



lancaster
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Brighton Pointe Subdivision

Transportation Impact
Analysis

Woodburn, Oregon

Date:

August 10, 2022

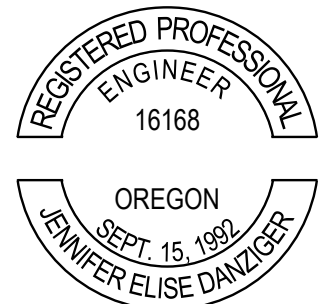
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RENEWS: 12 / 31 / 2023

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Executive Summary

1. The proposed Brighton Pointe Subdivision located at 8708 Parr Road intends to develop the subject property with 107 detached single-family homes and 112 attached single-family homes for a total of 219 housing units in Woodburn, Oregon. The subdivision will be constructed over a period of three years with construction of all development expected to be completed by the end of year 2028.
2. The development will have two access points that connect into the existing transportation system. Street A will connect northward to Parr Road, forming a "T" intersection approximately 500 feet west of Stubb Road and approximately 800 feet east of the future Evergreen Road extension. Street H will connect westward to connect with Parr Road at the existing southern 90-degree bend in the roadway, forming a "T" intersection with future potential to add a four leg on the south side of the intersection.
3. Trip generation for the Brighton Pointe Subdivision is estimated at 132 morning peak hour, 169 evening peak hour, and 1,876 weekday trips
4. Based on a review of the most recent five years of available crash data, eight of the study intersections have crash rates that exceed the 90th percentile rates identified by ODOT for similar types of intersections. Potential intersection improvements have been identified in the Woodburn and Marion County TSPs at some intersections; others could require improvements not currently identified in a TSP.
5. At the other eight intersections, no significant trends or crash patterns were identified, and no safety mitigation is recommended per the crash data analysis.
6. Based on the sight distance analysis, all site accesses are expected to have adequate sight lines.
7. Left-turn lane warrants were not assessed at the site accesses because the proposed project will provide left-turn lanes at both site accesses.
8. The Parr Road & Butteville Road intersection will meet left-turn lane warrants under both background and buildout conditions; however, due to the proximity of the I-5 overpass, widening the roadway for a left-turn lane is not feasible without relocating the intersection southward.
9. Two intersections were identified as meeting preliminary traffic signal warrants:
 - o Stacy Allison Way & Evergreen Road will meet warrants for both background and buildout conditions.
 - o Hayes Street & Evergreen Road will meet warrants for both background and buildout conditions.
10. Three intersections are anticipated to exceed the mobility targets:
 - o The signalized intersection of OR 214 & Settlemier Avenue will exceed mobility standards under year 2028 background conditions. The proposed development will not change the overall intersection v/c ratio but will result in a small increase in overall delay.
 - o The all-way stop-controlled intersection of Hayes Street & Evergreen Road will exceed mobility standards during both the morning and evening peak hours under year 2028 background conditions. The proposed development will increase the critical v/c ratios during both the morning and evening peak hours.



- The stop-controlled intersection of Evergreen Road & Harvard Drive will exceed mobility standards during the evening peak hour under year 2028 background conditions. The proposed development will not add traffic to the critical movement but will increase the critical v/c ratio by increasing the traffic volumes Evergreen Road.
11. In general, changes in 95th percentile queuing between the year 2028 background and buildout conditions are anticipated to be small, one vehicle or two vehicles. Larger increases in queues are anticipated on Evergreen Road due to congestion at the two intersections with OR 214 and Hayes Street.
 12. The proposed development will add traffic to eight intersections with high crash rates as well as worsening operations at three intersections where mobility standards will not be met under background conditions. Proportionate share contributions for potential mitigation will vary depending on projects for the intersections of Stacy Allison Way & Evergreen Road and Hayes Street & Evergreen Road, which do not currently have a TSP project assigned, and the Parr Road & Butteville Road intersection, which does not currently identify the specific project needed in the Marion County TSP. As such, mitigation is likely to involve a comprehensive discussion in the context of all the eight intersections with identify safety or operational concerns.



Project Description

Introduction

The proposed Brighton Pointe Subdivision located at 8708 Parr Road intends to develop the subject property with 107 detached single-family homes and 112 attached single-family homes for a total of 219 housing units in Woodburn, Oregon. The subdivision will be constructed over a period of three years with construction of all development expected to be completed by the end of year 2028.

This report examines the impacts of the proposed development on the transportation system in the vicinity of the project site. The purpose of this report is to ensure safe and efficient performance of the transportation facilities that will be impacted by the proposed development. The study area includes intersections that are under the jurisdiction of the City of Woodburn, ODOT, and Marion County, including:

- | | |
|---|---|
| 1. OR 219 & Butteville Road | 9. Hayes Street & Settlemier Avenue |
| 2. OR 214/219 & I-5 SB Ramps | 10. Evergreen Road & Harvard Drive |
| 3. OR 214/219 & I-5 NB Ramps | 11. Parr Road & Butteville Road |
| 4. OR 214 & Evergreen Road | 12. Parr Road & Street H (Future Site Access) |
| 5. OR 214 & Settlemier Avenue | 13. Parr Road & Evergreen Road (Future) |
| 6. Stacy Allison Way & Evergreen Road | 14. Parr Road & Street A (Future Site Access) |
| 7. Hayes Street & Evergreen Road | 15. Parr Road & Stubb Road |
| 8. Hayes Street North & Settlemier Avenue | 16. Parr Road & Settlemier Avenue |

All supporting data and calculations are included in the appendices to this report.

Location Description

The site address is 8708 Parr Road. It is located south and east of Parr Road on tax lot 052W130001001 (listed as 38.45 acres), of which 37.75 acres is proposed to be annexed into Woodburn, Oregon following a Property Line Adjustment (PLA) with the adjacent parcel (8702 Parr Road). A vicinity map is shown in Figure 1 with the subject site outlined in red. A site plan is included in Appendix A.



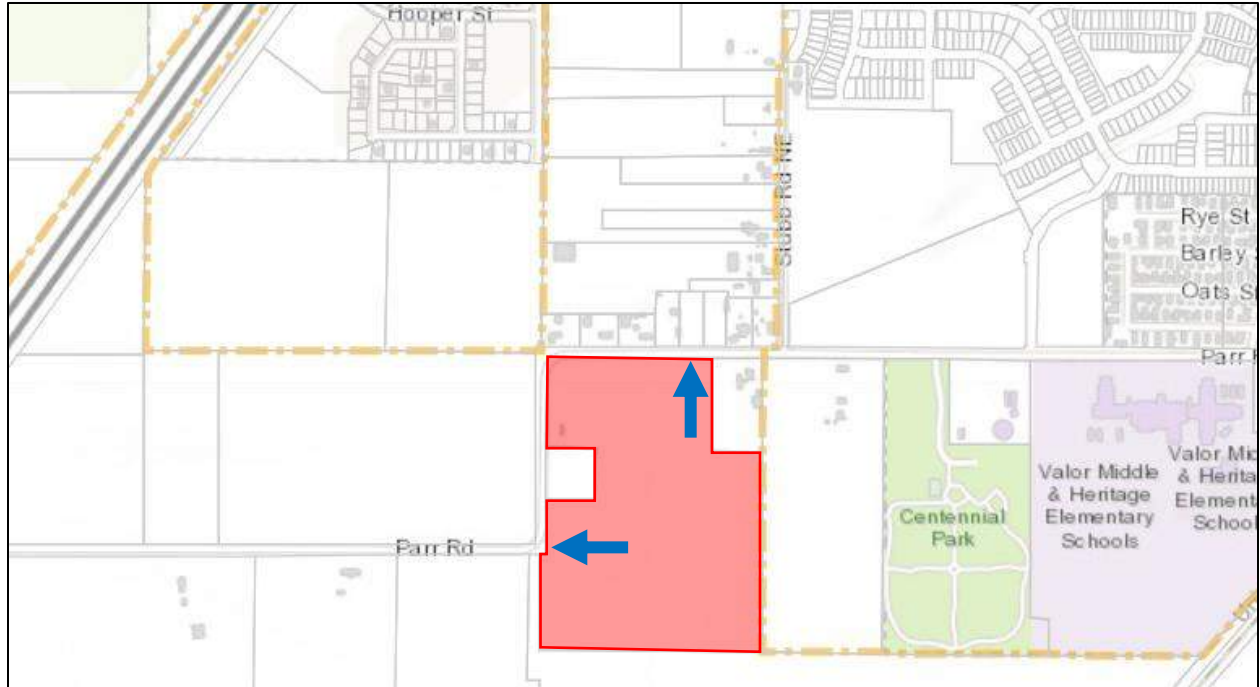


Figure 1: Project Location and Access (Marion County GIS)

The development will have two access points that connect into the existing transportation system as indicated by the blue arrows in Figure 1. Street A will connect northward to Parr Road, forming a “T” intersection approximately 500 feet west of Stubb Road and approximately 800 feet east of the future Evergreen Road extension. Street H will connect westward to connect with Parr Road at the existing southern 90-degree bend in the roadway, forming a “T” intersection with future potential to add a four leg on the south side of the intersection.

Vicinity Streets

The study area includes roadways under state, county, and city jurisdiction that are expected to be impacted by the proposed development. Table 1 describes each of the vicinity roadways.

Table 1: Vicinity Roadway Descriptions

Street Name	Functional Classification	Travel Lanes	Speed (mph)	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
Jurisdiction: ODOT						
Interstate 5 (I-5)	Freeway	6	65	No	No	No
OR 219	District Hwy Major Arterial (City)	2-5	35-55	Partial	Prohibited	Partial
OR 214	District Hwy Major Arterial (City)	2-5	30-35	Both Sides	Prohibited	Yes

Table 1: Vicinity Roadway Descriptions

Street Name	Functional Classification	Travel Lanes	Speed (mph)	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
Jurisdiction: Marion County						
Butteville Rd	Major Collector (County) Minor Arterial (City)	2	Not Posted (55 Statutory)	None	Prohibited	None
Parr Rd	Major/Minor Collector (County)	2	Not Posted (55 Statutory)	None	Prohibited	None
Jurisdiction: City of Woodburn						
Evergreen Rd	Minor Arterial	2-3	25-30	Partial	Generally Prohibited	Partial
Harvard Dr	Access Street	2	Not Posted (25 Statutory)	Yes	Permitted	None
Hayes St	Service Collector	2	25	Partial	Generally Prohibited	Partial South Side
Parr Rd	Minor Arterial/Service Collector	2-3	25	Partial	Prohibited	None
Settlemer Ave (Boones Ferry Rd)	Minor Arterial	2-3	25-35	Partial	Prohibited	None
Stacy Allison Way	Service Collector	3	25	Partial	Prohibited	None
Stubb Rd	Access Street	2	Not Posted (25 Statutory)	None	Prohibited	None

Study Intersections

Based on coordination with agency staff, 13 existing intersections and three future intersections were identified for analysis. A summarized description of the study intersections is provided in Table 2.

Table 2: Study Intersection Descriptions

	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	OR 219 & Butteville Rd	Three Legs	Stop-Controlled	NB Stop Future Roundabout
2	OR 214/219 & I-5 SB Ramps	Four Legs	Signalized	Protected SB Free EB/WB Right Turns
3	OR 214/219 & I-5 NB Ramps	Three Legs	Signalized	Protected NB Approach Free EB/WB Right Turns
4	OR 214 & Evergreen Rd	Four Legs	Signalized	Protected/Permitted EB/WB Lefts Split Phasing NB/SB Yield-Controlled EB/NB/SB Rights



Table 2: Study Intersection Descriptions

	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
5	OR 214 & Settlemier Ave	Four Legs	Signalized	Protected Lefts with Right-Turn Overlaps All Approaches
6	Stacy Allison Way & Evergreen Rd	Four Legs	Stop-Controlled	EB/WB Stop
7	Hayes St & Evergreen Rd	Four Legs	Stop-Controlled	All-Way Stop
8	Hayes St North & Settlemier Ave	Three Legs	Stop-Controlled	EB Left Stop
9	Hayes Street & Settlemier Ave	Four Legs	Stop-Controlled	EB/WB Stop
10	Evergreen Rd & Harvard Dr	Four Legs	Stop-Controlled	NB/SB Stop
11	Parr Rd & Butteville Rd	Three Legs	Stop-Controlled	WB Stop
12	Parr Rd & Street H (Future Site Access)	Three Legs ¹	Stop-Controlled	All-Way Stop
13	Parr Rd & Evergreen Rd (Future Intersection)	Four Legs ²	Stop-Controlled	All-Way Stop
14	Parr Rd & Street A (Future Site Access)	Three Legs ³	Stop-Controlled	NB Stop
15	Parr Rd & Stubb Rd	Four Legs ⁴	Stop-Controlled	NB/SB Stop
16	Parr Rd & Settlemier Ave	Four Legs	Stop-Controlled	All-Way Stop

Table Notes:

1. The third leg, Street H, will be constructed by the Project and the intersection will be all-way stop-controlled.
2. The Specht project on the northwest corner of the intersection will extend Evergreen Road southward to connect with Parr Road and construct a new local industrial street that will connect from the west. The intersection will be all-way stop-controlled.
3. The third leg, Street A, will be constructed by the Project and the intersection will be stop-controlled on the new approach.
4. The fourth leg will be an extension of Stubb Road constructed with development to the south.












A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 2.

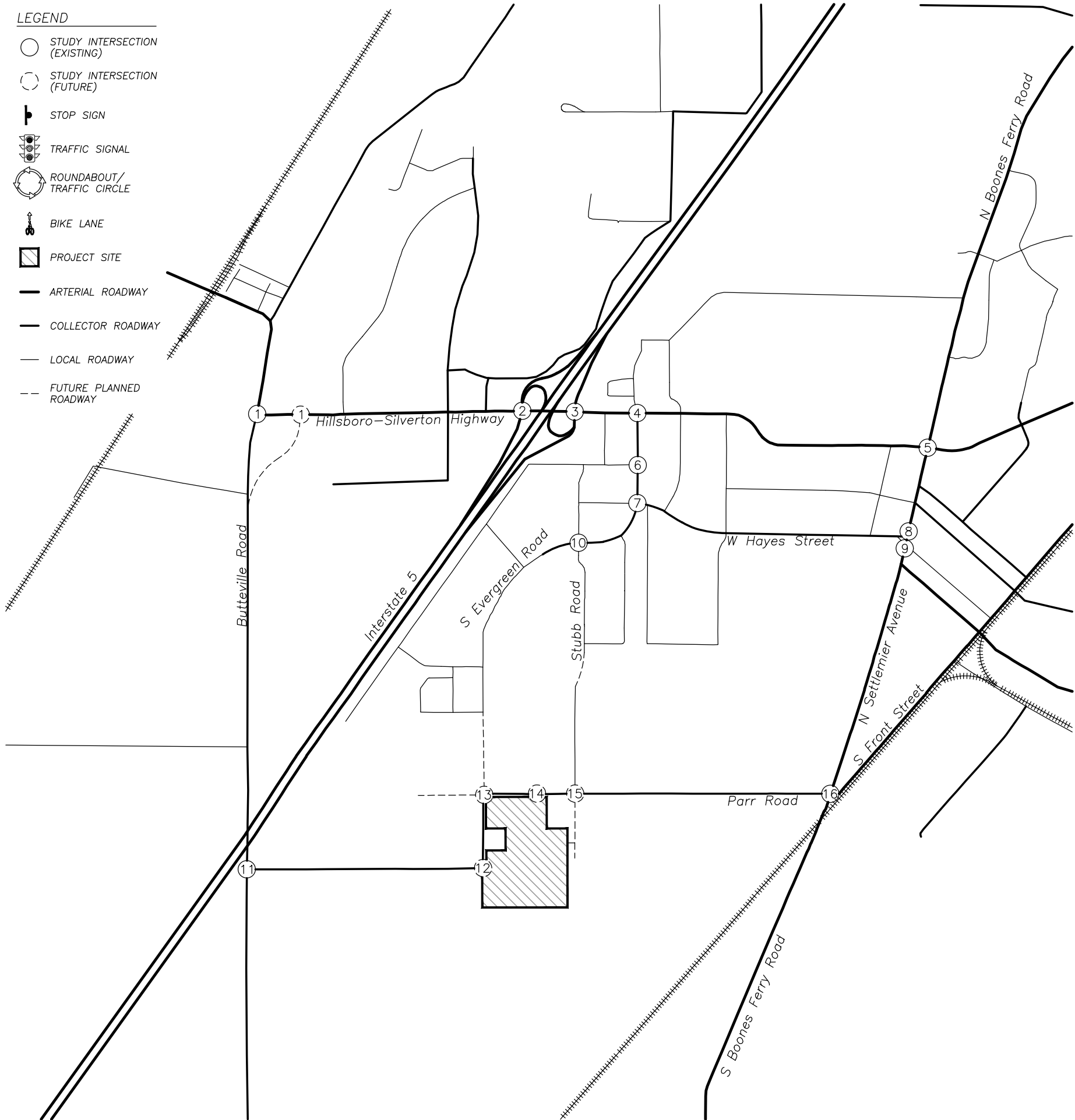
Transit

Woodburn Transit System (WTS) typically provides fixed route and express service along OR 214, OR 99E, downtown and through some of the nearby neighborhoods. The closest stops to the proposed development are located at the intersection of Parr Rd & Settlemier Avenue, approximately 4,000 feet east of the site, and at Hayes Street & Harvard Drive, nearly 5,000 feet north of the site. At this time, all WTS fixed routes are suspended due to the pandemic. Thus, the study area has no transit service except for the Dial-a-Ride Program.

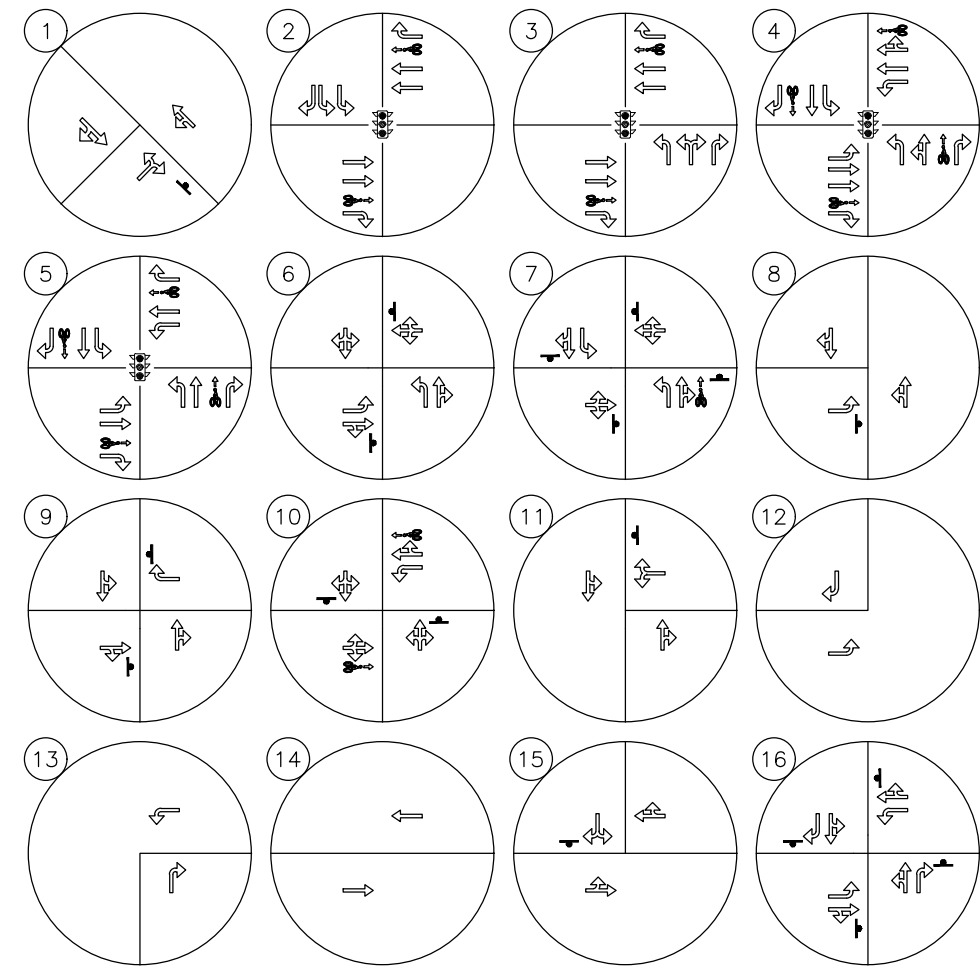


LEGEND

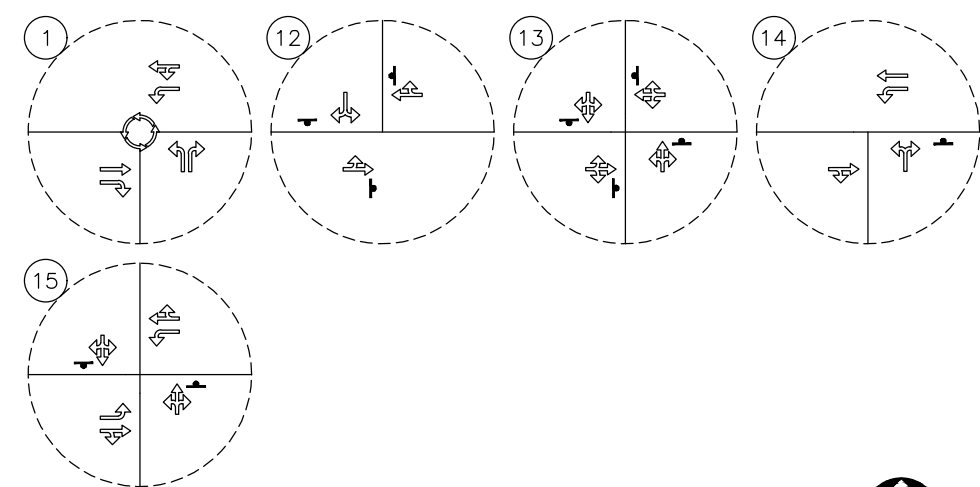
-  STUDY INTERSECTION (EXISTING)
-  STUDY INTERSECTION (FUTURE)
-  STOP SIGN
-  TRAFFIC SIGNAL
-  ROUNDABOUT/ TRAFFIC CIRCLE
-  BIKE LANE
-  PROJECT SITE
-  ARTERIAL ROADWAY
-  COLLECTOR ROADWAY
-  LOCAL ROADWAY
-  FUTURE PLANNED ROADWAY



EXISTING INTERSECTION CONFIGURATION



PLANNED INTERSECTION CONFIGURATIONS



Site Trips

Trip Generation

To estimate trips that will be generated by the proposed development, trip equations from the *Trip Generation Manual*¹ were used. Equations for land use codes 210, *Single-Family Detached Housing*, and 215, *Single-Family Attached Housing*, were used to estimate trip generation based on the number of dwelling units.

