6	24			0	14	0		5		
Queuing Penalty (veh)	0	5	0			0	41	0		0		

Intersection: 3: OR 214 & I-5 SB Ramp

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	T	T	L	L	R
Maximum Queue (ft)	727	802	272	470	476	488	550	120
Average Queue (ft)	349	402	124	250	252	111	139	60
95th Queue (ft)	858	927	393	501	503	312	372	156
Link Distance (ft)	981	981		700	700	1124	1124	
Upstream Blk Time (%)	3	6		0	0			
Queuing Penalty (veh)	18	38		2	2			
Storage Bay Dist (ft)			240					90
Storage Blk Time (%)		35					10	2
Queuing Penalty (veh)		155					40	7

Queuing and Blocking Report

11/05/2022

Intersection: 4: I-5 NB Ramp & OR 214

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	LR	R
Maximum Queue (ft)	677	686	214	203	555	657	641
Average Queue (ft)	399	418	156	192	162	343	318
95th Queue (ft)	756	755	225	204	467	628	609
Link Distance (ft)	700	700			1207	1207	1207
Upstream Blk Time (%)	6	6					
Queuing Penalty (veh)	35	36					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Evergreen Rd & OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	UL	T	T	R	UL	T	TR	L	LT	R	L	T
Maximum Queue (ft)	270	424	439	310	450	578	600	339	386	348	82	121
Average Queue (ft)	157	369	375	252	424	494	390	265	339	172	27	38
95th Queue (ft)	311	488	493	429	526	714	663	352	413	453	66	84
Link Distance (ft)		400	400			551	551		348			324
Upstream Blk Time (%)		20	19			32	2	0	19	1		
Queuing Penalty (veh)		172	168			195	11	0	0	0		
Storage Bay Dist (ft)	175			250	375			325		225	70	
Storage Blk Time (%)	1	48	37	0	71	2		0	46		3	3
Queuing Penalty (veh)	6	56	215	0	310	6		2	232		3	3

Intersection: 5: Evergreen Rd & OR 214

Movement	SB
Directions Served	R
Maximum Queue (ft)	61
Average Queue (ft)	26
95th Queue (ft)	63
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	60
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Queuing and Blocking Report

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Intersection: 6: Oregon Way & OR 214

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	U	UL	T	TR	UL	T	TR	L	TR	L	TR
Maximum Queue (ft)	39	226	336	381	250	668	677	91	82	111	153
Average Queue (ft)	9	100	61	85	66	482	434	27	33	41	63
95th Queue (ft)	31	180	209	234	223	796	794	68	76	85	120
Link Distance (ft)			551	551		628	628		237		355
Upstream Blk Time (%)						38	18				
Queuing Penalty (veh)						0	0				
Storage Bay Dist (ft)	300	300			150			150		50	
Storage Blk Time (%)			0			60				20	16
Queuing Penalty (veh)			0			18				23	9