As shown in Table 3, trip generation for the Brighton Pointe Subdivision is estimated at 132 morning peak hour, 169 evening peak hour, and 1,876 weekday trips when all phases are completed. Detailed trip generation calculations are included in Appendix A.

Table 3: Trip Generation Summary

ITE Code	Intensity (DU)	Morning Peak Hour			Evening Peak Hour			Daily Trips
		In	Out	Total	In	Out	Total	
210 - Single-Family Detached Housing	107	21	58	79	67	39	106	1074
215 - Single-Family Attached Housing	112	16	37	53	36	27	63	802
TOTAL	219	37	95	132	103	66	169	1876

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:

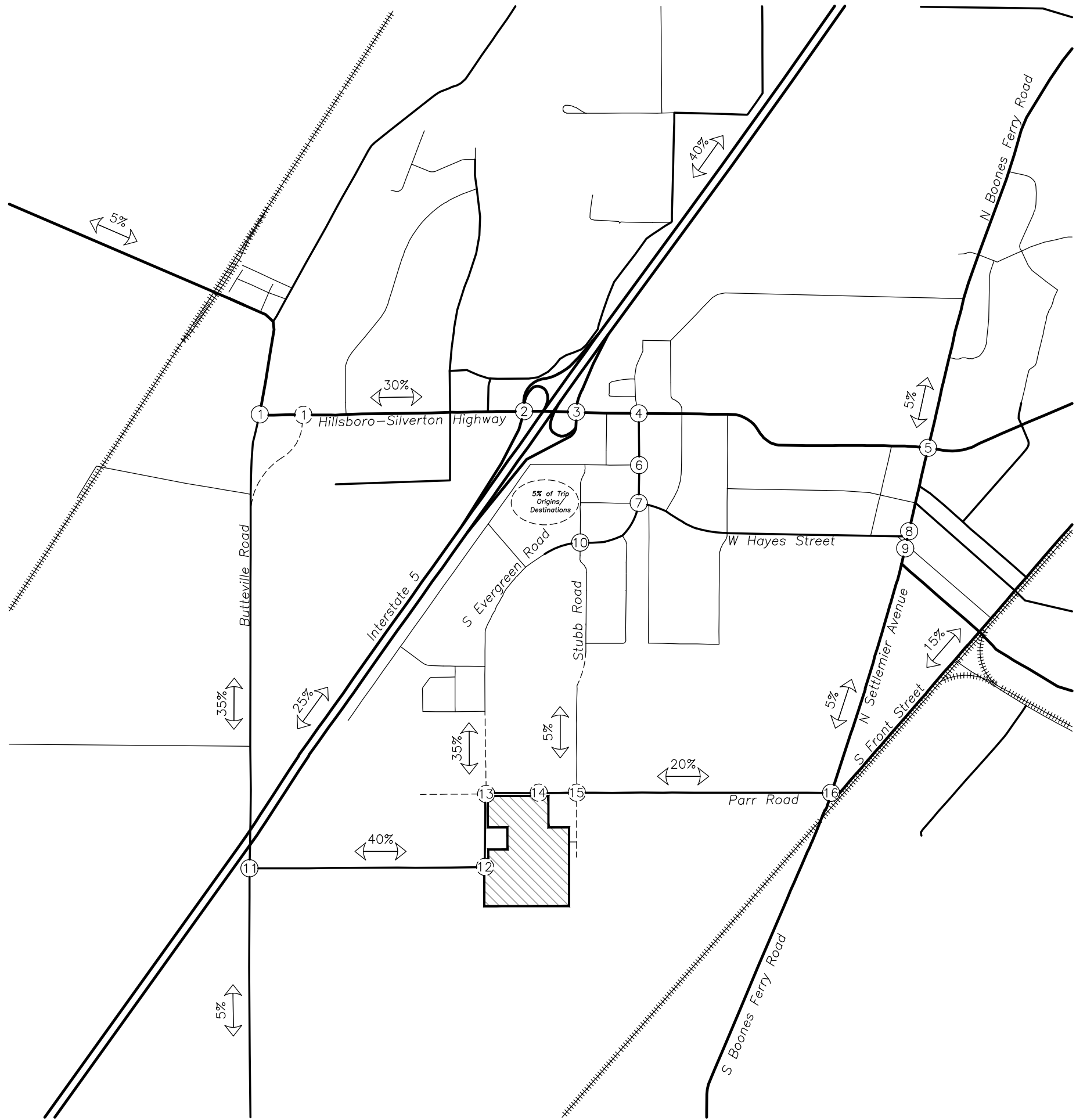
- 40 percent to/from the west on Parr Road
 - 5 percent to/from the south on Butteville Road
 - 20 percent to/from the north on I-5 via Butteville Road & OR 219
 - 10 percent to/from the south on I-5 via Butteville Road & OR 219
 - 5 percent to/from destinations west of I-5 via Butteville Road
- 20 percent to/from the east on Parr Road
 - 5 percent to/from the north on Settlemier Avenue
 - 15 percent to/from the north on Front Street
- 35 percent to/from the north on Evergreen Road and 5 percent to/from the north on Stubb Road
 - 20 percent to/from the north on I-5
 - 15 percent to/from the south on I-5
 - 5 percent to/from local areas

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

Trip Assignment

The trip distribution and assignment for the total site trips generated during the morning and evening peak hours are shown in Figure 3 and Figure 4, respectively.





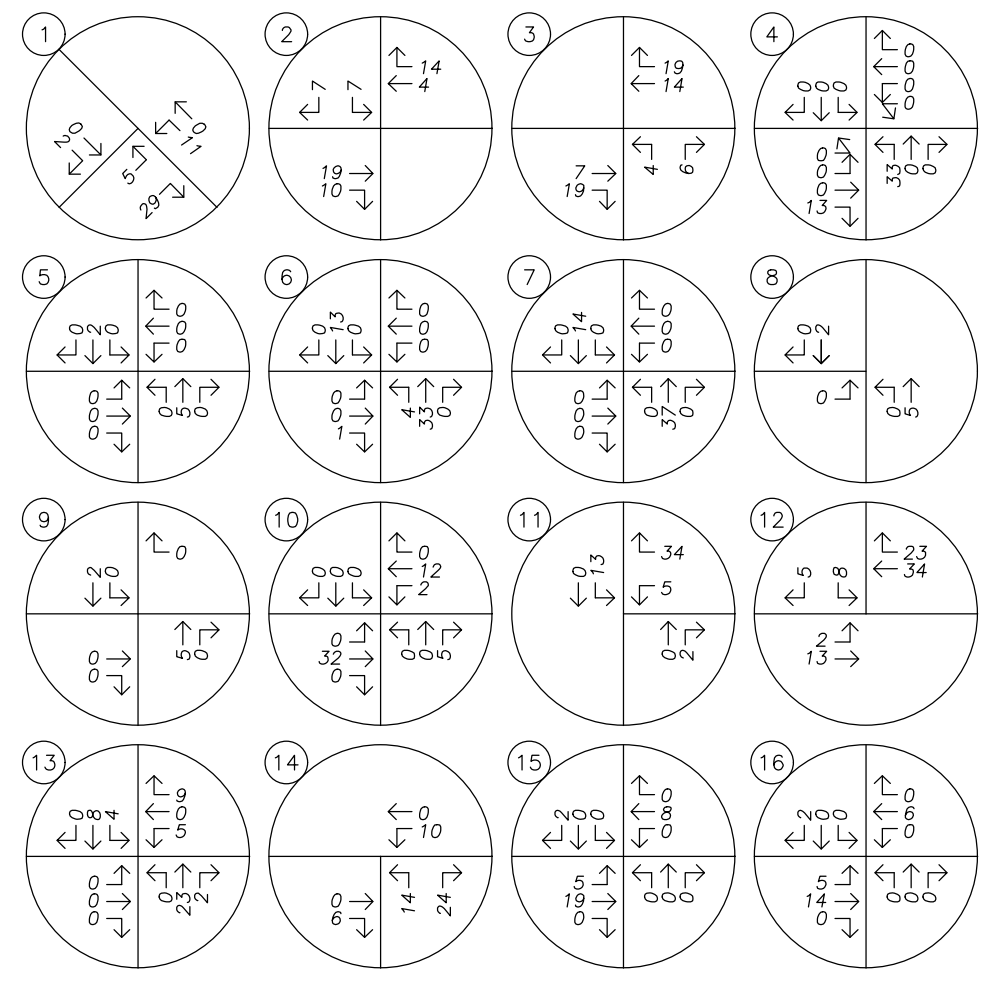
LEGEND

XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	37	94	131
PM	102	66	168

*5 PERCENT OF TRIPS ARRIVE/DEPART FROM LOCALES WITHIN THE SITE VICINITY

AM PEAK HOUR



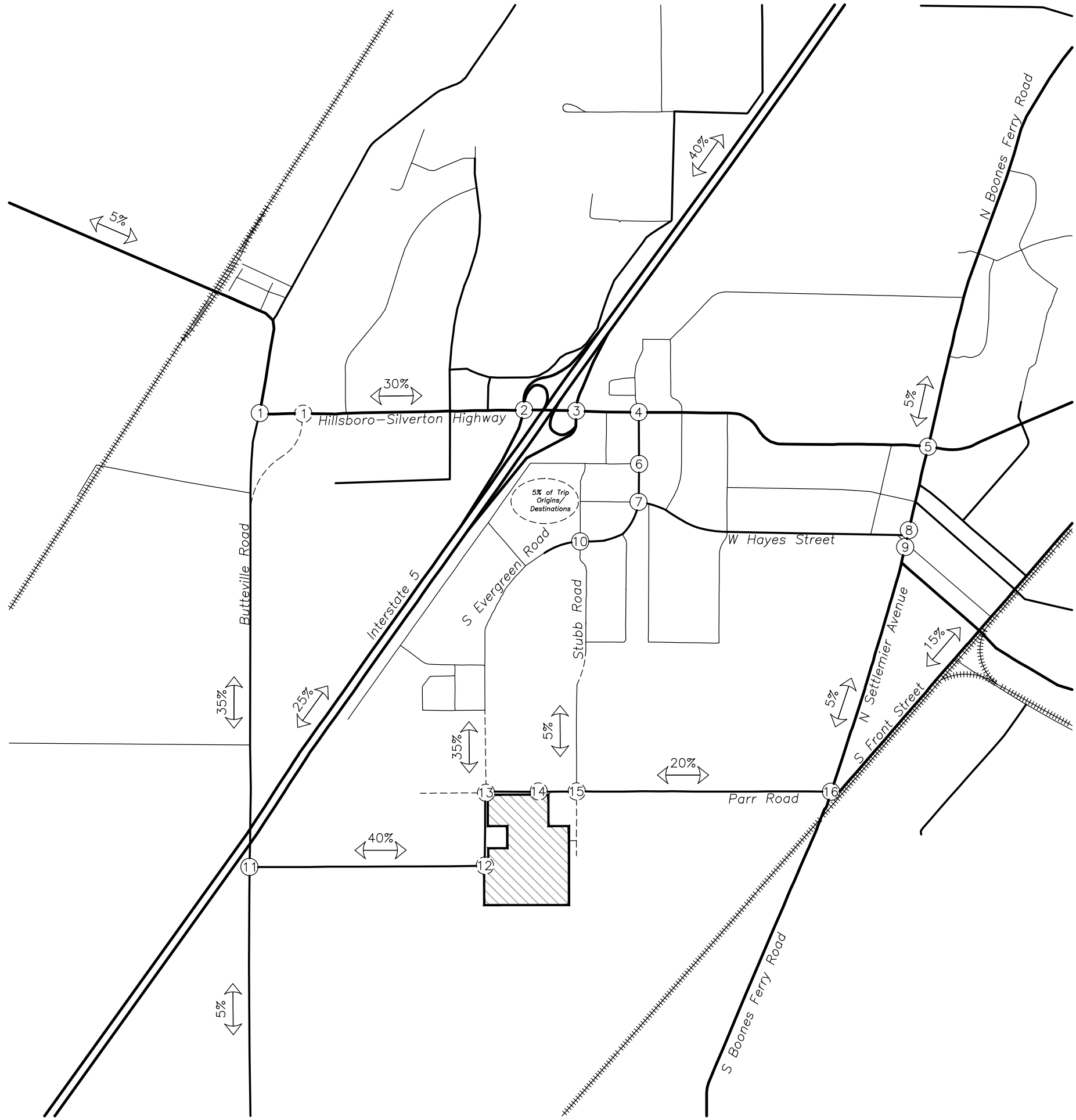
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SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

AM Peak Hour



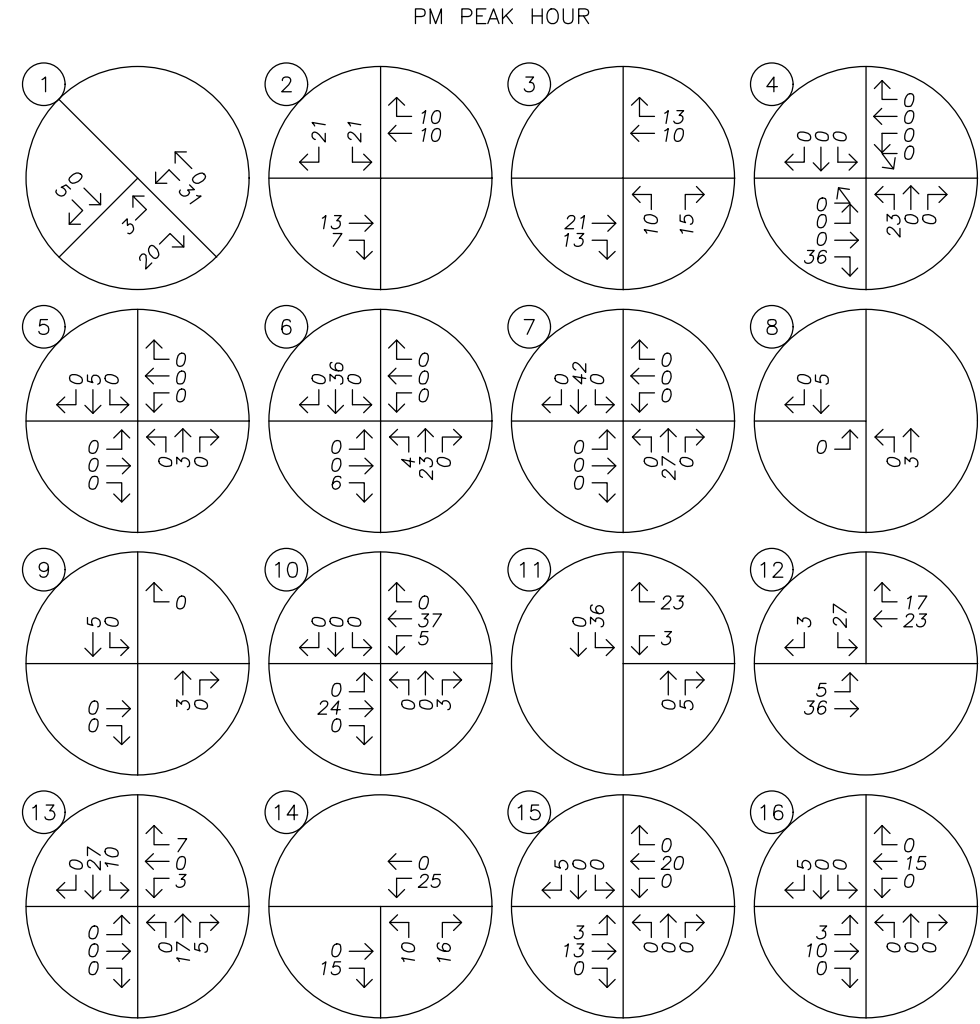


LEGEND

XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	37	94	131
PM	102	66	168

*5 PERCENT OF TRIPS ARRIVE/DEPART FROM LOCALES WITHIN THE SITE VICINITY



No Scale

SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

PM Peak Hour



Traffic Volumes

Existing Conditions

Turning movement counts were collected at the study intersections on the following dates:

- OR 219 & Butteville Road – 6/1/2022
- OR 214/219 & I-5 SB Ramps – 6/1/2022
- OR 214/219 & I-5 NB Ramps – 6/1/2022
- OR 214 & Evergreen Road – 5/25/2021
- OR 214 & Settlemier Avenue – 6/1/2022
- Stacy Allison Way & Evergreen Road – 2/9/2022
- Hayes Street & Evergreen Road – 2/9/2022
- Hayes Street & Settlemier Avenue – 6/1/2022
- Evergreen Road & Harvard Drive – 4/12/2022
- Parr Road & Butteville Road – 4/12/2022
- Parr Road & Stubb Road – 1/19/2022
- Parr Road & Settlemier Avenue – 1/19/2022

All traffic counts were collected in 2022 except for the intersection of OR 214 & Evergreen Road. The May 2021 count adjusted for one year of growth was found to correspond significantly better with the other counts along OR 214 than a count from January 2022 after seasonal adjustments.

All traffic counts are included in Appendix B.

Peak Hours

The morning peak hour for the study intersections was selected from the period between 7:00 and 9:00 AM, which corresponds to the ITE trip generation rates for the peak of the adjacent roadway. Although some of the approved industrial developments show peak trip generation that will occur earlier in the morning, residential trip generation rates are only 65 to 75 percent of the peak rates prior to 7:00 AM.² For most intersections, the peak hour began sometime between 7:00 and 7:15 AM and ended sometime between 8:00 and 8:15 AM.

The evening peak hour for the study intersections was selected from the period between 4:00 and 6:00 PM, which corresponds to the ITE trip generation rates for the peak of the adjacent roadway. Although some of the approved industrial developments show peak trip generation that will occur later in the evening, residential trip generation rates are 90 percent of the peak rates after 6:00 PM. The peak hour timing varied more during the evening. The highest volumes were used at each intersection.

² Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use, Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021

Pandemic Adjustments

Although the COVID-19 pandemic caused a statewide depression in traffic volumes, as the economy has recovered and children have returned to school, traffic volumes have increased near to or above pre-pandemic levels. The TIAs for the Amazon Warehouse project (DR 21-07) compared pre-pandemic volumes with the 2021 counts used in their study and concluded that no adjustments were needed for the disruptive event. The Phased Specht Development (DR 22-02) also used volumes with no adjustment for the pandemic.

A comparison of the year 2022 count volumes with counts collected in 2021 showed growth of 1 to 9 percent along OR 214 and OR 219 in the morning volumes and 20 to 25 percent at the Parr Road & Butteville Road intersection. Evening volumes varied with some higher and some lower but all within a few percent of the prior year.

Therefore, consistent with other recent projects, no pandemic-related adjustments were made.

Seasonal Adjustments

Volumes on the state highways, I-5, OR 219, and OR 214, were seasonally adjusted following the procedures in ODOT's *Analysis Procedures Manual* (APM). Consistent with the Amazon and Specht traffic studies, the adjustment factor for the highway intersections was assumed to be the average of the "commuter" and "summer" trends from the seasonal trend table.

The counts along the highway were all collected on June 1, 2022, except for the intersection with Evergreen Road, which was counted on May 25, 2021. However, the closest data in the seasonal trend table is June 1; therefore, all adjustment factors were based on the June 1 data. The resulting calculations are shown in Table 4.

Table 4: ATR Seasonal Trend Method

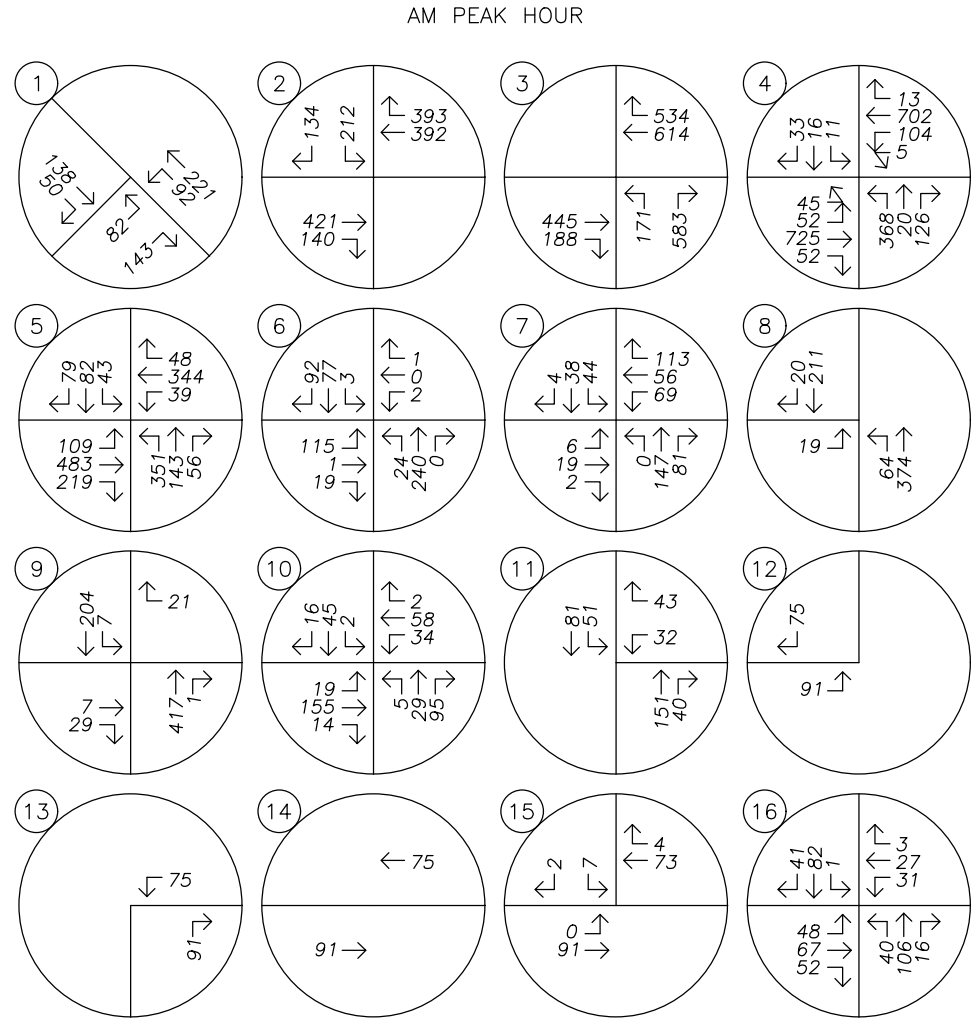
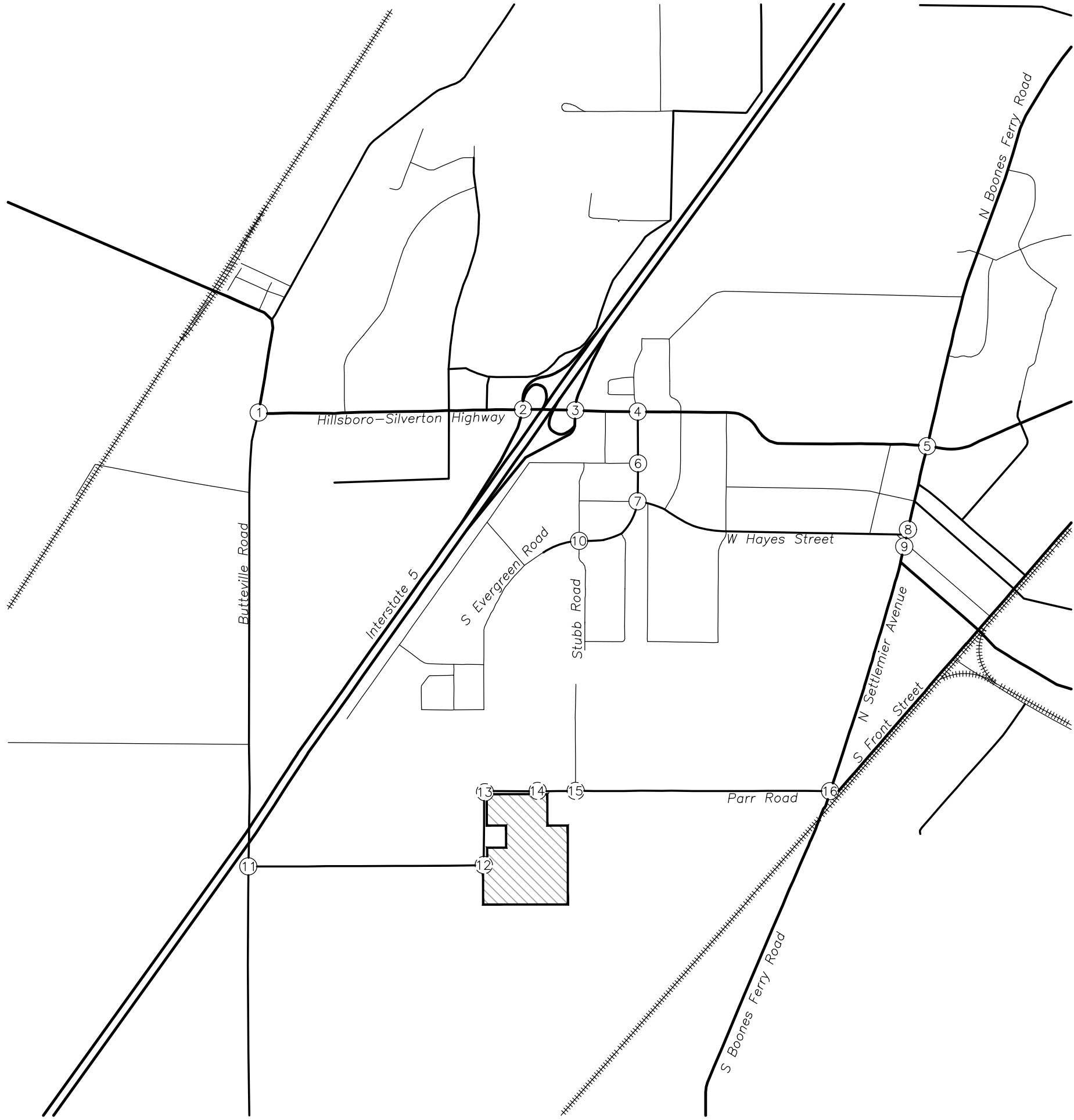
Trend	Count Month (June 1)	Peak Month	Adjustment Factor
Commuter	0.9503	0.9355	1.016
Summer	0.8976	0.8299	1.082
Average			1.049

After the volumes along OR 219/OR 214 were seasonally adjusted, they were balanced where appropriate.

Traffic Volumes

The year 2022 existing traffic volumes for the morning and evening peak hours are shown in Figure 5 and Figure 6, respectively.



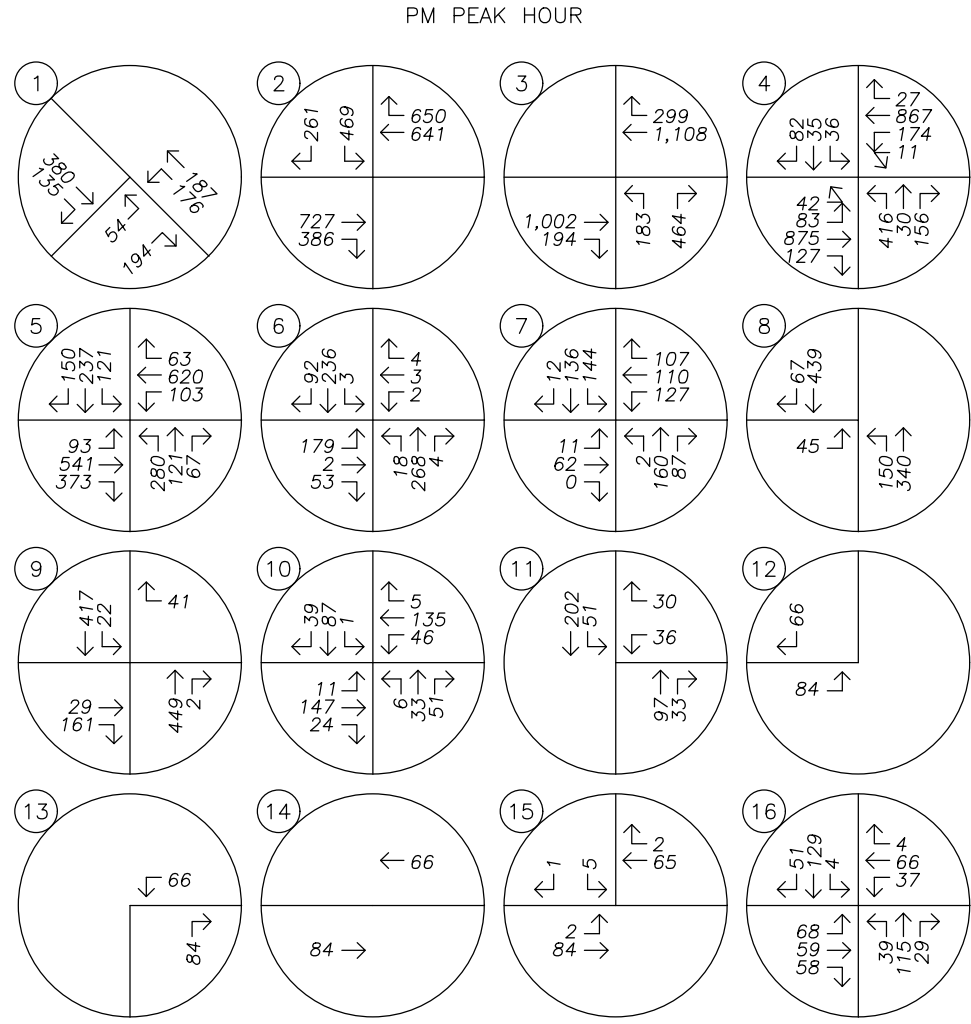
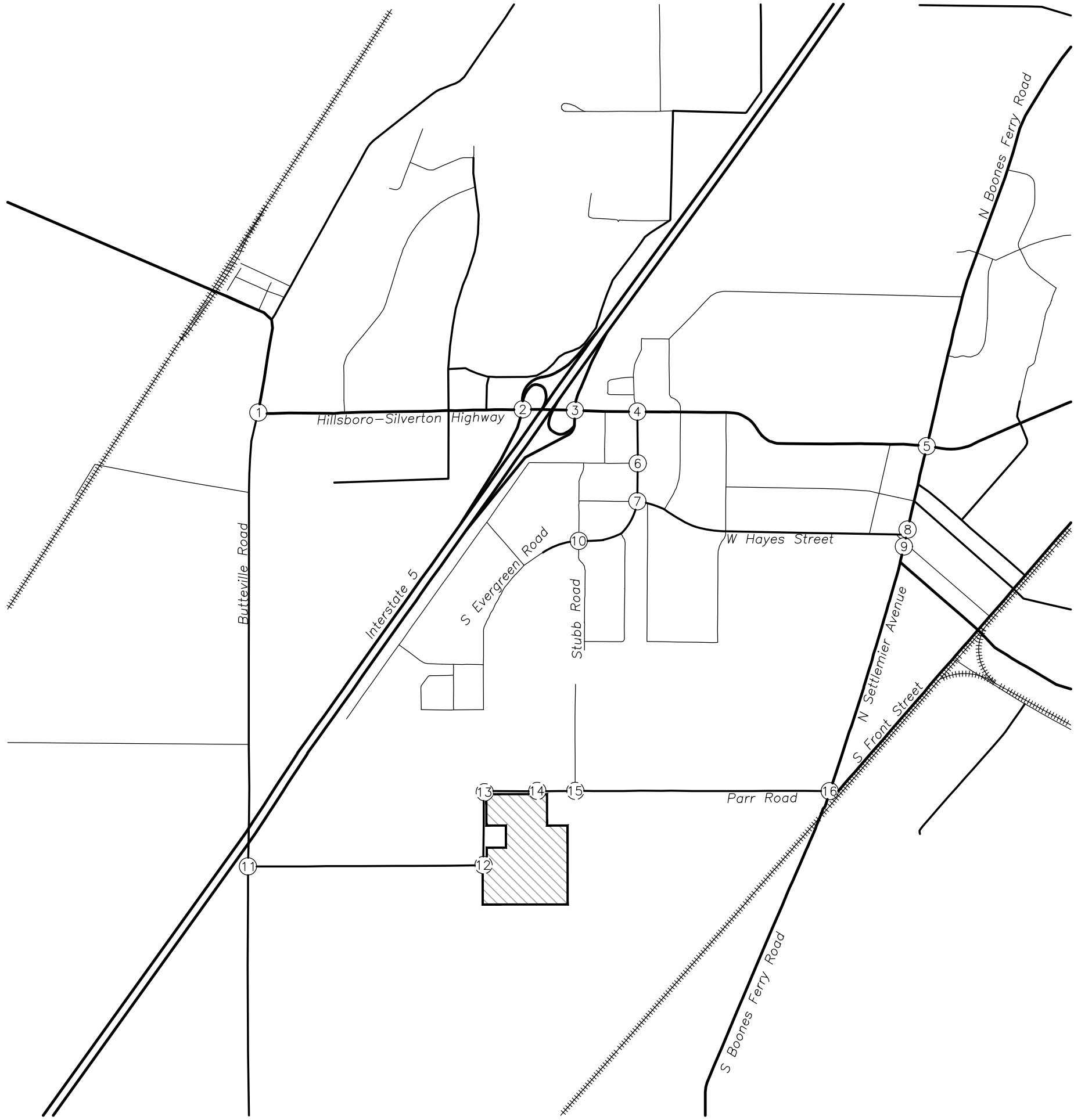


No Scale



TRAFFIC VOLUMES
Year 2022 Existing Conditions
AM Peak Hour

Figure 5
8708 Parr Road
8/10/2022



No Scale



TRAFFIC VOLUMES
Year 2022 Existing Conditions
PM Peak Hour

Background Conditions

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. To account for general background growth through the year 2028, an annual 1 percent growth rate was applied to the year 2022 existing conditions baseline volumes for six years. In addition to the general growth, traffic from the following developments was added to the network volumes:

- 9008 Parr Road
- Allison Way Apartments
- Amazon Warehouse (Project Basie)
- Dove Landing
- Molalla Apartments
- Port of Willamette
- Smith Creek (Assumed to be approximately 45 percent build out to date)
- Woodburn Senior Living
- Woodland Crossing
- Weisz Property – Specht Phased Industrial

Figure 7 and Figure 8 present the year 2028 background volumes for the morning and evening peak hours, respectively.

Planned Improvements

Several significant improvements to the study area will be constructed with projects included in the background conditions:

- The intersection of OR 219 & Butteville Road will be relocated to the east of Senecal Creek and constructed with a double lane roundabout as part of the mitigation for the Amazon Warehouse.
- Evergreen Road will be extended southward from its current terminus to Parr Road and a new industrial road will be constructed westward from the intersection as part of the Specht Phase Industrial development of the Weisz property. The four-leg intersection will be all-way stop-controlled until all four quadrants have been redeveloped and the roadways are built out to their ultimate alignment.
- Stubb Road will be improved to Access Road standards and connected to Harvard drive as part of the network for the Smith Creek development.

Buildout Conditions

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the background volumes to estimate the buildout volumes.

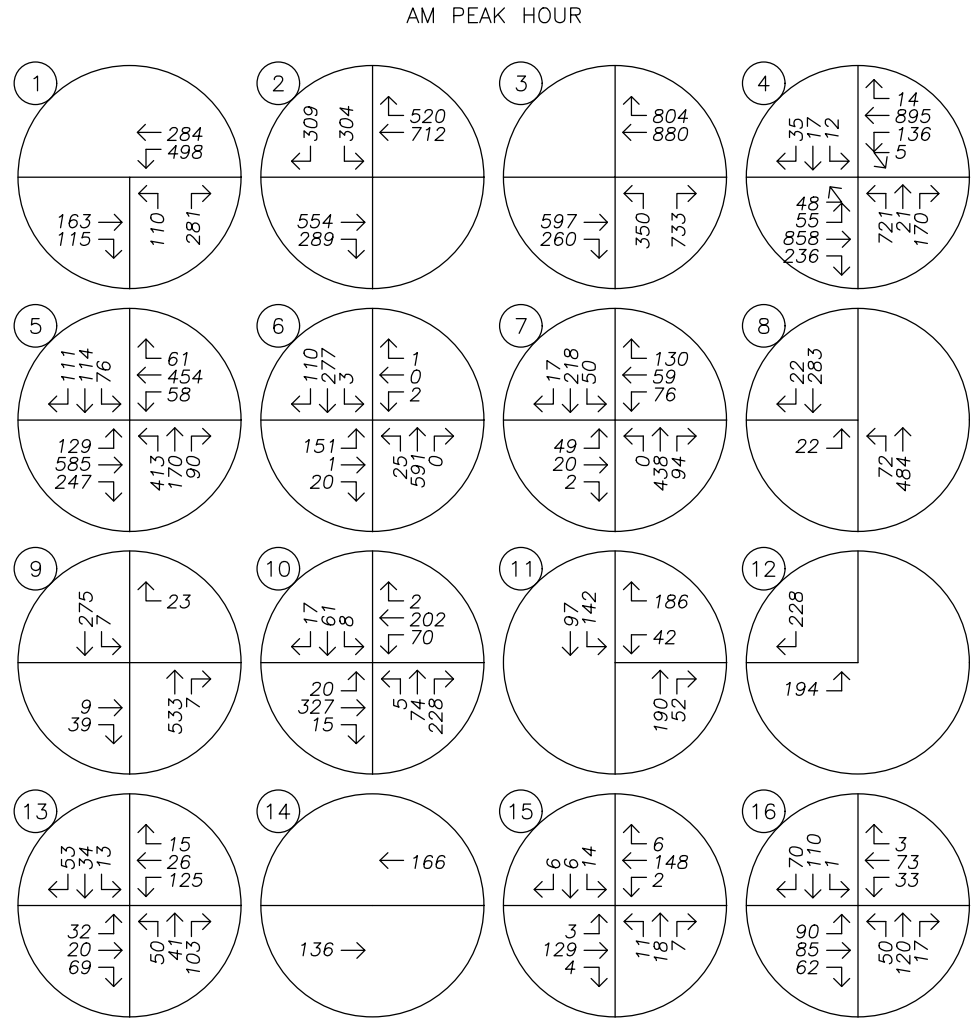
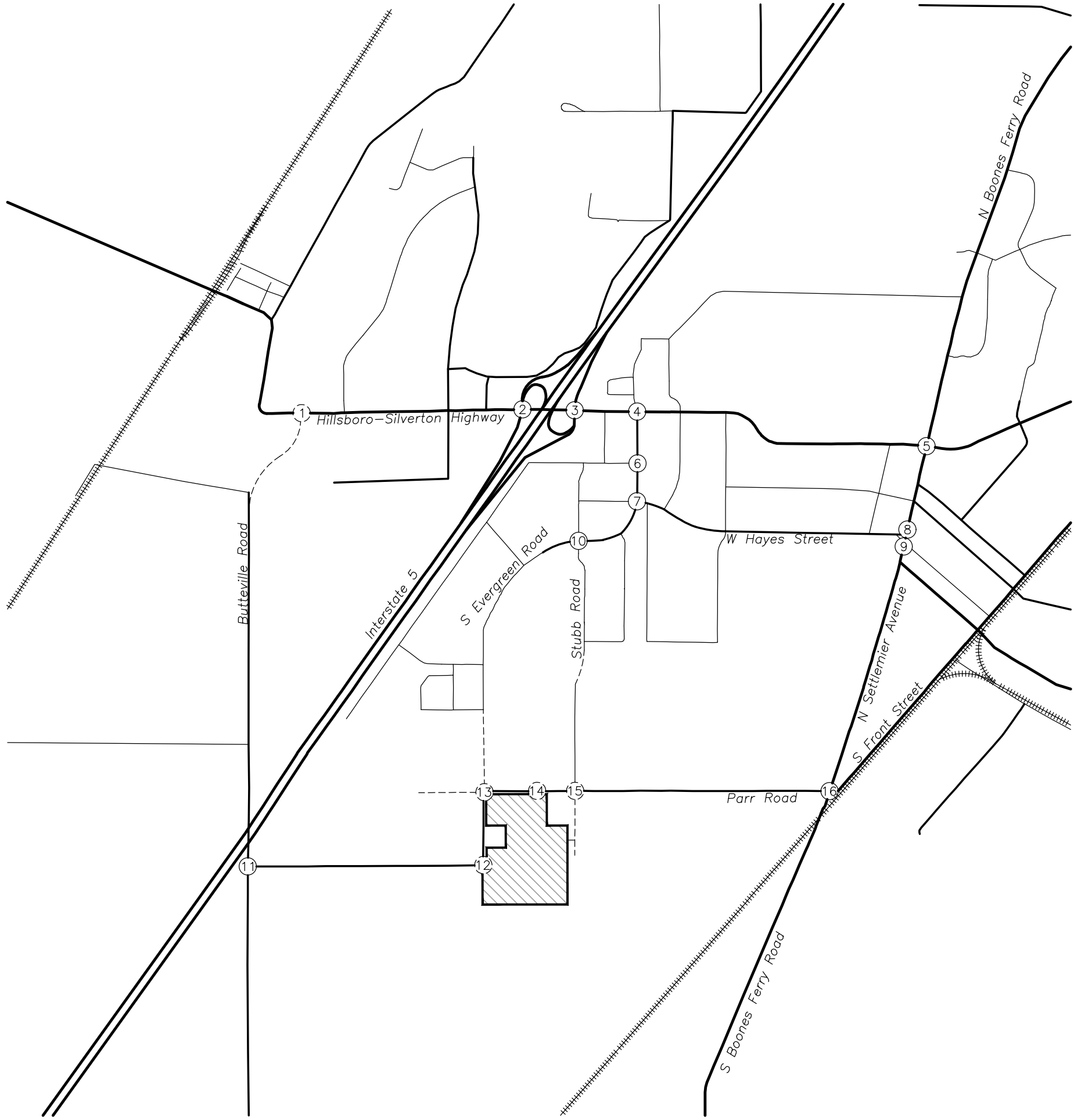
Figure 9 and Figure 10 present the year 2028 buildout volumes for the morning and evening peak hours, respectively.

Planned Improvements

The development will have two access points that connect into the existing transportation system:

- Street A will connect northward to Parr Road, forming a “T” intersection approximately 500 feet west of Stubb Road and approximately 800 feet east of the future Evergreen Road extension. The northbound approach will be stop-controlled. Parr Road will be widened to a Service Collector standard, including center refuge lane.
- Street H will connect westward to connect with Parr Road at the existing southern 90-degree bend in the roadway, forming a “T” intersection with future potential to add a fourth leg on the south side of the intersection. The three-leg intersection will be all-way stop-controlled until all quadrants have been redeveloped and the roadways are built out to their ultimate alignment.