Intersection: 22: Butteville Rd & Parr Rd

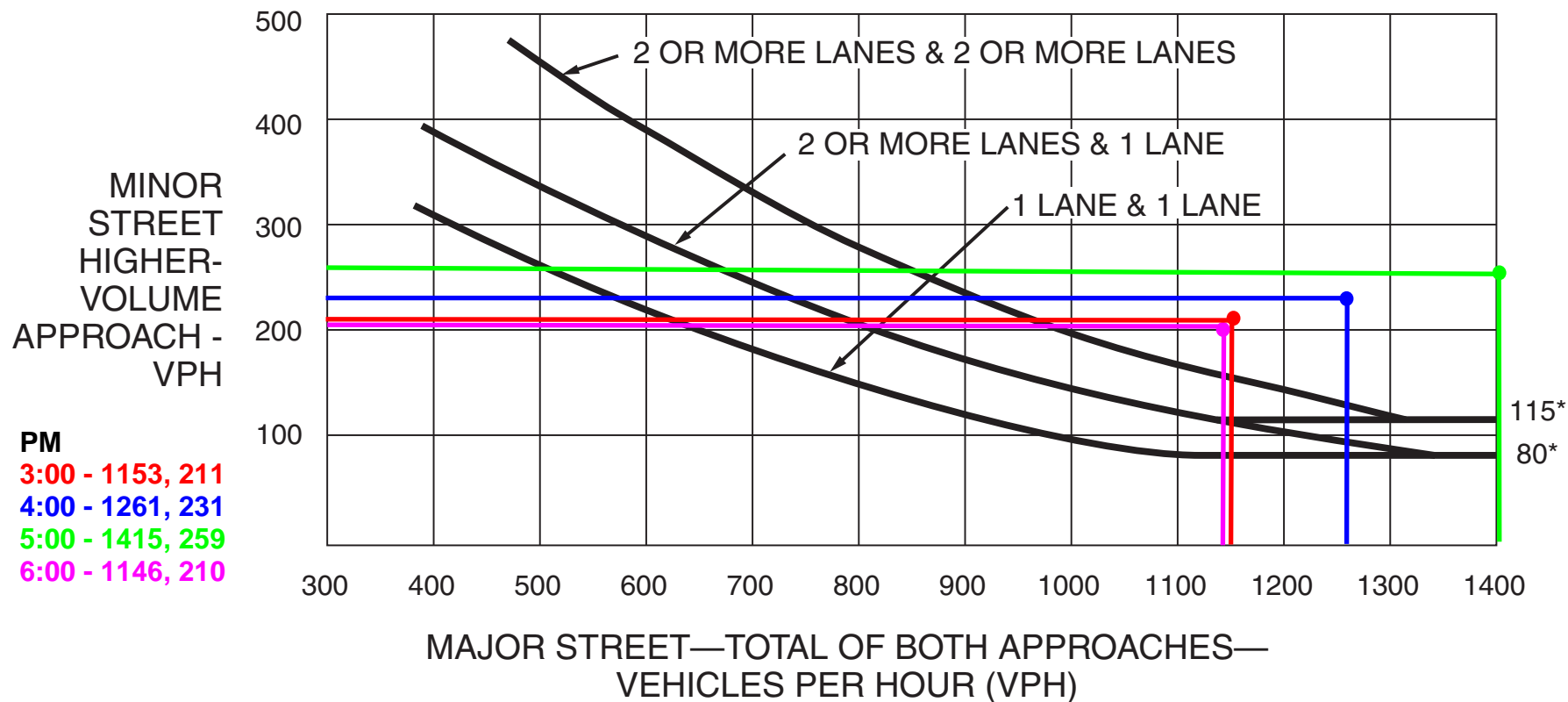
Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	66	61
Average Queue (ft)	35	17
95th Queue (ft)	55	47
Link Distance (ft)	4290	1171
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 1809

APPENDIX J
WARRANTS

PM PEAK HOUR - EVERGREEN ROAD & STACY ALLISON WAY
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

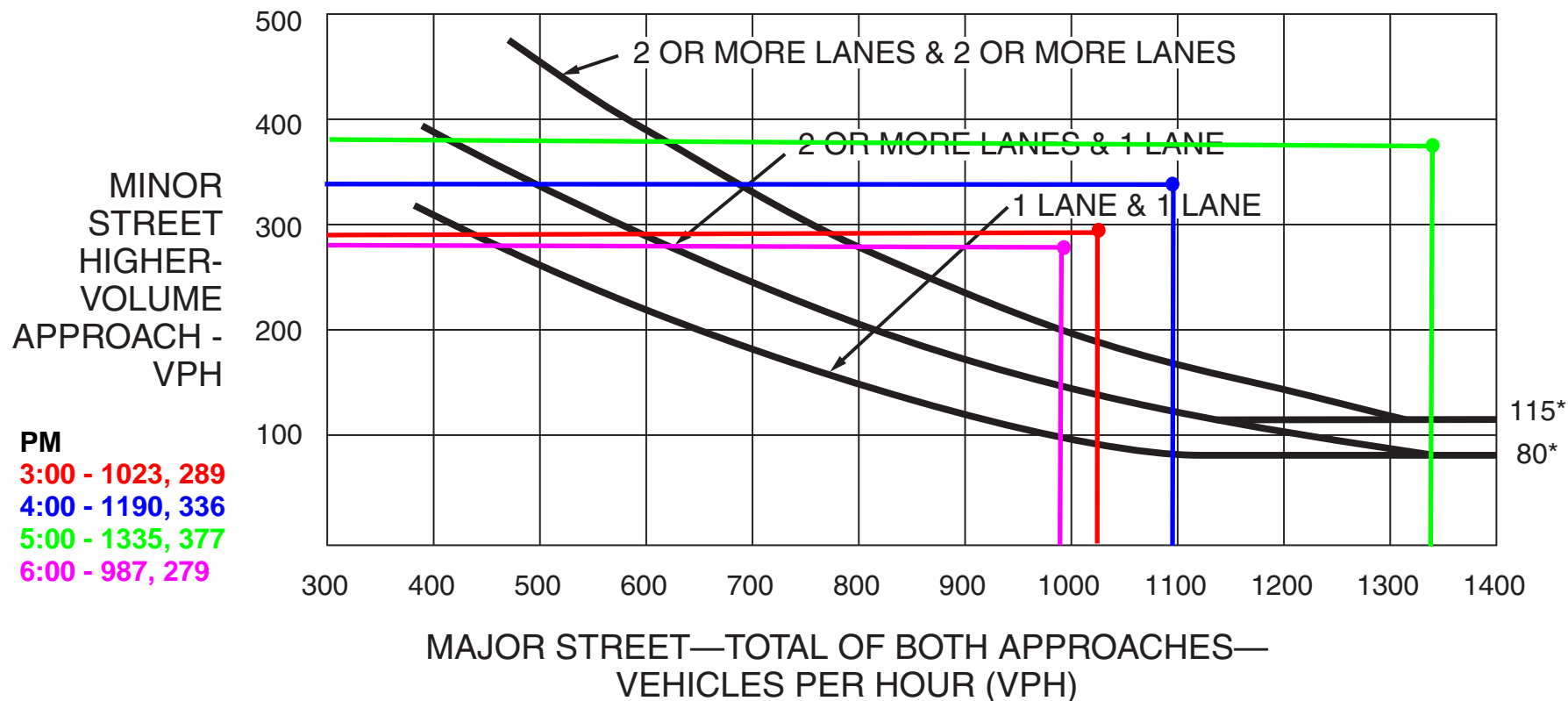


*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

AM & PM 4 HOUR VOLUME - EVERGREEN ROAD & STACY ALLISON WAY

15-Min Count Period Beginning At	Existing 2022 Volumes	Percentage of Peak Hour	Major Volume Estimate	Minor Volume Estimate	Warrant Met
6:00 AM	417	80%	848	90	NO
7:00 AM	523	100%	1063	113	YES
8:00 AM	384	73%	780	83	NO
9:00 AM	574	110%	1167	124	YES
3:00 PM	704	81%	1153	211	YES
4:00 PM	770	89%	1261	231	YES
5:00 PM	864	100%	1415	259	YES
6:00 PM	700	81%	1146	210	YES

PM PEAK HOUR - EVERGREEN ROAD & HAYES STREET
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

AM & PM 4 HOUR VOLUME - EVERGREEN ROAD & HAYES STREET

15-Min Count Period Beginning At	Existing 2022 Volumes	Percentage of Peak Hour	Major Volume Estimate	Minor Volume Estimate	Warrant Met
6:00 AM	421	79%	763	148	NO
7:00 AM	532	100%	964	187	YES
8:00 AM	392	74%	710	138	NO
9:00 AM	566	106%	1026	199	YES
3:00 PM	734	77%	1023	289	YES
4:00 PM	854	89%	1190	336	YES
5:00 PM	958	100%	1335	377	YES
6:00 PM	708	74%	987	279	YES

Warrant 1 - Eight Hour

Standard:

04 The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

- A. The vehicles per hour given in both of the 100 percent columns of Condition A in [Table 4C-1](#) exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or
- B. The vehicles per hour given in both of the 100 percent columns of Condition B in [Table 4C-1](#) exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