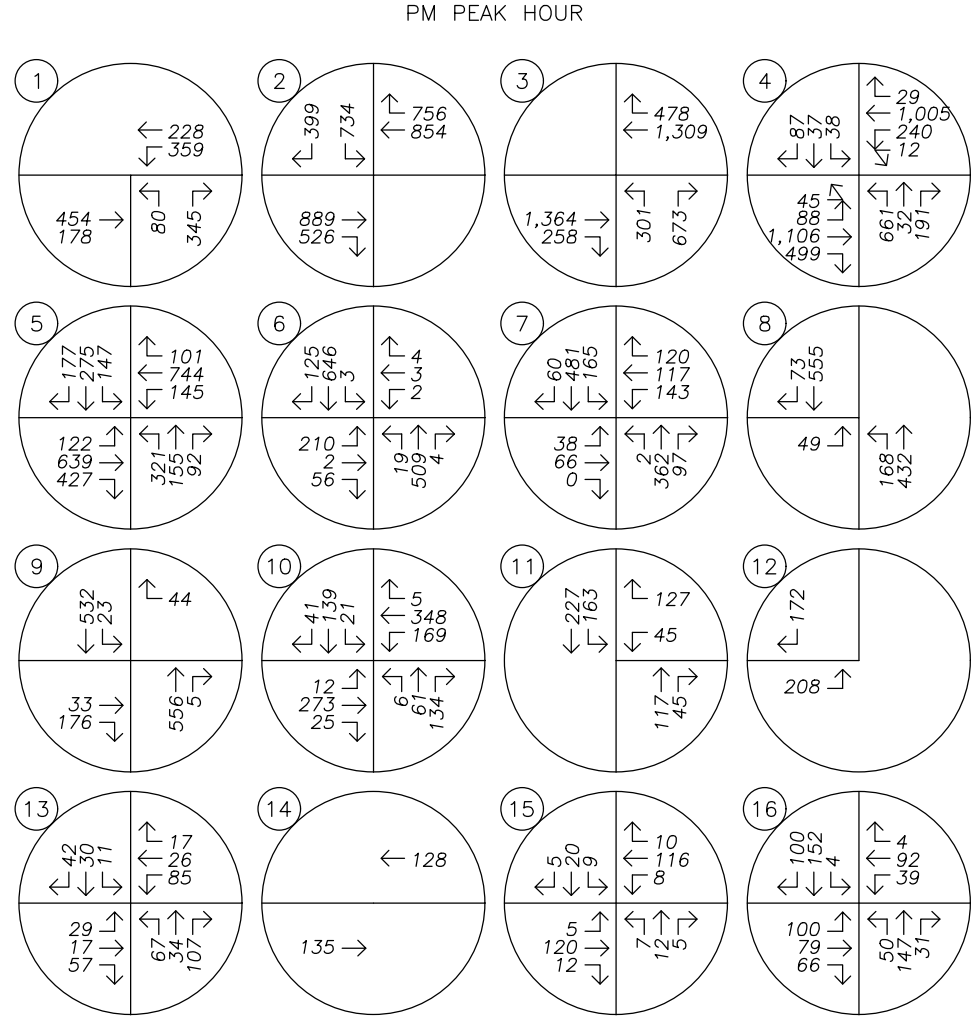
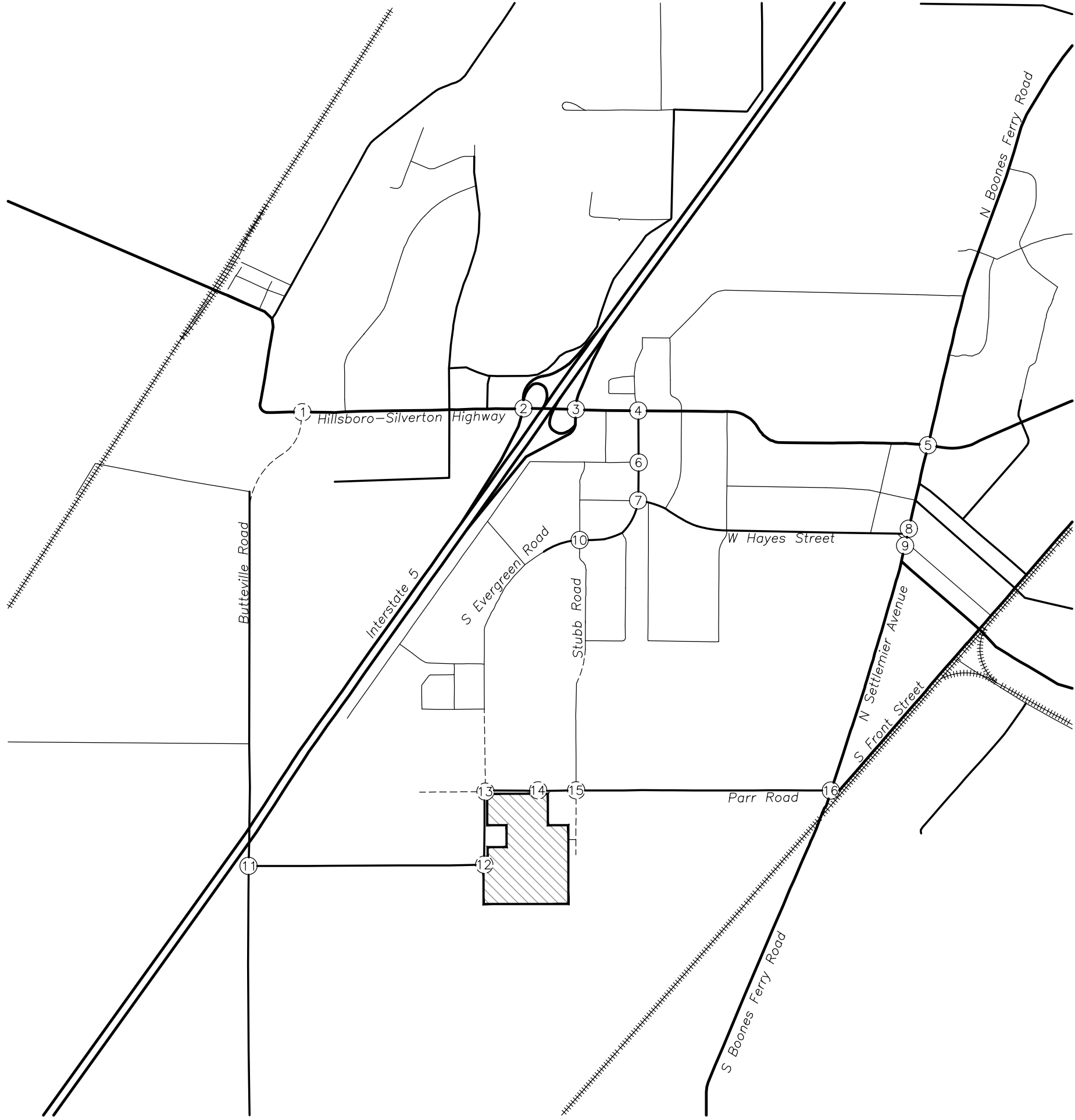


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TRAFFIC VOLUMES
 Year 2028 Background Conditions
 AM Peak Hour

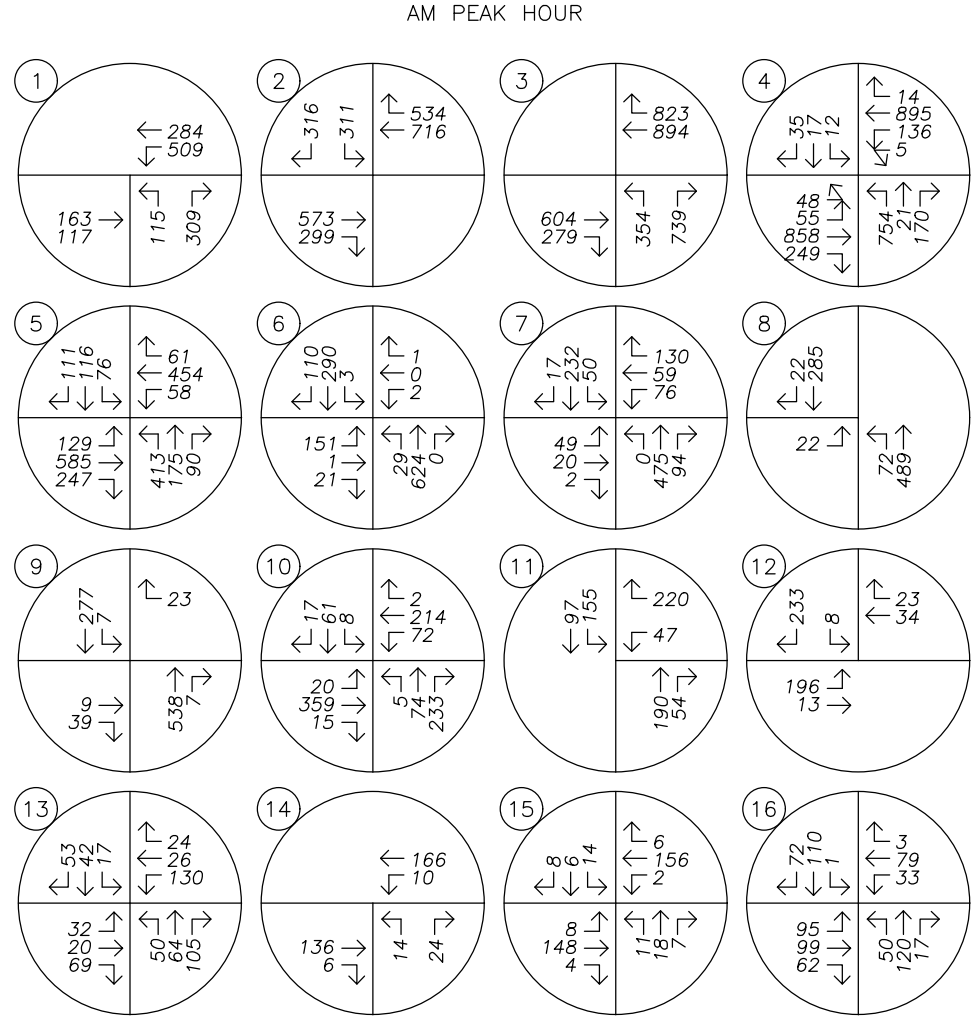
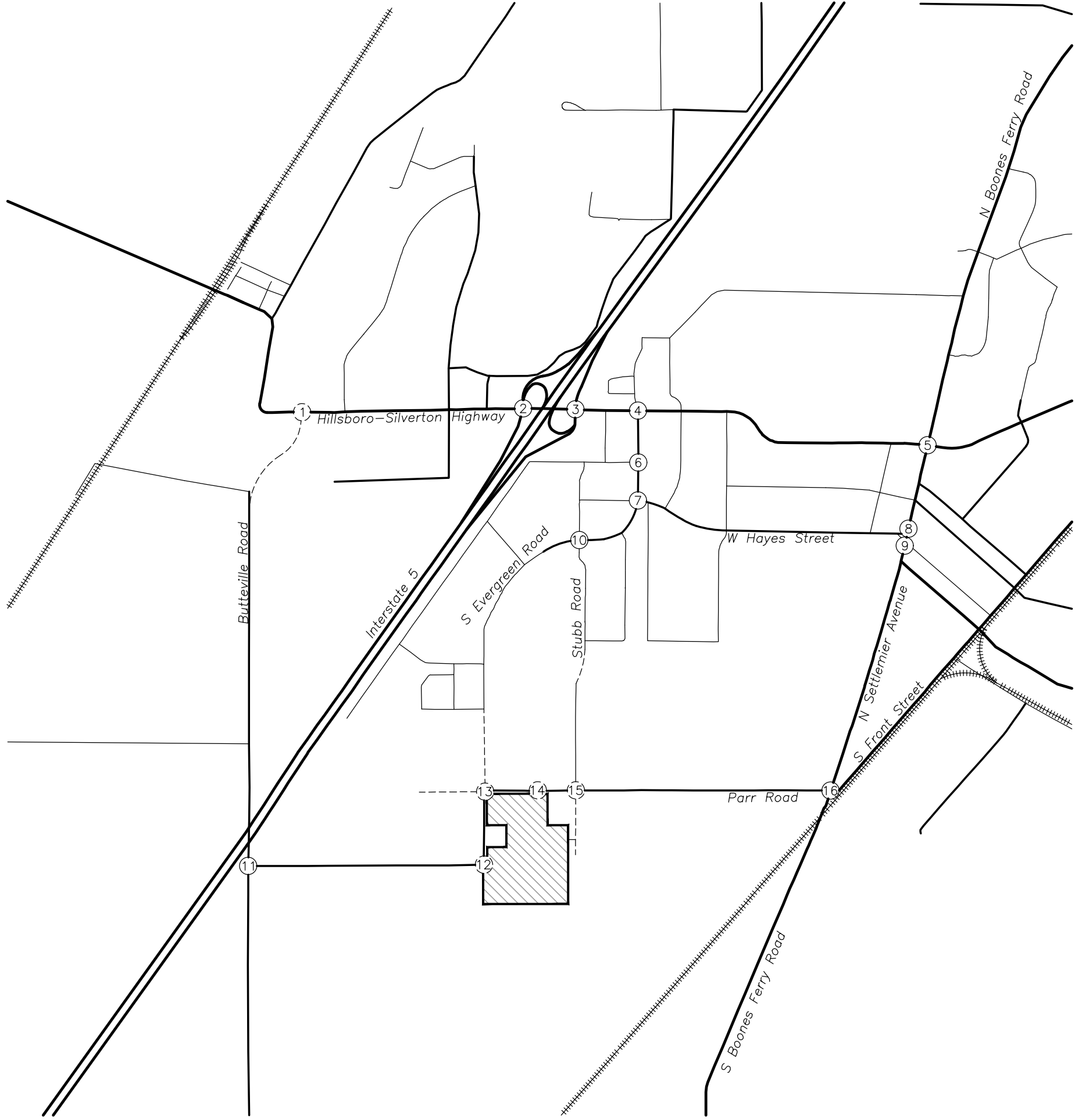
Figure 7
 8708 Parr Road
 8/10/2022



No Scale



TRAFFIC VOLUMES
 Year 2028 Background Conditions
 PM Peak Hour

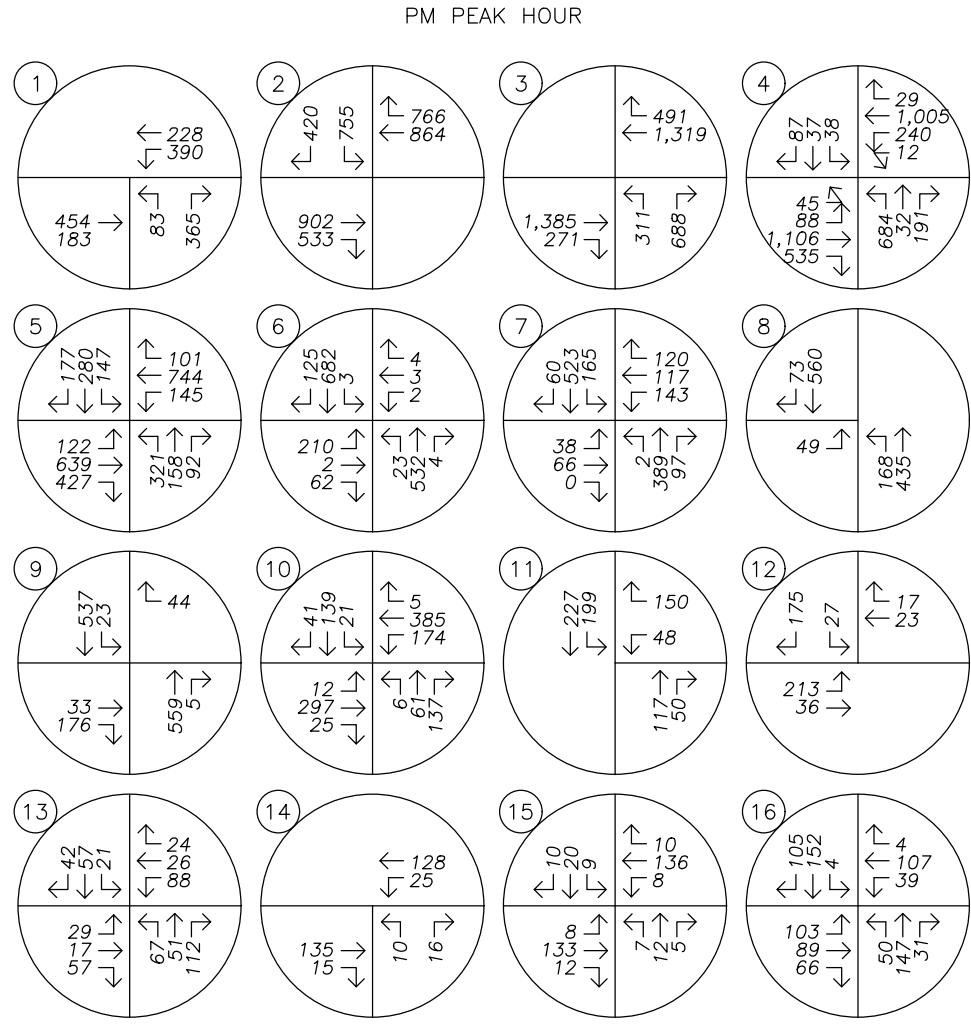
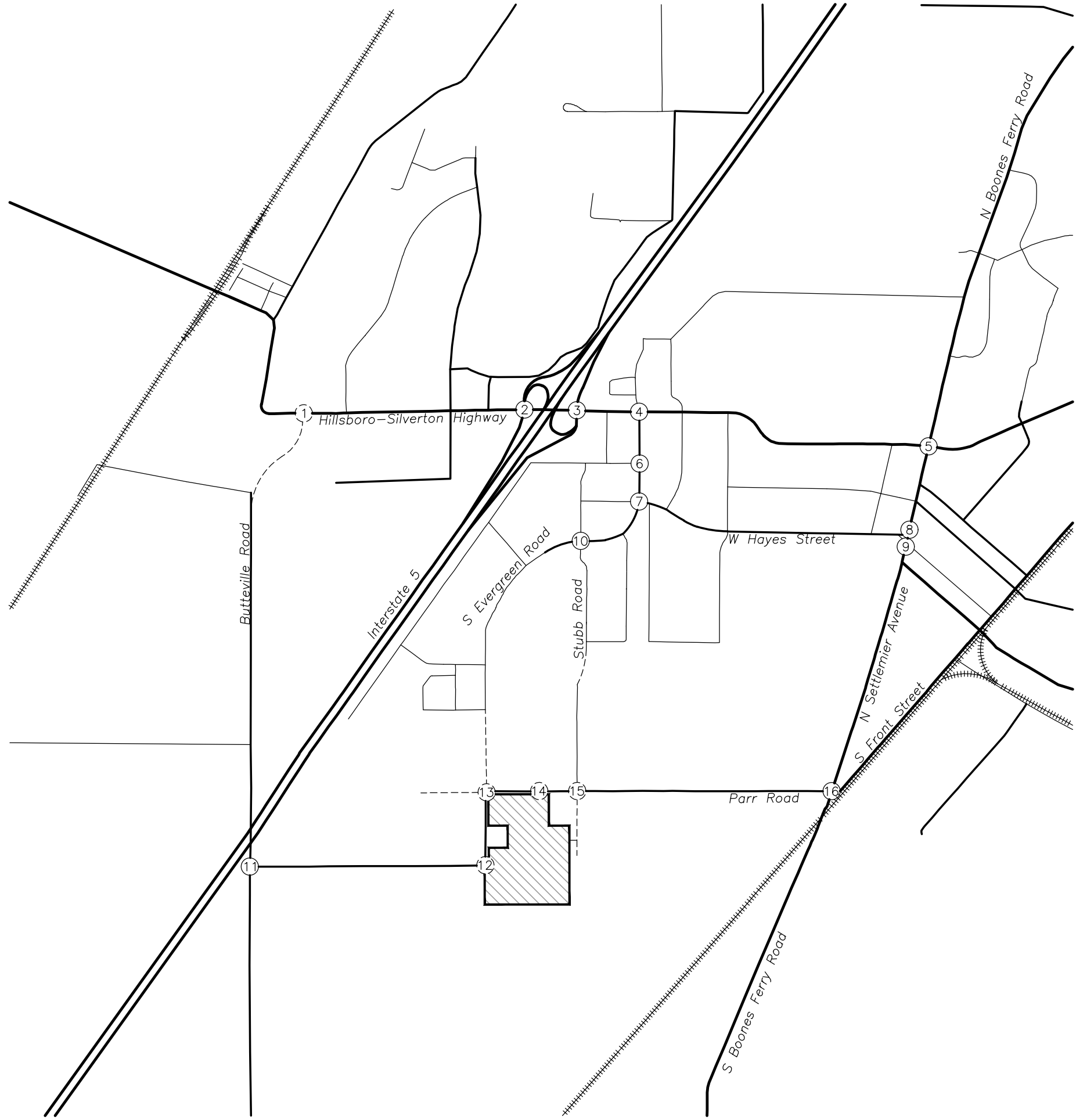


No Scale



TRAFFIC VOLUMES

Year 2028 Buildout Conditions
AM Peak Hour



No Scale



TRAFFIC VOLUMES
Year 2028 Buildout Conditions
PM Peak Hour

Figure 10
8708 Parr Road
8/10/2022

Safety Analysis

Crash History Review

Using data obtained from ODOT's Crash Data System, a review of approximately five years of the most recent available crash history (January 2016 through December 2020) was performed at the study intersections. The crash data was evaluated based on the number of crashes, the type of collisions, and the severity of the collisions. Crash severity is based on injuries sustained by people involved in the collision, and includes five categories:

- *PDO* – Property Damage Only;
- *Injury C* – Possible Injury;
- *Injury B* – Suspected Minor Injury;
- *Injury A* – Suspected Serious Injury; and
- *Fatality*

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents approximately 10 percent of the AADT at the intersection.

Table 5 provides a summary of crash types while Table 6 summarizes crash severities and rates for each of the study intersections. Detailed crash data is provided in Appendix C.

Crash Severity

None of the crashes reported in the five-year analysis period resulted in a fatality but three of the crashes resulted in an incapacitating injury (Injury A):

- At the intersection of OR 219/OR 214 & I-5 SB Ramps, a southbound vehicle making a left turn was struck by a westbound vehicle. The driver of the turning vehicle sustained injuries classified as Injury A and the driver of the striking vehicle sustained injuries classified as Injury B. The striking driver was reported as disregarding the traffic signal. The collision occurred under clear, dry, daytime conditions.
- At the intersection of OR 214 & Evergreen Road, a vehicle traveling eastbound disregarded the signal and struck a vehicle traveling southbound. The driver and two passengers in the striking vehicle sustained injuries classified as Injury A. The driver of the struck vehicle sustained injuries classified as Injury C. Three other vehicles were involved in the collision but no one sustained any injuries. The collision occurred under cloudy, dry, daytime conditions.
- A vehicle traveling southbound at the intersection of Parr Road & Butteville Road ran off the road into a ditch. The driver sustained injuries classified as Injury A. No other vehicles were involved in the collision but the driver action was reported as an avoiding maneuver which may indicate the presence of another vehicle. The collision occurred under clear, dry, nighttime (3:00 AM) conditions.

Table 5: Collision Type Summary

	Intersection	Crash Type							Total Crashes
		Turn	Rear End	Angle	Side swipe	Fixed Object	Ped	Bike	
1	OR 219 & Butteville Rd	1	2	0	1	5	0	0	9
2	OR 214/219 & I-5 SB	6	28	0	1	0	0	0	35
3	OR 214/219 & I-5 NB	25	15	0	2	2	0	0	44
4	OR 214 & Evergreen Rd	43	15	7	5	3	0	0	73
5	OR 214 & Settlemier Ave	2	16	0	1	0	1	0	20
6	Stacy Allison Way & Evergreen Rd	7	2	0	0	0	1	0	10
7	Hayes St & Evergreen Rd	2	0	1	0	1	0	0	4
8&9	Hayes St N & Settlemier Ave	0	4	1	0	1	1	1	8
10	Evergreen Rd & Harvard Dr	3	0	2	0	1	0	0	6
11	Parr Rd & Butteville Rd	5	2	0	0	3	0	0	10
15	Parr Rd & Stubb Rd	0	0	0	0	0	0	0	0
16	Parr Rd & Settlemier Ave	3	1	1	0	1	0	0	6

Table 6: Crash Severity and Rate Summary

	Intersection	Severity					Total Crashes	ADT	Crash Rate	90 th % Rate
		PDO	C	B	A	Fatal				
1	OR 219 & Butteville Rd	5	3	1	0	0	9	11,260	0.44	0.293
2	OR 214/219 & I-5 SB	7	23	4	1	0	35	31,340	0.61	0.509
3	OR 214/219 & I-5 NB	22	21	1	0	0	44	32,500	0.74	0.509
4	OR 214 & Evergreen Rd	27	37	8	1	0	73	28,090	1.42	0.860
5	OR 214 & Settlemier Ave	9	8	3	0	0	20	27,690	0.40	0.860
6	Stacy Allison Way & Evergreen Rd	6	3	1	0	0	10	8,640	0.63	0.408
7	Hayes St & Evergreen Rd	3	1	0	0	0	4	9,580	0.23	0.408
8&9	Hayes St N & Settlemier Ave	4	3	1	0	0	8	11,210	0.39	0.408
10	Evergreen Rd & Harvard Dr	2	3	1	0	0	6	5,850	0.56	0.408
11	Parr Rd & Butteville Rd	2	5	2	1	0	10	4,490	1.22	0.475
15	Parr Rd & Stubb Rd	0	0	0	0	0	0	1,590	0.00	0.293
16	Parr Rd & Settlemier Ave	3	3	0	0	0	6	6,590	0.50	0.408



Pedestrian and Bicycle Collisions

One of the reported crashes involved a bicyclist and three of the reported crashes involved a pedestrian:

- At the intersection of Hayes Street & Settlemier Avenue, a northbound passenger vehicle on Settlemier Avenue struck a bicyclist traveling westbound on Hayes Street. The bicyclist sustained injuries classified as Injury C; no injuries were sustained by the driver of the vehicle. The bicyclist was reported as not have the right of way when entering the intersection. The collision occurred under clear, dry, dawn conditions.
- At the intersection of OR 214 & Settlemier Avenue, a vehicle making an eastbound right turn struck a pedestrian walking in the south crosswalk. The pedestrian sustained injuries classified as Injury B; no injuries were sustained by the driver of the vehicle. The driver of the vehicle was reported as failing to yield the right of way although an obstructed view was also noted. The collision occurred under foggy, dry, dawn conditions.
- At the intersection of Stacy Allision Way & Evergreen Road, a vehicle making an eastbound left turn struck a pedestrian walking in the north crosswalk. The pedestrian sustained injuries classified as Injury C; no injuries were sustained by the driver of the vehicle. The driver of the vehicle was reported as failing to yield the right of way. The collision occurred under clear, dry, daytime conditions.
- At the intersection of Hayes Street (north connection) & Settlemier Avenue, a vehicle making an northbound left turn struck a pedestrian walking in the west crosswalk. The pedestrian sustained injuries classified as Injury C; no injuries were sustained by the driver of the vehicle. The driver of the vehicle was reported as failing to yield the right of way due to inattention. The collision occurred under clear, dry, daytime conditions.

ODOT 90th Percentile Crash Rates

Intersection crash rates were compared to the published statewide 90th percentile crash rates within ODOT's APM. According to Exhibit 4-1: Intersection Crash Rates per MEV by Land Type and Traffic Control in the APM, intersections which experience crash rates in excess of 90th percentile crash rates should be "flagged for further analysis".

Eight of the study area intersection were calculated to have a crash rate that exceeds the 90th percentile crash rates for similar unsignalized intersections:

OR 219 & Butteville Road

The OR 219 & Butteville Road intersection had 9 reported crashes over the most recent five-year analysis period.

The Amazon Warehouse project will be relocating this intersection to the east of Senecal Creek and constructing with a double lane roundabout. This improvement will address the historical patterns; therefore, no detailed review was conducted.

OR 219/OR 214 & I-5 SB Ramps

The OR 219/OR 214 & I-5 SB Ramps had 35 reported crashes over the five-year analysis period. Twenty-eight (28) of these crashes were reported as rear-end collisions and 25 occurred on the southbound off-ramp. The cause or error was generally failure to avoid a stopped vehicle ahead or following too closely. Nine (9) of the crashes were reported as northeast-to-southwest movements, which correspond to the southbound right-turn

lanes while 6 crashes were reported as northwest-to-southeast movements, which correspond to the southbound left-turn movements. Ten (10) were report as north-to-south; thus, the movement cannot be determined.

The Woodburn TSP identifies corridor signal timing and coordination adjustments (Project R8) as a medium priority project for capacity but does not identify specific safety improvements at the intersection. The City has suggested that a proportionate share contribution from the proposed development may be required for this intersection. The proposed project is estimated to generate 82 evening peak hour trips which is 1.9 percent of the total year 2028 buildout volume of 4,240 trips through the intersection.

OR 219/OR 214 & I-5 NB Ramps

The OR 219/OR 214 & I-5 NB Ramps had 44 reported crashes over the five-year analysis period. Twenty-five (25) of these crashes were reported as turning collisions and 15 were reported as rear-end collisions. Of the turning collisions, 18 involved a northbound left turn from the ramp, 4 involved a northbound right turn from the ramp and 3 could not be determined from the description. The primary cause identified for the turning collisions was disregarding the traffic signal. Of the rear-end collisions, 10 occurred on the northbound ramp, 3 occurred in the westbound direction, 1 occurred in the eastbound direction, and one occurred on the eastbound-to-northbound loop ramp. The cause was generally failure to avoid a stopped vehicle ahead or following too closely.

The Woodburn TSP identifies corridor signal timing and coordination adjustments (Project R9) as a medium priority project for capacity but does not identify any safety improvements at the intersection. The City has suggested that a proportionate share contribution from the proposed development may be required for this intersection. The proposed project is estimated to generate 82 evening peak hour trips which is 1.8 percent of the total year 2028 buildout volume of 4,465 trips through the intersection.

OR 214 & Evergreen Road

The intersection of OR 214 & Evergreen Road had 73 reported crashes over the five-year analysis period. Forty-three (43) of the crashes were reported as turning collisions and 15 were reported as rear-end collisions. Of the turning collisions, 24 involved a westbound left turn and 13 involved an eastbound U turn or left-turn. In general, the drivers at fault failed to yield the right of way to the through movements. The rear-end collisions were dispersed on the eastbound, westbound, and northbound approaches. The traffic signal timing allows for permitted left-turn and U-turn movements in the east-west direction. Changing to protected movements only could potentially reduce the frequency of these collisions but would likely reduce the capacity of the intersection.

The Woodburn TSP identifies corridor signal timing and coordination adjustments (Project R10) for capacity as a medium priority project for capacity but does not identify any safety improvements at the intersection. The proposed project is estimated to generate 59 evening peak hour trips which is 1.4 percent of the total year 2028 buildout volume of 4,129 trips through the intersection.

Stacy Allison Way & Evergreen Road

The intersection of Stacy Allison Way & Evergreen Road had 10 reported crashes over the five-year analysis period. Seven (7) of the crashes were reported as turning collisions. Six (6) involved an eastbound left-turn from Stacy Allison with 4 involving a southbound through vehicle on Evergreen and 2 involving a northbound

through vehicle. The other turning collision was an illegal U turn. Previous studies have shown increasing congestion on Stacy Allison Way as demand on Evergreen Road grows.

The Woodburn TSP does not include any safety or capacity projects at this intersection. Other studies have suggested a future traffic signal or roundabout. Either improvement would need to consider the congestion on Evergreen Road at OR 214 and coordination with other potential intersection control changes at Evergreen Road at Hayes Street and Evergreen Road at Harvard Drive.

The proposed project is estimated to generate 69 evening peak hour trips which is 4.2 percent of the total year 2028 buildout volume of 1,652 trips through the intersection.

Evergreen Road & Harvard Drive

The intersection of Evergreen Road & Harvard Drive had 6 reported crashes over the five-year analysis period. Three (3) of the crashes were turning collisions and 2 were angle collisions. A review of the data shows no clear pattern of crashes. Volumes on this approach are growing as the Smith Creek project continues to develop.

The Woodburn TSP does not include any safety or capacity projects at this intersection. Any change in traffic control would need to coordinate with other potential intersection control changes at Evergreen Road at Stacy Allison Way and Evergreen Road at Hayes Street.

The proposed project is estimated to generate 69 evening peak hour trips which is 5.3 percent of the total year 2028 buildout volume of 1,303 trips through the intersection.

Parr Road & Butteville Road

The intersection of Parr Road & Butteville Road had 10 reported crashes over the five-year analysis period. Five (5) of the crashes at the intersection were turning collisions, 3 were collisions with fixed objects, and 2 were rear end collisions. Half the of the crashes involved a vehicle making a southbound left turn including 3 of the turning collisions and the 2 rear-end collisions. Four (4) of the crashes involved a westbound vehicle; 2 were turn collisions involving a westbound left-turning vehicle and 2 were collisions with a fixed object during a westbound right-turn movement. Half of the crashes occurred at night, including a southbound vehicle collision with a fixed object that resulted in a severe injury.

The Port of Willamette project recommended safety countermeasures that include installing "STOP AHEAD" pavement markings along the stop-controlled leg of intersection and installing yellow flashing beacons as advanced warning on the existing W2-2 signs along Butteville Road. A southbound left-turn lane would potentially reduce the collision rate and would also address the growing demand left-turn demand from a number of approved projects as well as the proposed development; however, due to the proximity of the intersection to the I-5 overpass, widening the roadway to include a southbound left-turn lane may not be feasible.

Marion County has identified the need for future improvement at this intersection in their TSP, but a specific project has not been identified. They have been collecting some proportionate share contributions from developers towards a future project. Relocating the intersection further to the south to allow for the construction of a southbound left-turn lane requires acquisition of private property. A roundabout has also been suggested as a long-term solution that can potentially be constructed within the existing right of way.

The proposed project is estimated to generate 67 evening peak hour trips which is 8.5 percent of the total year 2028 buildout volume of 791 trips through the intersection.

Parr Road & Settlemier Avenue

The intersection of Parr Road & Settlemier Avenue had 6 reported crashes over the five-year analysis period. Three (3) crashes were turning collisions but were different combinations of vehicle movements. No crash patterns were discernible, and the high rate is largely attributable to the relatively low intersection volume.

The Woodburn TSP identifies intersection capacity improvement such as traffic signal (if warranted), turn lanes, or roundabout (Project R10) at the intersection. Given the low volumes, changes to the traffic control do not appear necessary in the near future. The proposed project is estimated to generate 33 evening peak hour trips which is 3.7 percent of the total year 2028 buildout volume of 897 trips through the intersection.

ODOT SPIS Review

The ODOT 2020 Safety Priority Index System (SPIS) list is based on reported crash data for the years 2017 through 2019. Two of the study area intersections were listed in the worst 15 percent³ of SPIS list:

- OR 214 & Evergreen Road – 95th percentile
- Parr Road & Butteville Road – 90th percentile

These findings coincide with other factors in the crash review, including high crash rates and locations with crashes that resulted in an injury classified as Injury A.

Conclusion

Based on a review of the most recent five years of available crash data, eight of the study intersections have crash rates that exceed the 90th percentile rates identified by ODOT for similar types of intersections. The Woodburn TSP or the Marion County TSP have projects identified at some of these locations. A proportionate share contribution or other mutually-agreeable mitigation may be warranted.

At the other eight intersections, no significant trends or crash patterns were identified, and no safety mitigation is recommended per the crash data analysis.

Sight Distance Evaluation

A sight distance analysis was conducted at the two site accesses proposed on existing roadways. To evaluate the sight distance available at these intersections, intersection sight distance was measured and recommended in accordance with the current AASHTO manual⁴. According to AASHTO, the driver's eye is assumed to be 14.5 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The vehicle driver's eye-height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

At the future intersection of Street H & Parr Road, all-way stop-control is proposed; therefore, intersection sight distance is not relevant since all vehicles will be stopped. However, sight lines were reviewed in the field. Looking to the west, clear sight lines are available for at least 1,000 feet. Looking to the north, clear sight lines are available for at least 900 feet. The sight lines exceed the recommended intersection sight distance of 610 feet for a roadway with a statutory speed limit of 55 mph.

³ Oregon Department of Transportation, Safety Priority Index System, 2020 - On-State, Top 15% Groups - By Score

⁴ American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 7th Edition, 2018.

At the future intersection of Street A & Parr Road, the existing roadway will be widened to a three-lane cross section. Assuming the statutory speed limit of 55 mph were to remain on Parr Road, the recommended intersection sight distance is 650 feet, and the required stopping sight distance is 495 feet. Available sight lines of more than 700 feet appear achievable in both directions.

Warrant Analysis

Left-Turn Lane Warrants

A left-turn refuge is primarily a safety consideration for the major-street approach, removing left-turning vehicles from the through traffic stream. Warrants were based on the methodology outlined in the National Cooperative Highway Research Program (NCHRP) Report Number 457⁵. This methodology evaluates the need for a left-turn lane based on the number of left-turning vehicles, the number of travel lanes, the number of advancing and opposing vehicles, and the roadway travel speed. Detailed information on the warrant analysis is included in Appendix C.

Left-turn lane warrants were not assessed at the site accesses because the proposed project will provide left-turn lanes at both site accesses.

The only existing intersection without left-turn lanes is Parr Road & Butteville Road. Left-turn lane warrants were examined for the applicable intersections under year 2028 background and buildout conditions. For both the morning and evening peak hours under both background and buildout conditions, a left-turn lane is warranted on southbound Butteville Road at Parr Road. However, due to the proximity of the intersection to the I-5 overpass, widening the roadway to include a southbound left-turn lane is not feasible without relocating the intersection to the south.

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for all unsignalized study intersections. Methodologies were based on the Manual on Uniform Traffic Control Devices (MUTCD), published by the Federal Highway Administration in 2009. Warrant 1, Eight-Hour Vehicular Volumes, was evaluated based on the common assumption that traffic counted during the evening peak hour represents 10 percent of the average daily traffic (ADT) and that the 8th highest hour is 5.65 percent of the daily volume.

Preliminary traffic signal warrants were conducted at all existing unsignalized intersections. Table 7 summarizes the warrant evaluation based on volumes from the morning and evening peak hours. Detailed information on the warrant analysis is included in Appendix C.

⁵ Bonneson, James A. and Michael D. Fontaine, *NCHRP Report 457: An Engineering Study Guide for Evaluating Intersection Improvements*, Transportation Research Board, 2001.

Table 7: Signal Warrant Evaluation Summary

Intersection		Warrant Met?			
		2028 Background Condition		2028 Buildout Condition	
		Based on AM	Based on PM	Based on AM	Based on PM
6	Stacy Allison Way at Evergreen Road	No	Yes	No	Yes
7	Hayes Street at Evergreen Road	No	Yes	No	Yes
8&9	Hayes Street at Settlemier Avenue	No	No	No	No
10	Harvard Drive at Evergreen Road	No	No	No	No
11	Parr Road at Butteville Road	No	No	No	No
15	Stubb Road at Parr Road	No	No	No	No
16	Parr Road at Settlemier Avenue	No	No	No	No

Two intersections were identified as meeting traffic signal warrants under both background and buildout conditions based on the evening peak hour volumes:

- The intersection of Stacy Allison Way & Evergreen Road will meet the preliminary traffic signal warrants under both background and buildout conditions. The Woodburn TSP does not identify a future traffic signal at this location; however, other projects (Allison Way Apartments, Specht Phased Industrial Development) have also identified the potential need for the signal. The proposed development may add a small amount of right-turning traffic to the side street (Stacy Allison Way) but will primarily add traffic on Evergreen Road.
- The intersection of Hayes Street & Evergreen Road will meet the preliminary traffic signal warrants under both background and buildout conditions. The Woodburn TSP does not identify a future traffic signal at this location; however, other projects have suggested the potential need for a signal at this intersection. The proposed development is not expected to add any traffic to the side street (Hayes Street) but will add traffic on Evergreen Road.



Operational Analysis

Intersection Capacity Analysis

A capacity and delay analysis were conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)*⁶. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little, or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

The analysis was performed using the Synchro (version 10) software. The overall signalized v/c ratios were calculated following the methodologies in Chapter 16 of the ODOT APM for the critical intersection v/c ratio. This methodology was performed for all signalized intersections.

Mobility Standards

The following agency mobility standards are applicable in the study area:

- The **City of Woodburn** has the following mobility standards per the Woodburn Development Ordinance:⁷
 - For a signalized and all-way stop-control intersections, the minimum LOS shall be either "E" or if pre-development already operating at lower LOS, then at no lower LOS.
 - For a signalized intersection, the minimum V/C ratio shall be either less than 1.00 regardless of LOS or if pre-development already operating at 1.00 or higher V/C, then at no higher V/C.
 - For an unsignalized intersection, the minimum V/C shall be 0.95 or lower for the major movement through the intersection, or, if pre-development already operating at higher V/C, then at no higher V/C.
- **Marion County** has the following mobility standards per the Marion County TSP:⁸
 - All signalized and all-way-stop controlled intersections shall operate at LOS D or better (all individual movements shall operate at LOS E or better) with a v/c ratio of 0.85 or less.
 - Other unsignalized intersections (including unsignalized private accesses) shall operate LOS E or better, although LOS F may be allowed if the movement has a relatively low volume (as determined by County staff) and there is no indication that a safety problem will be created.
 - Intersections within the Urban Growth Boundary of a city shall also meet the intersection performance standards of that city. Intersections near state highways shall also meet the standards of the Oregon Department of Transportation.

⁶ Transportation Research Board, *Highway Capacity Manual 6th Edition*, 2016.

⁷ City of Woodburn, *Woodburn Development Ordinance*, Amended by Ordinance 2603 effective June 30, 2022 (LA 21-02).

⁸ Marion County, *Transportation System Plan*, Chapter 10 – Policies, December 21, 2005.

- ODOT has the following mobility targets in the study area per the Oregon Highway Plan:⁹
 - OR 219 is a district highway inside an urban growth boundary but not within a Metropolitan Planning Organization (MPO). West of the city limits, the posted speed is 55 mph, and the target v/c ratio is 0.90 or less. Within the city limits, the posted speed is 35 mph, and the target v/c ratio is 0.95 or less.
 - OR 214 is a district highway inside an urban growth boundary but not an MPO. Within the city limits, the posted speed is 30 mph, and the target v/c ratio is 0.95 or less.
 - The I-5 ramp terminals have a target v/c ratio of 0.80 or less inside an urban growth boundary but not an MPO.

Delay & Capacity Analysis

The LOS, delay, and v/c results of the capacity analysis are shown in Table 8 for the morning and evening peak hours. The detailed calculations are attached in Appendix D.

Table 8: Capacity Analysis Summary

Intersection & Condition	Mobility Standard	AM Peak Hour			PM Peak Hour		
		V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
1. OR 219 & Butteville Road¹							
2020 Existing Condition	0.90	0.41	C	15	0.83	F	50
2028 Background Condition		0.40	A	5	0.61	A	7
2028 Buildout Condition		0.41	A	5	0.63	A	7
2. OR 214/219 & I-5 SB Ramps²							
2020 Existing Condition	0.80	0.23	B	16	0.43	B	16
2028 Background Condition ³		0.42	B	13	0.57	B	18
2028 Buildout Condition ³		0.43	B	13	0.57	B	19
3. OR 214/219 & I-5 NB Ramps²							
2020 Existing Condition	0.80	0.40	B	13	0.57	A	8
2028 Background Condition ³		0.60	B	14	0.71	B	14
2028 Buildout Condition ³		0.61	B	14	0.72	B	15
4. OR 214 & Evergreen Road²							
2020 Existing Condition	0.95	0.56	B	15	0.70	B	18
2028 Background Condition ³		0.77	C	25	0.92	C	32
2028 Buildout Condition ³		0.78	C	26	0.93	C	33

⁹ Oregon Department of Transportation, *Oregon Highway Plan*, Table 6: Volume to Capacity Ratio Targets for Peak Hour Operating Conditions, 1999 Including amendments November 1999 through May 2015.



Table 8: Capacity Analysis Summary

Intersection & Condition	Mobility Standard	AM Peak Hour			PM Peak Hour		
		V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
5. OR 214 & Settlemier Avenue ²¹							
2020 Existing Condition	0.95	0.73	C	32	0.83	D	42
2028 Background Condition		0.85	D	46	0.96	E	68
2028 Buildout Condition		0.85	D	46	0.96	E	69
6. Stacy Allison Way & Evergreen Road							
2020 Existing Condition	0.95	0.26	B	14	0.38	C	17
2028 Background Condition		0.65	E	40	0.83	F	63
2028 Buildout Condition		0.70	E	47	0.89	F	76
7. Hayes Street & Evergreen Road							
2020 Existing Condition	LOS E	0.40	B	11	0.55	B	13
2028 Background Condition		1.16	F	64	1.22	F	80
2028 Buildout Condition		1.25	F	81	1.33	F	177
8. Hayes Street North & Settlemier Avenue							
2020 Existing Condition	0.95	0.08	C	19	0.31	E	37
2028 Background Condition		0.14	D	26	0.53	F	76
2028 Buildout Condition		0.14	D	26	0.54	F	77
9. Hayes Street & Settlemier Avenue							
2020 Existing Condition	0.95	0.07	B	12	0.42	C	18
2028 Background Condition		0.11	B	13	0.58	D	26
2028 Buildout Condition		0.11	B	13	0.59	D	27
10. Evergreen Road & Harvard Drive							
2020 Existing Condition	0.95	0.21	B	12	0.26	B	14
2028 Background Condition		0.67	D	30	1.27	F	209
2028 Buildout Condition		0.71	D	27	1.45	F	288
11. Parr Road & Butteville Road							
2020 Existing Condition	LOS E	0.14	B	11	0.15	B	12
2028 Background Condition		0.48	C	16	0.46	C	18
2028 Buildout Condition		0.56	C	19	0.57	C	22
12. Parr Road & Street H (Future Site Access)							
2028 Buildout Condition	0.95 ⁴	0.36	B	11	0.45	B	11



Table 8: Capacity Analysis Summary

Intersection & Condition	Mobility Standard	AM Peak Hour			PM Peak Hour		
		V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
13. Parr Road & Evergreen Road (Future)							
2028 Background Condition	0.95 ⁴	0.33	A	10	0.36	B	10
2028 Buildout Condition		0.38	B	11	0.42	B	11
14. Parr Road & Street A (Future Site Access)							
2028 Buildout Condition	0.95 ⁴	0.07	B	10	0.05	B	10
15. Parr Road & Stubb Road							
2020 Existing Condition	0.95	0.02	B	10	0.01	A	9
2028 Background Condition		0.12	B	13	0.06	B	11
2028 Buildout Condition		0.13	B	14	0.07	B	11
16. Parr Road & Settlemier Avenue							
2020 Existing Condition	LOS E	0.26	A	9	0.28	A	10
2028 Background Condition		0.34	B	11	0.39	B	11
2028 Buildout Condition		0.34	B	11	0.40	B	12

Table Notes:

1. The existing intersection is stop-controlled on the northbound approach. A roundabout is assumed for the background and buildout conditions.
2. The overall signalized v/c ratio for this intersection was calculated following the methodologies in Chapter 16 of the ODOT APM for the critical intersection v/c ratio.
3. The peak hour factor for this intersection was increased to a minimum of 0.95 due to the substantial increase in background traffic.
4. This intersection is assumed to follow City of Woodburn Standards after annexation and jurisdictional transfer of Parr Road adjacent to the site.

Findings

As shown in Table 8, three intersections are anticipated to exceed the mobility targets:

- The signalized intersection of OR 214 & Settlemier Avenue is expected to operate with a v/c ratio of 0.96 during the evening peak hour under year 2028 background conditions, which exceeds the ODOT mobility target of 0.95. The proposed development will not change the overall intersection v/c ratio but will result in a small increase in overall delay. The Woodburn TSP includes Project R3, which would widen the highway to include two lanes in each direction and a two-way left-turn lane from Cascade Drive to OR 99E. This improvement would address the operational concerns for both the year 2028 background and buildout conditions.
- The all-way stop-controlled intersection of Hayes Street & Evergreen Road is expected to operate with a v/c ratio over 1.0 during both the morning and evening peak hours under year 2028 background conditions, which exceeds the City of Woodburn standard. The critical movement in the morning is the northbound through movement on Evergreen Road. The critical movement in the evening is the southbound through movement on Evergreen Road although the northbound movement is also



expected to exceed capacity. The proposed development will increase the critical v/c ratios during both the morning and evening peak hours. Traffic signal warrants are met at this intersection under year 2028 background and buildout conditions. A traffic signal or a roundabout would address the capacity issues associated with all-way stop control at this intersection.