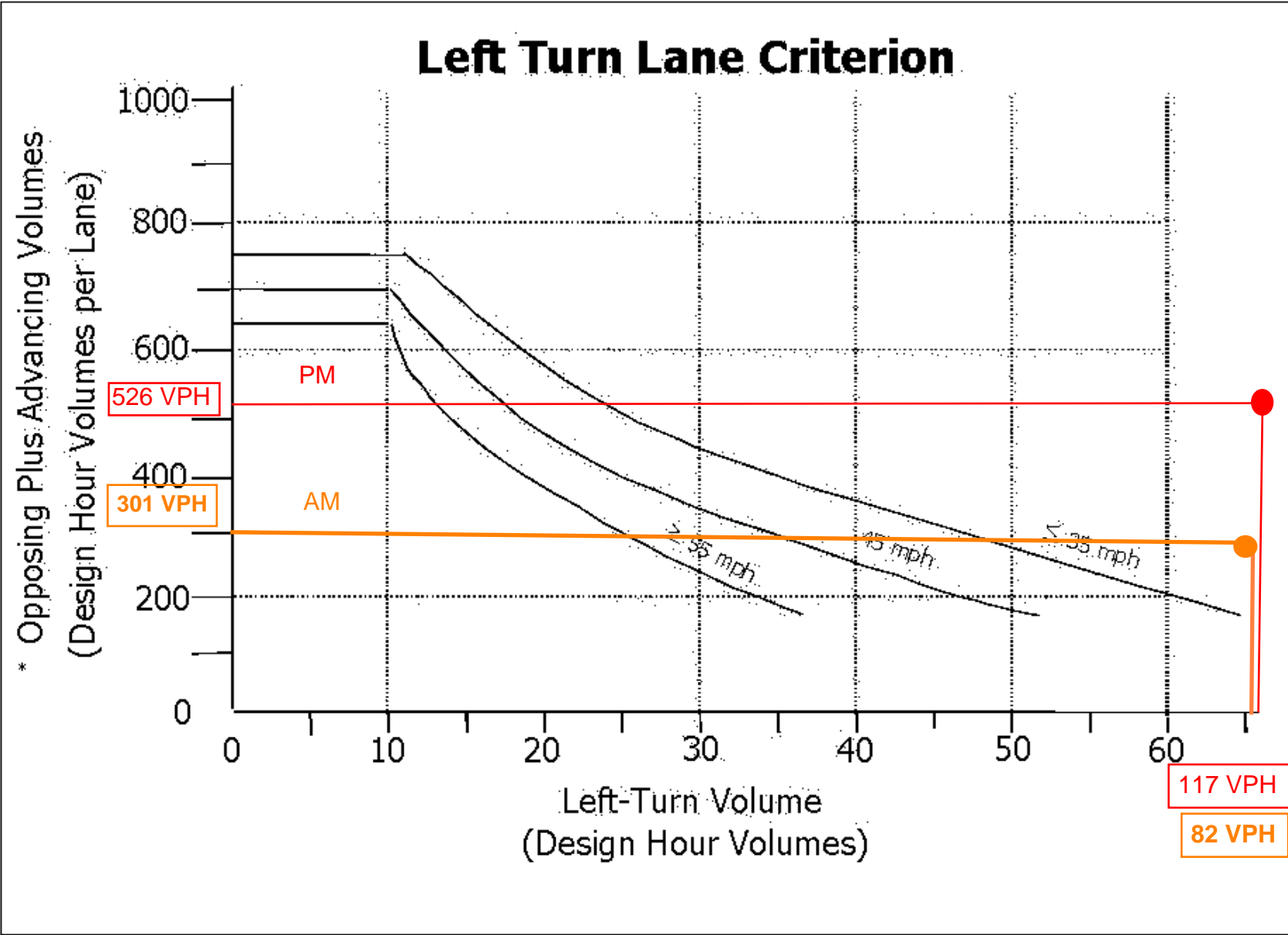
Warrant 1 (a) for a one (1) lane major and minor street is not met for Evergreen Road & Stacy Allison Way for either Phase 1 or Phase 2.

- Minor volumes exceed the 150 vph minimum for the minor street for six (6) of the eight (8) hours for Phase 1.
- Minor volumes exceed the 150 vph minimum for the minor street for six (6) of the eight (8) hours for Phase 2.
- Major volumes exceed the 500 vph minimum for the major street for all eight (8) hours for both Phases 1 & 2.

Warrant 1 (a) for a one (1) lane major and minor street is not met for Evergreen Road & Hayes Street for either Phase 1 or Phase 2.

- Minor volumes exceed the 150 vph minimum for a minor street for four (4) of the eight (8) hours for Phase 1.
- Minor volumes exceed the 150 vph minimum for a minor street for four (4) of the eight (8) hours for Phase 2.
- Major volumes exceed the 500 vph minimum for the major street for all eight (8) hours for both Phases 1 & 2.

This can be seen in the following two pages showing the eight hour analysis used for Warrants 1 & 2.



* ((Advancing volume/number of advancing through lanes) + (opposing volume/ number of opposing through lanes))

FIGURE 1