- The stop-controlled intersection of Evergreen Road & Harvard Drive is expected to operate with a v/c ratio over 1.0 during the evening peak hour under year 2028 background conditions, which exceeds the City of Woodburn standard. The critical movement is the southbound approach. The proposed development will not add traffic to the critical movement but will increase the critical v/c ratio by increasing the traffic volumes Evergreen Road. A traffic signal or a roundabout would address the capacity issues associated with all-way stop control at this intersection; however, traffic control changes at the Hayes Street & Evergreen Road intersection might change traffic patterns and alleviate some of the congestion on the northbound and southbound approaches.

Queuing Analysis

An analysis of projected queuing was conducted for the study intersections. The 95th percentile queue lengths were estimated based on the same Synchro/SimTraffic simulations used for the delay calculations. The 95th percentile queue is a statistical measurement which indicates there is a 5 percent chance that the queue may exceed this length during the analysis period; however, given this is a probability, the 95th percentile queue length may theoretically never be met or observed in the field.

The 95th percentile queue lengths reported in the simulation are presented in Table 9 for the morning and evening peak hours. All queues more than 5 feet longer than a multiple of 25 were rounded up to the nearest 25 feet, equivalent to an average vehicle length. Those that were 5 feet or less than a multiple of 25 were rounded down since 5 feet is equivalent to the space between queued vehicles. Detailed queuing analysis reports are included in Appendix D.

Table 9: 95th Percentile Queueing Analysis Summary

Intersection/Movement	Available Storage (ft)	2028 Background Queue (ft)		2028 Buildout Queue (ft)	
		Morning	Evening	Morning	Evening
1. OR 219 & Butteville Road					
EB Through	>1,000	100	300	100	625
EB Right	210	50	175	75	225
WB Left	430	75	50	75	50
WB Left-Through	415	50	25	50	25
NB Left	>1,000	50	50	50	75
2. OR 214/219 & I-5 SB Ramps					
EB Through	950	200	450	200	425
WB Through	620	175	325	200	275
SB Left	650	250	300	225	350
SB Right	420	100	150	125	175

Table 9: 95th Percentile Queueing Analysis Summary

Intersection/Movement	Available Storage (ft)	2028 Background Queue (ft)		2028 Buildout Queue (ft)	
		Morning	Evening	Morning	Evening
3. OR 214/219 & I-5 NB Ramps					
EB Through	585	275	550	275	600
WB Through	800	450	600	450	525
NB Left	600	475	475	450	475
NB Left-Right	850	625	750	675	750
NB Right	270	425	350	425	400
4. OR 214 & Evergreen Road					
EB Left	200	200	378	175	425
EB Through	>1000	450	925	400	1000
EB Right	300	225	525	225	550
WB Left	370	300	425	325	500
WB Through-Right	510	650	825	775	850
NB Left-Through	680	800	825	800	850
NB Right	320	625	625	650	625
SB Left	170	50	100	50	100
SB Through	375	50	100	50	100
SB Right	75	25	75	25	75
5. OR 214 & Settlemier Avenue					
EB Left	340	475	500	450	475
EB Through	425	1350	1325	1400	1400
EB Right	200	475	475	475	475
WB Left	325	250	500	275	500
WB Through	1325	625	1300	625	1200
WB Right	150	225	275	250	325
NB Left	165	325	350	350	325
NB Through	185	1250	1475	1100	1400
NB Right	185	125	150	150	125
SB Left	360	150	625	150	575
SB Through	1200	200	1675	200	1525
SB Right	880	125	1200	125	875



Table 9: 95th Percentile Queuing Analysis Summary

Intersection/Movement	Available Storage (ft)	2028 Background Queue (ft)		2028 Buildout Queue (ft)	
		Morning	Evening	Morning	Evening
6. Stacy Allison Way & Evergreen Road					
EB Left ¹	135	250	225	250	225
EB Through-Right ¹	400	1000	950	1000	900
WB Left-Through-Right	50	25	25	25	25
NB Left	85	100	100	125	75
NB Through-Right ²	490	600	475	600	500
SB Left	270	25	25	25	25
SB Through-Right ³	680	25	150	25	250
7. Hayes Street & Evergreen Road					
EB Left-Through-Right	290	100	100	100	100
WB Left-Through-Right	350	250	325	225	350
NB Left	155	25	50	25	50
NB Through-Right	485	1200	775	1450	900
SB Left	125	75	200	75	250
SB Through-Right	475	125	375	125	525
8. Hayes Street North & Settlemier Avenue					
EB Left	475	75	175	50	225
NB Left-Through	75	75	100	75	100
9. Hayes Street & Settlemier Avenue					
EB Through-Right	130	50	125	75	125
WB Right	260	25	75	25	75
SB Left-Through	65	25	50	25	50
10. Evergreen Road & Harvard Drive					
EB Left	300	75	25	125	25
WB Left	150	50	75	75	75
NB Left-Through-Right	125	500	175	775	175
SB Left-Through-Right	510	100	175	200	200
11. Parr Road & Butteville Road					
WB Left-Through-Right	>1000	125	100	150	125
SB Left-Through	>1000	75	75	100	75
12. Parr Road & Street H (Future Site Access)					
EB Left-Through	>1000	-	-	75	75
WB Through-Right	110	-	-	50	50
SB Left-Right	950	-	-	100	75



Table 9: 95th Percentile Queuing Analysis Summary

Intersection/Movement	Available Storage (ft)	2028 Background Queue (ft)		2028 Buildout Queue (ft)	
		Morning	Evening	Morning	Evening
13. Parr Road & Evergreen Road (Future)					
EB Left-Through-Right	>100	75	75	75	75
WB Left-Through-Right	800	75	50	75	75
NB Left-Through-Right	950	75	75	75	75
SB Left-Through-Right	>1000	75	75	75	75
14. Parr Road & Street A (Future Site Access)					
WB Left	100	-	-	25	25
NB Left-Right	100	-	-	50	50
15. Parr Road & Stubb Road					
EB Left	TBD	25	25	25	25
WB Left	TBD	25	25	25	25
NB Left-Through-Right	80	50	50	50	50
SB Left-Through-Right	>1000	75	50	75	50
16. Parr Road & Settlemier Avenue					
EB Left	185	75	75	75	100
EB Through-Right	550	100	100	100	75
WB Left	80	50	50	50	50
WB Through-Right	900	75	75	75	75
NB Left-Through	275	75	100	75	100
NB Right	75	25	50	25	50
SB Left-Through	515	75	75	75	75
SB Right	130	50	50	50	50

Table Notes:

1. *SimTraffic cannot simulate a two-stage left-turn movement; therefore, the queuing for the left-turn lane is substantially worse the Synchro results imply.*
2. *The queues for the northbound approach of Evergreen Road at Stacy Allison Way reflect congestion extending southward from the intersection with OR 214.*
3. *The queues for the southbound approach of Evergreen Road at Stacy Allison Way reflect congestion extending northward from the intersection with Hayes Street.*

In general, changes in 95th percentile queuing between the year 2028 background and buildout conditions are anticipated to be small, one vehicle or two vehicles. Larger increases in queues are anticipated on Evergreen Road due to congestion at two intersections. Queues on the northbound approach of Evergreen Road at OR 214 are expected to extend through the intersection with Stacy Allison Road during both the morning and evening peak hours. Queues on the southbound approach of Evergreen Road at Hayes Street are expected to extend northward through the intersection with Stacy Allison Road during the evening peak hour.





Potential Mitigation

The proposed development will add traffic to eight intersections with high crash rates as well as worsening operations at three intersections where mobility standards will not be met under background conditions.

Table 10 summarizes potential mitigation and proportionate share contributions.

Table 10: Potential Mitigation

Intersection & Improvement	Estimated Cost	Total Volume	Project Volume	Project Percent
2. OR 214/219 & I-5 SB Ramps				
Woodburn TSP Project R8 - Corridor signal timing and coordination adjustments	\$15,000	4,240	82	1.9%
3. OR 214/219 & I-5 NB Ramps				
Woodburn TSP Project R9 - Corridor signal timing and coordination adjustments	\$15,000	4,465	82	1.8%
4. OR 214 & Evergreen Road				
Woodburn TSP Project R10 - Corridor signal timing and coordination adjustments	\$15,000	4,129	59	1.4%
5. OR 214 & Settlemier Avenue				
Woodburn TSP Project R3 - Widen OR 214 from Cascade Avenue to OR 99E to five-lanes with bicycle facilities	\$20,300,000	NA ¹	NA ¹	NA ¹
6. Stacy Allison Way & Evergreen Road				
Potential new TSP project – Install a traffic signal or roundabout	\$500,000 - \$1,000,000	1,652	69	4.2%
7. Hayes Street & Evergreen Road				
Potential new TSP project – Install a traffic signal or roundabout	\$500,000 - \$1,000,000	1,720	69	4.0%
10. Evergreen Road & Harvard Drive				
No Improvement Recommended ²	\$0	1,303	69	5.3%
11. Parr Road & Butteville Road				
Potential replacement TSP project – Relocate intersection or install a roundabout	To be determined	791	67	8.5%

Table Notes:

- The improvement project involves widening the highway for approximately 1.8 miles. The proposed development is not expected to add traffic to the corridor; therefore no proportionate share is calculated.*
- Traffic control changes at the Hayes Street & Evergreen Road intersection might change traffic patterns and alleviate some of the congestion on the northbound and southbound approaches.*

Conclusions

Key findings of this study include:

- Based on a review of the most recent five years of available crash data, eight of the study intersections have crash rates that exceed the 90th percentile rates identified by ODOT for similar types of intersections. Potential intersection improvements have been identified in the Woodburn and Marion County TSPs at some intersections; others could require improvements not currently identified in a TSP.
- At the other eight intersections, no significant trends or crash patterns were identified, and no safety mitigation is recommended per the crash data analysis.
- Based on the sight distance analysis, all site accesses are expected to have adequate sight lines.
- Left-turn lane warrants were not assessed at the site accesses because the proposed project will provide left-turn lanes at both site accesses.
- The Parr Road & Butteville Road intersection will meet left-turn lane warrants under both background and buildout conditions; however, due to the proximity of the I-5 overpass, widening the roadway for a left-turn lane is not feasible without relocating the intersection southward.
- Two intersections were identified as meeting preliminary traffic signal warrants:
 - Stacy Allison Way & Evergreen Road will meet warrants for both background and buildout conditions.
 - Hayes Street & Evergreen Road will meet warrants for both background and buildout conditions.
- Three intersections are anticipated to exceed the mobility targets:
 - The signalized intersection of OR 214 & Settlemier Avenue will exceed mobility standards under year 2028 background conditions. The proposed development will not change the overall intersection v/c ratio but will result in a small increase in overall delay.
 - The all-way stop-controlled intersection of Hayes Street & Evergreen Road will exceed mobility standards during both the morning and evening peak hours under year 2028 background conditions. The proposed development will increase the critical v/c ratios during both the morning and evening peak hours.
 - The stop-controlled intersection of Evergreen Road & Harvard Drive will exceed mobility standards during the evening peak hour under year 2028 background conditions. The proposed development will not add traffic to the critical movement but will increase the critical v/c ratio by increasing the traffic volumes Evergreen Road.
- In general, changes in 95th percentile queuing between the year 2028 background and buildout conditions are anticipated to be small, one vehicle or two vehicles. Larger increases in queues are anticipated on Evergreen Road due to congestion at the two intersections with OR 214 and Hayes Street.
- The proposed development will add traffic to eight intersections with high crash rates as well as worsening operations at three intersections where mobility standards will not be met under background conditions. Proportionate share contributions for potential mitigation will vary depending on projects for the

intersections of Stacy Allison Way & Evergreen Road and Hayes Street & Evergreen Road, which do not currently have a TSP project assigned, and the Parr Road & Butteville Road intersection, which does not currently identify the specific project needed in the Marion County TSP. As such, mitigation is likely to involve a comprehensive discussion in the context of all the eight intersections with identify safety or operational concerns.



Appendix A – Site Information

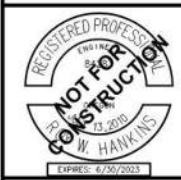
Site Plan

Trip Generation Calculations



NO.	DATE	DESCRIPTION

EMERIO
ENGINEERING - SURVEYING - DESIGN
1500 VALLEY RIVER DRIVE, SUITE 100
EUGENE, OREGON 97401
TEL: (503) 746-8812
FAX: (503) 639-8552
www.emeriodesign.com



RSN DENSITY CALCULATIONS	
TOTAL LOT AREA =	387,200 SF (8.89 AC)
TOTAL LOT COUNT =	71 LOTS
TOTAL DENSITY =	7.99 LOTS/AC

RMN DENSITY CALCULATIONS	
TOTAL LOT AREA =	567,718 SF (13.03 AC)
TOTAL LOT COUNT =	148 LOTS
TOTAL DENSITY =	11.36 LOTS/AC

RSN ZONE SETBACK REQUIREMENTS - WDO TABLE 2.02C	
FRONT SETBACK AND SETBACK ABUTTING A STREET, MINIMUM (FEET):	20
FRONT PORCH SETBACK, MAXIMUM (FEET):	10
SIDE SETBACK, MINIMUM (FEET):	5
REAR SETBACK, AVERAGE (FEET):	
PRIMARY STRUCTURE	20 OR 0
ACCESSORY STRUCTURE	5
SETBACK FOR A PRIVATE ACCESS EASEMENT, MINIMUM (FEET):	5

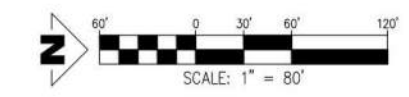
RMN ZONE SETBACK REQUIREMENTS - WDO TABLE 2.02F	
FRONT SETBACK AND SETBACK ABUTTING A STREET, MINIMUM (FEET):	20
SIDE SETBACK, MINIMUM (FEET):	5
REAR SETBACK, MINIMUM (FEET):	
BUILDING HEIGHT 16' OR LESS:	24
BUILDING HEIGHT MORE THAN 16' AND LESS THAN 28':	30
BUILDING HEIGHT 28' OR MORE:	36
SETBACK FOR A PRIVATE ACCESS EASEMENT, MINIMUM (FEET):	5

SITE AREAS	
RIGHT-OF-WAY:	470,843 SF (10.81 AC)
TRACTS/WOF:	189,026 SF (4.34 AC)
LOTS:	954,918 SF (21.92 AC)
PLA AREA:	30,056 SF (0.69 AC)
TOTAL AREA:	1,674,680 SF (38.44 AC)

LOT COUNTS	
TOTAL LOTS:	219 LOTS

- STREET TREE PLANTING NOTES**
- ONE TREE PER EVERY ENTIRE 50 FEET OF STREET FRONTAGE SHALL BE PLANTED WITHIN THE RIGHT-OF-WAY, SUBJECT TO VISION CLEARANCE AREA STANDARDS AND PLACEMENT OF PUBLIC UTILITIES.
 - MEDIUM TREES SHALL BE PLANTED ALONG THE PARR ROAD NE FRONTAGE.
 - SMALL TREES SHALL BE PLANTED ALONG ALL OTHER NEW LOCAL RESIDENTIAL STREETS.

LOT TYPE LEGEND	
	STANDARD LOT
	FRONT LOADED ROW HOUSE
	ALLEY LOADED ROW HOUSE



TENTATIVE SITE PLAN
SCALE: 1" = 80'



TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use: Single-Family Detached Housing
Land Use Code: 210
Land Use Subcategory: All Sites
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Trip Type: Vehicle
Formula Type: Equation
Variable Quantity: **107**

AM PEAK HOUR

Trip Rate: =EXP(0.91*LN(\$X2)+0.12)

	Enter	Exit	Total
Directional Split	26%	74%	
Trip Ends	21	58	79

PM PEAK HOUR

Trip Rate: =EXP(0.94*LN(\$X2)+0.27)

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	67	39	106

WEEKDAY

Trip Rate: =EXP(0.92*LN(\$X2)+2.68)

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	537	537	1,074

SATURDAY

Trip Rate: =EXP(0.97*LN(\$X2)+2.4)

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	513	513	1,026



TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use: Single-Family Attached Housing
Land Use Code: 215
Land Use Subcategory: All Sites
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Trip Type: Vehicle
Formula Type: Equation
Variable Quantity: 112

AM PEAK HOUR

Trip Rate: =0.52*(\$X3)-5.7

	Enter	Exit	Total
Directional Split	31%	69%	
Trip Ends	16	37	53

PM PEAK HOUR

Trip Rate: =0.6*(\$X3)-3.93

	Enter	Exit	Total
Directional Split	57%	43%	
Trip Ends	36	27	63

WEEKDAY

Trip Rate: =7.62*(\$X3)-50.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	401	401	802

SATURDAY

Trip Rate: =13.21*(\$X3)-444.34

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	518	518	1,036

Appendix B – Volumes

Traffic Counts

In-Process Trips





(303) 216-2439

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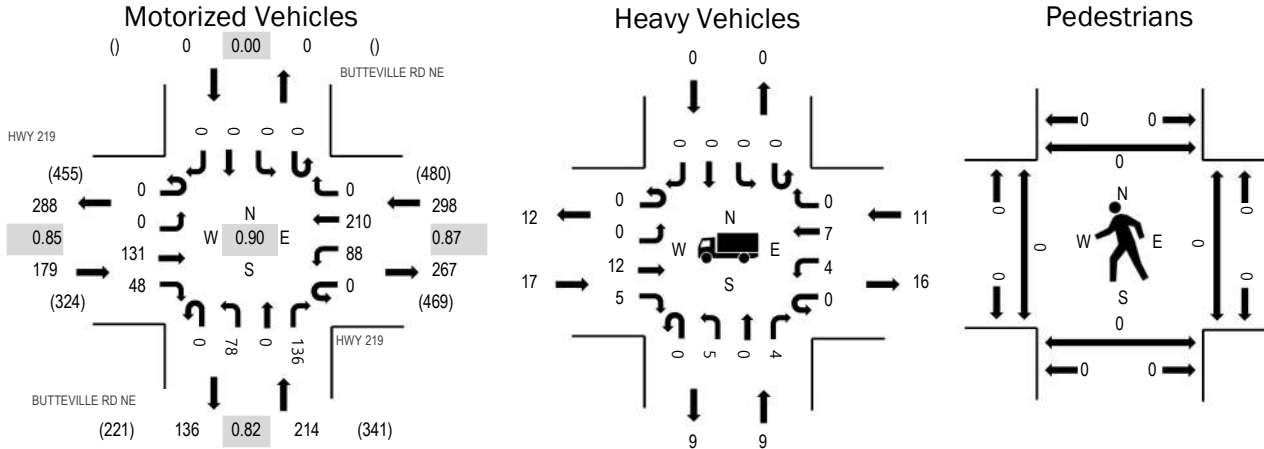
Location: 5 BUTTEVILLE RD NE & HWY 219 AM

Date: Wednesday, June 1, 2022

Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	9.5%	0.85
WB	3.7%	0.87
NB	4.2%	0.82
SB	0.0%	0.00
All	5.4%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 219 Eastbound				HWY 219 Westbound				BUTTEVILLE RD NE Northbound				BUTTEVILLE RD NE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	8	2	0	10	21	0	0	6	0	11	0	0	0	0	58	691
7:05 AM	0	0	11	3	0	6	22	0	0	10	0	11	0	0	0	0	63	678
7:10 AM	0	0	12	4	0	7	20	0	0	12	0	15	0	0	0	0	70	658
7:15 AM	0	0	7	9	0	4	21	0	0	3	0	6	0	0	0	0	50	616
7:20 AM	0	0	9	6	0	13	17	0	0	5	0	15	0	0	0	0	65	604
7:25 AM	0	0	16	7	0	13	14	0	0	2	0	11	0	0	0	0	63	566
7:30 AM	0	0	8	2	0	5	14	0	0	8	0	16	0	0	0	0	53	546
7:35 AM	0	0	11	3	0	4	15	0	0	7	0	13	0	0	0	0	53	528
7:40 AM	0	0	7	2	0	5	19	0	0	4	0	15	0	0	0	0	52	513
7:45 AM	0	0	19	3	0	6	17	0	0	9	0	10	0	0	0	0	64	498
7:50 AM	0	0	10	1	0	7	17	0	0	7	0	6	0	0	0	0	48	470
7:55 AM	0	0	13	6	0	8	13	0	0	5	0	7	0	0	0	0	52	460
8:00 AM	0	0	11	3	0	4	10	0	0	4	0	13	0	0	0	0	45	454
8:05 AM	0	0	10	1	0	6	12	0	0	5	0	9	0	0	0	0	43	
8:10 AM	0	0	6	2	0	4	9	0	0	6	0	1	0	0	0	0	28	
8:15 AM	0	0	13	2	0	2	15	0	0	3	0	3	0	0	0	0	38	
8:20 AM	0	0	8	2	0	3	7	0	0	2	0	5	0	0	0	0	27	
8:25 AM	0	0	14	1	0	7	11	0	0	3	0	7	0	0	0	0	43	
8:30 AM	0	0	8	5	0	2	11	0	0	2	0	7	0	0	0	0	35	
8:35 AM	0	0	12	0	0	4	12	0	0	3	0	7	0	0	0	0	38	
8:40 AM	0	0	9	4	0	7	6	0	0	4	0	7	0	0	0	0	37	
8:45 AM	0	0	5	2	0	6	13	0	0	3	0	7	0	0	0	0	36	
8:50 AM	0	0	6	4	0	5	11	0	0	2	0	10	0	0	0	0	38	
8:55 AM	0	0	14	3	0	6	9	0	0	4	0	10	0	0	0	0	46	
Count Total	0	0	247	77	0	144	336	0	0	119	0	222	0	0	0	0	1,145	
Peak Hour	0	0	131	48	0	88	210	0	0	78	0	136	0	0	0	0	691	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	2	0	0	0	2	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	2	0	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	1	1	0	3	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	3	0	1	0	4	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	1	2	0	0	3	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	3	0	1	0	4	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	1	1	0	0	2	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	1	3	1	0	5	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	1	0	2	0	3	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	2	1	0	0	3	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	1	3	0	4	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	2	0	0	0	2	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	2	1	1	0	4	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	1	1	1	0	3	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	1	0	3	0	4	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	1	1	3	0	5	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	3	1	1	0	5	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	1	1	2	0	4	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	0	1	0	2	8:35 AM	0	0	1	0	1	8:35 AM	0	0	0	0	0
8:40 AM	2	1	2	0	5	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	1	2	0	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	1	1	1	0	3	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	3	0	2	0	5	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	34	17	30	0	81	Count Total	0	0	1	0	1	Count Total	0	0	0	0	0
Peak Hour	17	9	11	0	37	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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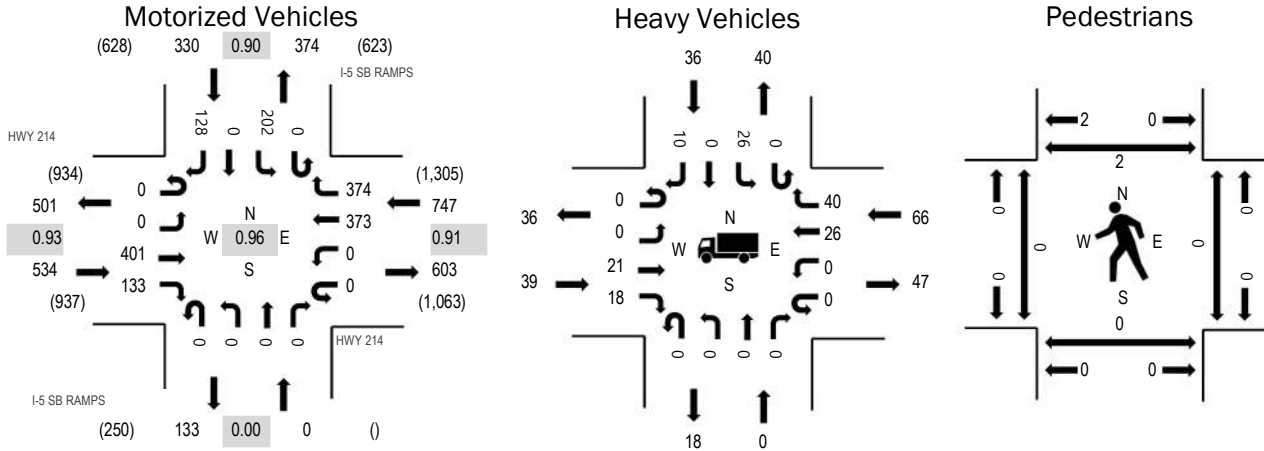
Location: 2 I-5 SB RAMPS & HWY 214 AM

Date: Wednesday, June 1, 2022

Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:40 AM - 07:55 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	7.3%	0.93
WB	8.8%	0.91
NB	0.0%	0.00
SB	10.9%	0.90
All	8.8%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 214 Eastbound				HWY 214 Westbound				I-5 SB RAMPS Northbound				I-5 SB RAMPS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	28	11	0	0	34	32	0	0	0	0	0	22	0	10	137	1,611
7:05 AM	0	0	30	9	0	0	31	33	0	0	0	0	0	15	0	9	127	1,563
7:10 AM	0	0	31	13	0	0	30	21	0	0	0	0	0	13	0	13	121	1,561
7:15 AM	0	0	38	14	0	0	35	37	0	0	0	0	0	17	0	11	152	1,550
7:20 AM	0	0	31	7	0	0	29	26	0	0	0	0	0	16	0	13	122	1,498
7:25 AM	0	0	38	13	0	0	25	25	0	0	0	0	0	23	0	12	136	1,476
7:30 AM	0	0	41	10	0	0	28	39	0	0	0	0	0	9	0	10	137	1,433
7:35 AM	0	0	32	10	0	0	30	34	0	0	0	0	0	19	0	5	130	1,409
7:40 AM	0	0	40	10	0	0	25	43	0	0	0	0	0	20	0	12	150	1,381
7:45 AM	0	0	33	7	0	0	43	31	0	0	0	0	0	19	0	6	139	1,347
7:50 AM	0	0	32	22	0	0	30	24	0	0	0	0	0	13	0	11	132	1,319
7:55 AM	0	0	27	7	0	0	33	29	0	0	0	0	0	16	0	16	128	1,294
8:00 AM	0	0	20	6	0	0	21	23	0	0	0	0	0	8	0	11	89	1,259
8:05 AM	0	0	32	12	0	0	25	31	0	0	0	0	0	16	0	9	125	
8:10 AM	0	0	23	11	0	0	27	27	0	0	0	0	0	14	0	8	110	
8:15 AM	0	0	23	6	0	0	29	17	0	0	0	0	0	13	0	12	100	
8:20 AM	0	0	27	11	0	0	24	13	0	0	0	0	0	16	0	9	100	
8:25 AM	0	0	21	10	0	0	18	22	0	0	0	0	0	16	0	6	93	
8:30 AM	0	0	31	11	0	0	31	17	0	0	0	0	0	12	0	11	113	
8:35 AM	0	0	21	9	0	0	26	20	0	0	0	0	0	18	0	8	102	
8:40 AM	0	0	29	10	0	0	24	20	0	0	0	0	0	16	0	17	116	
8:45 AM	0	0	26	13	0	0	24	22	0	0	0	0	0	16	0	10	111	
8:50 AM	0	0	18	11	0	0	34	22	0	0	0	0	0	16	0	6	107	
8:55 AM	0	0	15	7	0	0	26	15	0	0	0	0	0	13	0	17	93	
Count Total	0	0	687	250	0	0	682	623	0	0	0	0	0	376	0	252	2,870	
Peak Hour	0	0	401	133	0	0	373	374	0	0	0	0	0	202	0	128	1,611	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	0	5	4	10	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	1	1
7:05 AM	3	0	10	6	19	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	3	1	4	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	3	0	7	1	11	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	3	0	3	4	10	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	7	0	1	4	12	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	4	0	7	3	14	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	3	0	5	4	12	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	6	0	6	1	13	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	1	0	9	2	12	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	1	1
7:50 AM	4	0	4	3	11	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	4	0	6	3	13	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	3	0	1	2	6	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	0	4	3	7	8:05 AM	0	0	0	0	0	8:05 AM	2	0	0	0	2
8:10 AM	0	0	8	1	9	8:10 AM	0	0	0	0	0	8:10 AM	2	0	0	0	2
8:15 AM	1	0	9	0	10	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	5	0	4	1	10	8:20 AM	0	0	0	0	0	8:20 AM	1	0	0	0	1
8:25 AM	1	0	3	2	6	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	4	0	6	5	15	8:30 AM	0	0	0	0	0	8:30 AM	2	0	0	0	2
8:35 AM	1	0	3	3	7	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	2	0	7	3	12	8:40 AM	1	0	0	0	1	8:40 AM	0	0	0	0	0
8:45 AM	4	0	7	4	15	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	2	2
8:50 AM	6	0	6	0	12	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	2	0	2	5	9	8:55 AM	0	0	0	0	0	8:55 AM	1	0	0	0	1
Count Total	68	0	126	65	259	Count Total	1	0	0	0	1	Count Total	8	0	0	4	12
Peak Hour	39	0	66	36	141	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	2	2



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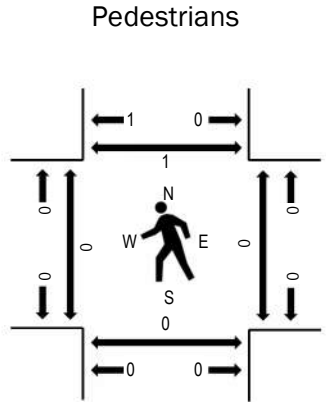
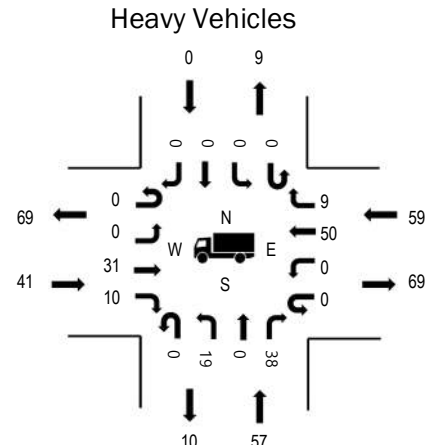
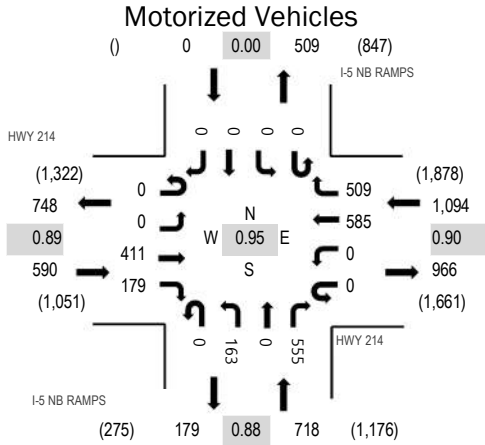
Location: 1 I-5 NB RAMPS & HWY 214 AM

Date: Wednesday, June 1, 2022

Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	6.9%	0.89
WB	5.4%	0.90
NB	7.9%	0.88
SB	0.0%	0.00
All	6.5%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 214 Eastbound				HWY 214 Westbound				I-5 NB RAMPS Northbound				I-5 NB RAMPS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	32	9	0	0	49	47	0	14	0	45	0	0	0	0	196	2,402
7:05 AM	0	0	34	16	0	0	49	54	0	19	0	45	0	0	0	0	217	2,331
7:10 AM	0	0	25	19	0	0	38	43	0	15	0	41	0	0	0	0	181	2,272
7:15 AM	0	0	37	16	0	0	55	43	0	17	0	51	0	0	0	0	219	2,247
7:20 AM	0	0	29	9	0	0	38	47	0	16	0	63	0	0	0	0	202	2,182
7:25 AM	0	0	43	20	0	0	44	50	0	7	0	45	0	0	0	0	209	2,130
7:30 AM	0	0	35	15	0	0	58	56	0	9	0	36	0	0	0	0	209	2,044
7:35 AM	0	0	26	18	0	0	54	38	0	13	0	39	0	0	0	0	188	1,980
7:40 AM	0	0	43	20	0	0	62	37	0	9	0	47	0	0	0	0	218	1,932
7:45 AM	0	0	34	20	0	0	52	33	0	18	0	56	0	0	0	0	213	1,862
7:50 AM	0	0	39	9	0	0	44	35	0	10	0	48	0	0	0	0	185	1,803
7:55 AM	0	0	34	8	0	0	42	26	0	16	0	39	0	0	0	0	165	1,746
8:00 AM	0	0	19	10	0	0	38	33	0	3	0	22	0	0	0	0	125	1,703
8:05 AM	0	0	37	9	0	0	42	35	0	14	0	21	0	0	0	0	158	
8:10 AM	0	0	27	10	0	0	41	27	0	13	0	38	0	0	0	0	156	
8:15 AM	0	0	28	7	0	0	43	32	0	11	0	33	0	0	0	0	154	
8:20 AM	0	0	33	10	0	0	38	25	0	10	0	34	0	0	0	0	150	
8:25 AM	0	0	27	9	0	0	27	27	0	8	0	25	0	0	0	0	123	
8:30 AM	0	0	38	9	0	0	36	28	0	12	0	22	0	0	0	0	145	
8:35 AM	0	0	33	6	0	0	38	37	0	7	0	19	0	0	0	0	140	
8:40 AM	0	0	34	7	0	0	36	34	0	13	0	24	0	0	0	0	148	
8:45 AM	0	0	37	10	0	0	31	20	0	14	0	42	0	0	0	0	154	
8:50 AM	0	0	29	5	0	0	38	18	0	12	0	26	0	0	0	0	128	
8:55 AM	0	0	23	4	0	0	38	22	0	11	0	24	0	0	0	0	122	
Count Total	0	0	776	275	0	0	1,031	847	0	291	0	885	0	0	0	0	4,105	
Peak Hour	0	0	411	179	0	0	585	509	0	163	0	555	0	0	0	0	2,402	

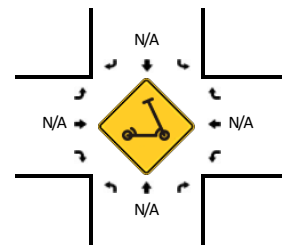
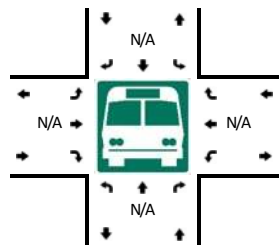
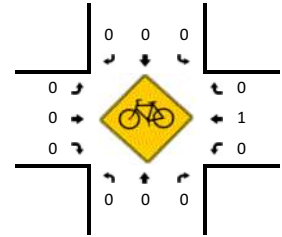
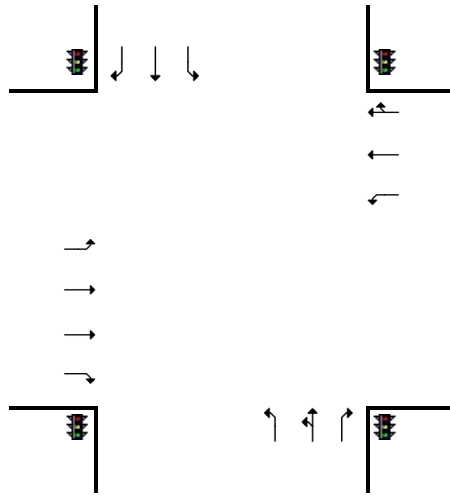
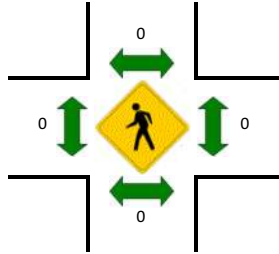
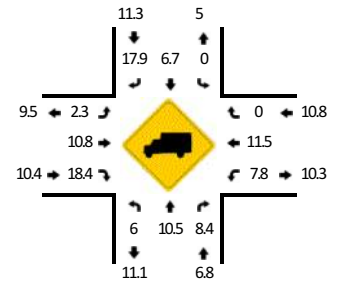
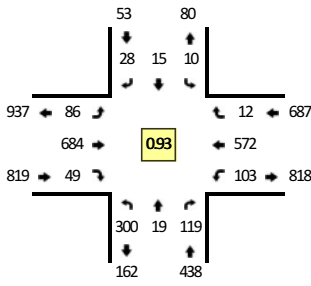
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	4	3	4	0	11	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	4	8	7	0	19	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	2	4	3	0	9	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	2	5	5	0	12	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	2	5	1	0	8	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	5	8	2	0	15	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	5	1	7	0	13	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	4	6	0	10	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	7	6	7	0	20	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	1	1
7:45 AM	2	3	8	0	13	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	4	5	4	0	13	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	4	5	5	0	14	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	2	3	3	0	8	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	3	2	4	0	9	8:05 AM	0	0	0	0	0	8:05 AM	0	2	0	0	2
8:10 AM	1	4	7	0	12	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	1	4	7	0	12	8:15 AM	0	0	0	0	0	8:15 AM	0	2	0	0	2
8:20 AM	1	4	12	0	17	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	3	1	2	0	6	8:25 AM	0	0	0	0	0	8:25 AM	0	1	0	0	1
8:30 AM	6	6	5	0	17	8:30 AM	0	0	0	0	0	8:30 AM	0	1	0	0	1
8:35 AM	3	2	4	0	9	8:35 AM	0	0	0	0	0	8:35 AM	0	2	0	0	2
8:40 AM	3	5	11	0	19	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	1	1
8:45 AM	7	5	5	0	17	8:45 AM	1	0	0	0	1	8:45 AM	0	0	0	0	0
8:50 AM	2	3	5	0	10	8:50 AM	0	0	0	0	0	8:50 AM	0	1	0	1	2
8:55 AM	3	4	4	0	11	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	76	100	128	0	304	Count Total	1	0	0	0	1	Count Total	0	9	0	3	12
Peak Hour	41	57	59	0	157	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	1	1

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 4/8/2022 12:04 PM

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

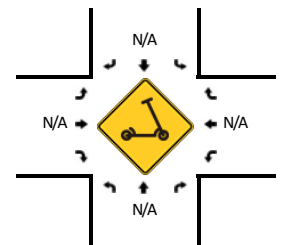
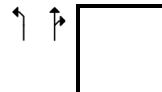
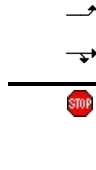
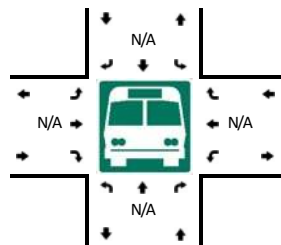
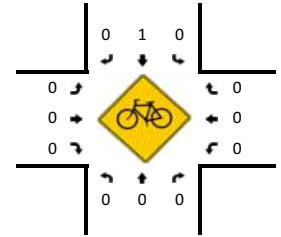
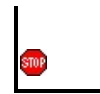
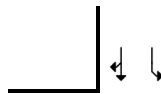
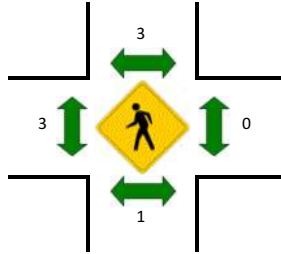
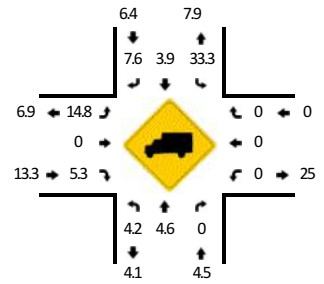
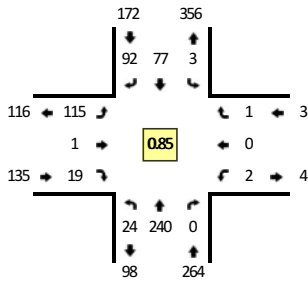
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	4	0	1	0	5	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	4	0	5	0	9	7:05 AM	0	0	0	0	0	7:05 AM	1	0	0	0	1
7:10 AM	6	0	3	1	10	7:10 AM	0	0	0	0	0	7:10 AM	1	0	0	0	1
7:15 AM	3	1	4	0	8	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	3	0	0	0	3	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	5	1	5	0	11	7:25 AM	0	0	0	1	1	7:25 AM	0	0	0	0	0
7:30 AM	7	0	1	0	8	7:30 AM	0	0	0	0	0	7:30 AM	3	2	0	0	5
7:35 AM	4	0	5	0	9	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	6	0	7	0	13	7:40 AM	1	0	0	0	1	7:40 AM	1	0	0	0	1
7:45 AM	9	0	5	0	14	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	1	0	4	0	5	7:50 AM	0	0	0	0	0	7:50 AM	2	0	0	0	2
7:55 AM	3	0	5	0	8	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	4	1	2	1	8	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	2	2	6	1	11	8:05 AM	0	0	0	0	0	8:05 AM	0	1	0	0	1
8:10 AM	4	0	7	0	11	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	3	3	6	0	12	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	3	1	8	2	14	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	6	0	4	0	10	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	7	0	5	0	12	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	7	1	3	0	11	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	3	3	8	2	16	8:40 AM	0	0	0	0	0	8:40 AM	0	1	0	0	1
8:45 AM	1	1	8	0	10	8:45 AM	0	0	0	0	0	8:45 AM	3	2	1	0	6
8:50 AM	10	2	6	5	23	8:50 AM	0	0	0	0	0	8:50 AM	0	0	1	1	2
8:55 AM	0	2	4	2	8	8:55 AM	0	0	0	0	0	8:55 AM	5	0	1	0	6
Count Total	105	18	112	14	249	Count Total	1	0	0	1	2	Count Total	16	6	3	1	26
Peak Hour	55	2	45	1	103	Peak Hour	1	0	0	1	2	Peak Hour	8	2	0	0	10

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

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

Peak-Hour: 9:00 AM -- 10:00 AM
Peak 15-Min: 9:25 AM -- 9:40 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	36	264	0	0	8	92	104	0	148	0	20	0	0	0	4	0	676	
Heavy Trucks	0	8	0	0	4	4	8	0	32	0	0	0	0	0	0	0	56	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

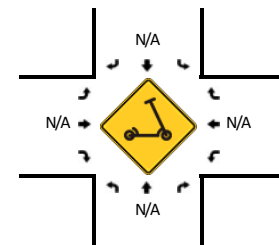
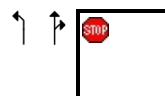
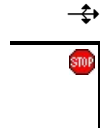
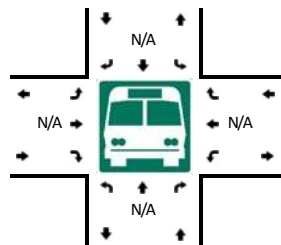
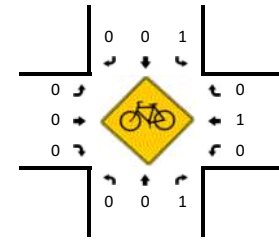
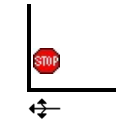
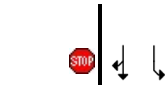
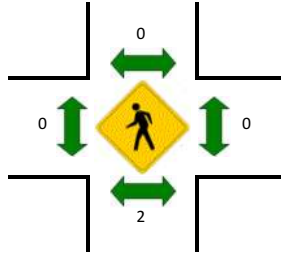
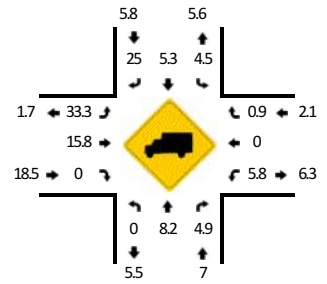
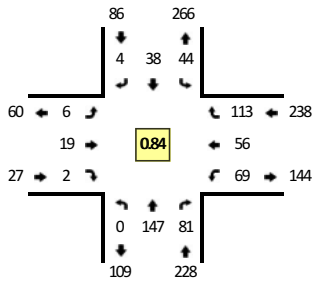
Report generated on 5/27/2022 1:05 PM

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: 8:50 AM -- 9:50 AM
 Peak 15-Min: 9:00 AM -- 9:15 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	5	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	1	0	6	0	25	
6:30 AM	0	27	2	0	2	2	0	0	0	1	1	0	2	4	9	0	50	
6:35 AM	0	19	4	0	1	4	0	0	0	0	1	0	3	2	10	0	44	
6:40 AM	0	19	4	0	0	5	0	0	0	1	0	0	2	0	8	0	39	
6:45 AM	0	27	6	0	3	2	1	0	0	1	2	0	0	2	4	0	48	
6:50 AM	0	14	4	0	2	4	0	0	0	1	0	0	3	1	3	0	32	
6:55 AM	0	14	5	0	4	7	1	0	0	0	2	0	3	0	8	0	44	421
7:00 AM	0	22	2	0	3	4	0	0	0	0	0	0	4	1	8	0	44	441
7:05 AM	0	14	5	0	1	1	1	0	0	2	0	0	3	0	13	0	40	457
7:10 AM	0	18	6	0	6	7	0	0	0	3	0	0	1	2	3	0	46	476
7:15 AM	0	17	6	0	7	3	1	0	0	0	0	0	1	2	9	0	46	496
7:20 AM	0	15	7	0	7	2	0	0	0	1	1	0	0	3	10	0	46	504
7:25 AM	0	20	4	0	0	3	0	0	0	0	2	0	0	3	13	0	45	524
7:30 AM	0	19	6	0	0	8	0	0	0	1	0	0	6	0	11	0	51	525
7:35 AM	0	23	6	0	1	3	0	0	0	0	2	0	3	1	12	0	51	532
7:40 AM	0	17	8	0	4	0	1	0	0	2	1	0	4	1	7	0	45	538
7:45 AM	0	25	7	0	6	3	0	0	0	2	0	0	3	4	4	0	54	544
7:50 AM	0	14	0	0	2	2	0	0	0	0	0	0	4	3	12	0	37	549
7:55 AM	0	7	0	0	3	3	0	0	0	2	3	0	0	1	8	0	27	532
8:00 AM	0	8	7	0	3	2	0	0	0	0	2	0	5	2	10	0	39	527
8:05 AM	0	9	1	0	1	1	0	0	0	0	3	0	3	4	13	0	35	522
8:10 AM	0	16	6	0	3	2	0	0	0	2	0	0	4	2	5	0	40	516
8:15 AM	0	4	4	0	1	0	0	0	0	0	0	0	4	2	8	0	23	493
8:20 AM	0	8	4	0	1	2	1	0	0	0	2	0	1	1	5	0	25	472
8:25 AM	0	9	1	0	1	2	0	0	0	1	2	0	2	3	6	0	27	454
8:30 AM	0	5	1	0	1	2	0	0	0	1	0	0	4	1	8	0	23	426
8:35 AM	0	10	3	0	1	2	1	0	0	1	1	0	0	1	5	0	25	400
8:40 AM	0	8	0	0	3	2	1	0	0	0	3	0	4	2	12	0	35	390
8:45 AM	0	8	4	0	4	4	0	0	0	0	0	0	3	2	3	0	28	364
8:50 AM	0	5	11	0	2	1	2	0	0	0	2	0	5	2	11	0	41	368
8:55 AM	0	12	9	0	5	0	0	0	0	1	2	0	7	6	9	0	51	392
9:00 AM	0	14	12	0	3	3	0	0	0	0	1	0	10	4	15	0	62	415
9:05 AM	0	10	7	0	3	4	0	0	0	2	2	0	9	4	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	164	108	0	44	44	0	0	8	12	0	0	108	44	156	0	688	
Heavy Trucks	0	12	0		0	4	0		4	4	0		4	0	4		32	
Buses																		
Pedestrians		8				0				0				0			8	
Bicycles		0	0			0	0			0	0			4	0		4	
Scoters																		

Comments:

Report generated on 5/27/2022 1:05 PM

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



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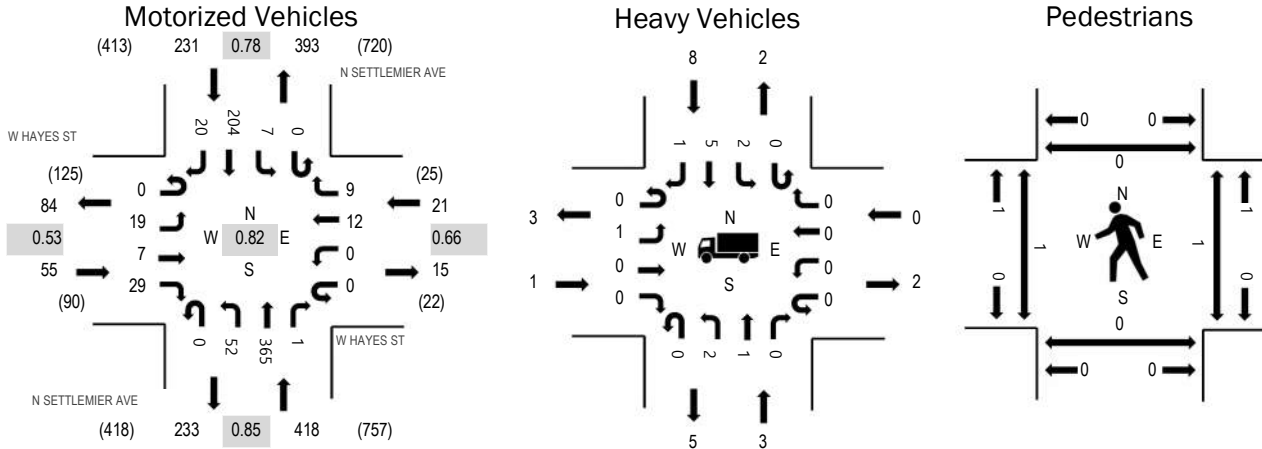
Location: 4 N SETTLEMIER AVE & W HAYES ST AM

Date: Wednesday, June 1, 2022

Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:05 AM - 07:20 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.8%	0.53
WB	0.0%	0.66
NB	0.7%	0.85
SB	3.5%	0.78
All	1.7%	0.82

Traffic Counts - Motorized Vehicles

Interval Start Time	W HAYES ST Eastbound				W HAYES ST Westbound				N SETTLEMIER AVE Northbound				N SETTLEMIER AVE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	4	0	0	0	0	0	2	35	0	0	0	17	0	58	725
7:05 AM	0	1	1	5	0	0	2	2	0	7	36	0	0	1	20	4	79	713
7:10 AM	0	2	4	3	0	0	2	2	0	6	37	0	0	0	22	5	83	678
7:15 AM	0	5	0	5	0	0	0	0	0	4	29	1	0	0	14	2	60	642
7:20 AM	0	3	0	1	0	0	0	1	0	3	34	0	0	0	28	3	73	627
7:25 AM	0	1	0	1	0	0	2	2	0	9	27	0	0	1	14	0	57	599
7:30 AM	0	0	0	2	0	0	2	0	0	3	28	0	0	0	14	0	49	594
7:35 AM	0	2	0	2	0	0	0	0	0	6	18	0	0	1	11	1	41	584
7:40 AM	0	2	0	4	0	0	1	0	0	5	31	0	0	0	15	1	59	581
7:45 AM	0	1	1	0	0	0	1	0	0	2	32	0	0	2	16	2	57	574
7:50 AM	0	1	0	2	0	0	1	1	0	2	30	0	0	0	8	1	46	572
7:55 AM	0	1	1	0	0	0	1	1	0	3	28	0	0	2	25	1	63	575
8:00 AM	0	0	0	2	0	0	0	0	0	2	32	0	0	0	9	1	46	560
8:05 AM	0	0	0	0	0	0	0	0	0	2	19	0	0	0	22	1	44	
8:10 AM	0	0	0	5	0	0	0	0	0	0	23	0	0	1	18	0	47	
8:15 AM	0	0	0	3	0	0	0	0	0	4	23	0	0	2	12	1	45	
8:20 AM	0	0	0	0	0	0	0	0	0	1	29	0	0	0	14	1	45	
8:25 AM	0	0	0	1	0	0	0	0	0	5	30	1	0	1	14	0	52	
8:30 AM	0	3	0	1	0	0	0	0	0	0	25	0	0	0	9	1	39	
8:35 AM	0	1	0	1	0	0	0	0	0	1	21	0	0	0	13	1	38	
8:40 AM	0	2	0	3	0	0	0	0	0	2	22	0	0	1	21	1	52	
8:45 AM	0	2	0	1	0	0	2	1	0	2	35	0	0	0	11	1	55	
8:50 AM	0	2	0	3	0	0	0	0	0	4	24	0	0	0	13	3	49	
8:55 AM	0	4	1	0	0	0	0	1	0	4	28	0	0	0	9	1	48	
Count Total	0	33	8	49	0	0	14	11	0	79	676	2	0	12	369	32	1,285	
Peak Hour	0	19	7	29	0	0	12	9	0	52	365	1	0	7	204	20	725	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	3	3	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	1	1	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	1	0	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	1	0	0	1	2	7:20 AM	0	0	0	1	1	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	0	0	1	1	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0	7:40 AM	0	0	1	0	1
7:45 AM	0	0	0	2	2	7:45 AM	0	0	0	0	0	7:45 AM	1	0	0	0	1
7:50 AM	0	1	0	0	1	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	1	0	0	1	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	1	0	1	2	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	1	0	0	1	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	1	0	1	2	8:10 AM	0	0	0	0	0	8:10 AM	0	0	1	0	1
8:15 AM	1	1	0	2	4	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	0	0	1	1	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	1	0	1	2	8:25 AM	0	0	0	0	0	8:25 AM	1	0	0	0	1
8:30 AM	0	1	0	0	1	8:30 AM	0	0	0	0	0	8:30 AM	0	1	2	0	3
8:35 AM	0	1	0	2	3	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	1	0	0	1	8:40 AM	0	0	0	0	0	8:40 AM	0	1	0	0	1
8:45 AM	0	4	0	0	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	1	0	0	1
8:55 AM	0	1	1	1	3	8:55 AM	0	0	0	0	0	8:55 AM	0	1	0	0	1
Count Total	2	17	1	17	37	Count Total	0	0	0	1	1	Count Total	2	4	4	0	10
Peak Hour	1	3	0	8	12	Peak Hour	0	0	0	1	1	Peak Hour	1	0	1	0	2

Location: 3 Harvard Dr & Evergreen Rd AM



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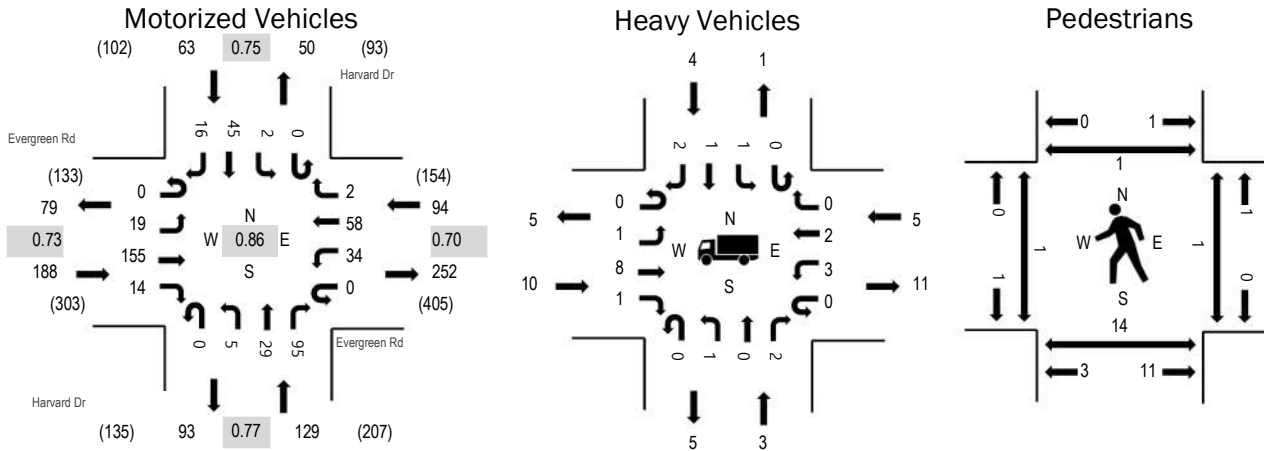
Location: 3 Harvard Dr & Evergreen Rd AM

Date: Tuesday, April 12, 2022

Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	5.3%	0.73
WB	5.3%	0.70
NB	2.3%	0.77
SB	6.3%	0.75
All	4.6%	0.86

Traffic Counts - Motorized Vehicles

Interval Start Time	Evergreen Rd Eastbound				Evergreen Rd Westbound				Harvard Dr Northbound				Harvard Dr Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	5	10	0	0	4	2	0	0	0	1	6	0	0	1	1	30	459
7:05 AM	0	0	10	1	0	0	5	0	0	0	2	6	0	0	3	1	28	463
7:10 AM	0	0	13	1	0	1	1	0	0	0	0	8	0	0	1	1	26	466
7:15 AM	0	4	6	0	0	1	5	0	0	0	1	9	0	1	3	1	31	474
7:20 AM	0	1	13	1	0	3	2	0	0	0	3	12	0	0	6	0	41	474
7:25 AM	0	3	11	0	0	5	3	0	0	2	2	8	0	0	8	1	43	455
7:30 AM	0	5	21	2	0	2	3	0	0	0	4	7	0	0	2	4	50	436
7:35 AM	0	1	19	1	0	3	4	0	0	1	3	9	0	0	2	1	44	407
7:40 AM	0	0	17	2	0	3	1	1	0	1	7	9	0	0	1	1	43	381
7:45 AM	0	1	20	0	0	5	10	0	0	1	2	9	0	0	2	1	51	357
7:50 AM	0	1	12	3	0	4	9	0	0	0	0	8	0	0	5	1	43	321
7:55 AM	0	0	11	4	0	3	4	0	0	0	2	3	0	0	2	0	29	306
8:00 AM	0	1	5	0	0	3	7	0	0	0	1	8	0	1	4	4	34	307
8:05 AM	0	0	10	0	0	2	3	1	0	0	1	6	0	0	6	2	31	
8:10 AM	0	2	10	1	0	0	7	0	0	0	3	7	0	0	4	0	34	
8:15 AM	0	0	8	0	0	0	9	1	0	1	5	4	0	1	1	1	31	
8:20 AM	0	0	12	0	0	0	4	0	0	1	1	2	0	0	2	0	22	
8:25 AM	0	0	9	1	0	2	1	2	0	0	1	4	0	2	2	0	24	
8:30 AM	0	2	3	1	0	1	2	0	0	0	4	5	0	0	3	0	21	
8:35 AM	0	1	4	0	0	1	4	0	0	0	1	3	0	2	0	2	18	
8:40 AM	0	2	3	1	0	3	5	0	0	0	0	4	0	0	1	0	19	
8:45 AM	0	0	4	0	0	2	3	0	0	0	2	1	0	1	0	2	15	
8:50 AM	0	3	7	1	0	1	3	0	0	0	4	4	0	1	3	1	28	
8:55 AM	0	1	12	0	0	2	1	0	0	0	5	3	0	1	2	3	30	
Count Total	0	33	250	20	0	51	98	5	0	7	55	145	0	10	64	28	766	
Peak Hour	0	19	155	14	0	34	58	2	0	5	29	95	0	2	45	16	474	

Location: 3 Harvard Dr & Evergreen Rd AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	2	0	0	0	2	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	1	0	1	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	3	0	0	1	4	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1	7:15 AM	0	0	0	0	0	7:15 AM	0	1	0	0	1
7:20 AM	0	0	1	0	1	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	1	1
7:25 AM	2	0	0	1	3	7:25 AM	0	0	0	0	0	7:25 AM	0	2	1	0	3
7:30 AM	2	0	0	0	2	7:30 AM	0	0	0	0	0	7:30 AM	0	2	0	0	2
7:35 AM	1	2	0	0	3	7:35 AM	0	0	0	0	0	7:35 AM	1	8	0	0	9
7:40 AM	1	0	1	1	3	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	1	0	1	0	2	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	1	0	1	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	2	1	1	1	5	8:05 AM	0	0	0	0	0	8:05 AM	0	1	0	0	1
8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0	8:10 AM	0	1	0	0	1
8:15 AM	0	0	1	0	1	8:15 AM	0	0	0	0	0	8:15 AM	1	0	0	0	1
8:20 AM	1	0	0	0	1	8:20 AM	0	0	0	0	0	8:20 AM	2	0	0	0	2
8:25 AM	1	0	0	1	2	8:25 AM	0	0	0	0	0	8:25 AM	0	1	0	0	1
8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	0	1	0	1	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0	8:45 AM	1	0	0	0	1
8:50 AM	0	1	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	1	1	8:55 AM	0	0	0	0	0	8:55 AM	0	0	1	0	1
Count Total	17	4	8	7	36	Count Total	0	0	0	0	0	Count Total	5	16	2	1	24
Peak Hour	10	3	5	4	22	Peak Hour	0	0	0	0	0	Peak Hour	1	15	1	1	18

Location: 2 Butteville Rd NE & Parr Rd NE AM



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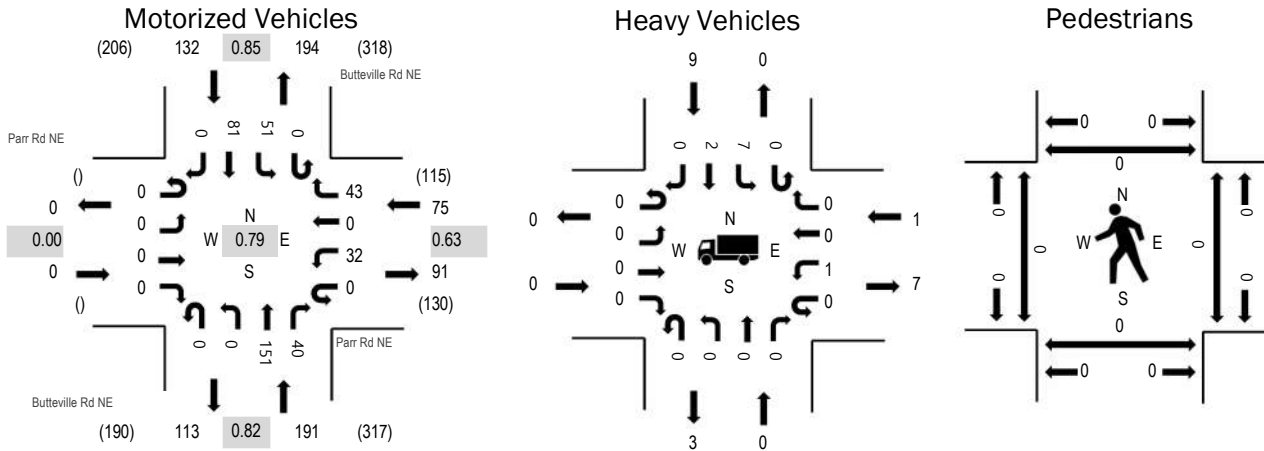
Location: 2 Butteville Rd NE & Parr Rd NE AM

Date: Tuesday, April 12, 2022

Peak Hour: 07:05 AM - 08:05 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	1.3%	0.63
NB	0.0%	0.82
SB	6.8%	0.85
All	2.5%	0.79

Traffic Counts - Motorized Vehicles

Interval Start Time	Parr Rd NE Eastbound				Parr Rd NE Westbound				Butteville Rd NE Northbound				Butteville Rd NE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	0	0	4	0	0	12	2	0	0	6	0	24	386
7:05 AM	0	0	0	0	0	2	0	1	0	0	15	1	0	5	6	0	30	398
7:10 AM	0	0	0	0	0	1	0	7	0	0	9	2	0	5	7	0	31	390
7:15 AM	0	0	0	0	0	3	0	10	0	0	12	6	0	6	10	0	47	393
7:20 AM	0	0	0	0	0	4	0	3	0	0	14	3	0	5	5	0	34	362
7:25 AM	0	0	0	0	0	6	0	5	0	0	17	4	0	7	6	0	45	344
7:30 AM	0	0	0	0	0	0	0	3	0	0	10	0	0	4	7	0	24	314
7:35 AM	0	0	0	0	0	1	0	2	0	0	13	5	0	7	5	0	33	307
7:40 AM	0	0	0	0	0	3	0	4	0	0	6	2	0	3	7	0	25	298
7:45 AM	0	0	0	0	0	3	0	4	0	0	10	4	0	2	7	0	30	294
7:50 AM	0	0	0	0	0	2	0	1	0	0	10	4	0	1	6	0	24	282
7:55 AM	0	0	0	0	0	4	0	2	0	0	19	6	0	1	7	0	39	279
8:00 AM	0	0	0	0	0	3	0	1	0	0	16	3	0	5	8	0	36	252
8:05 AM	0	0	0	0	0	4	0	2	0	0	7	0	0	2	7	0	22	
8:10 AM	0	0	0	0	0	2	0	3	0	0	16	3	0	1	9	0	34	
8:15 AM	0	0	0	0	0	1	0	1	0	0	12	1	0	0	1	0	16	
8:20 AM	0	0	0	0	0	1	0	2	0	0	6	2	0	1	4	0	16	
8:25 AM	0	0	0	0	0	1	0	0	0	0	4	1	0	2	7	0	15	
8:30 AM	0	0	0	0	0	1	0	3	0	0	7	2	0	1	3	0	17	
8:35 AM	0	0	0	0	0	5	0	0	0	0	13	2	0	2	2	0	24	
8:40 AM	0	0	0	0	0	3	0	1	0	0	8	1	0	0	8	0	21	
8:45 AM	0	0	0	0	0	0	0	2	0	0	4	2	0	5	5	0	18	
8:50 AM	0	0	0	0	0	1	0	2	0	0	9	4	0	2	3	0	21	
8:55 AM	0	0	0	0	0	0	0	1	0	0	5	3	0	0	3	0	12	
Count Total	0	0	0	0	0	51	0	64	0	0	254	63	0	67	139	0	638	
Peak Hour	0	0	0	0	0	32	0	43	0	0	151	40	0	51	81	0	398	

Location: 2 Butteville Rd NE & Parr Rd NE AM

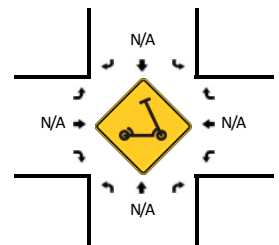
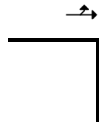
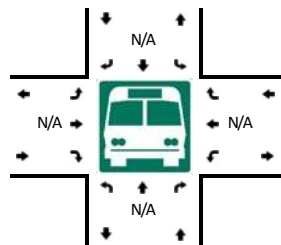
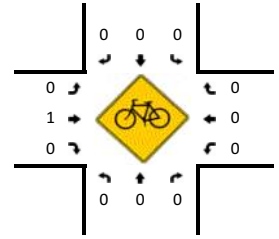
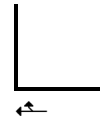
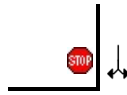
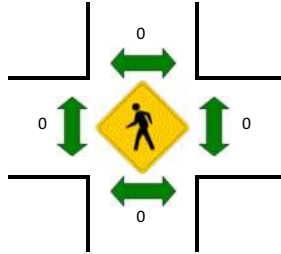
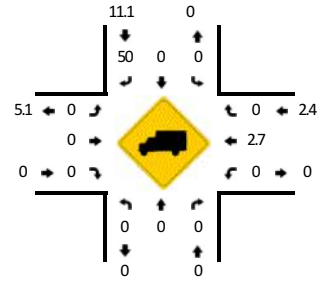
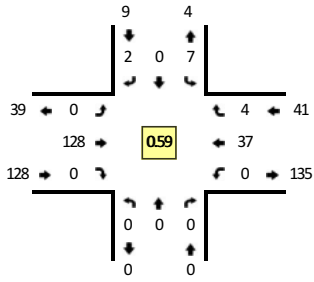
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	1	1	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	0	0	1	1	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	0	0	2	2	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	2	2	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	0	0	1	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	0	1	0	1	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	0	1	1	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	0	2	2	4	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	1	0	1	2	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	1	0	0	1	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	1	0	0	1	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	2	2	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	2	0	2	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	1	2	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	0	7	3	17	27	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	0	1	9	10	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

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

QC JOB #: 15682701
DATE: Wed, Jan 19 2022

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

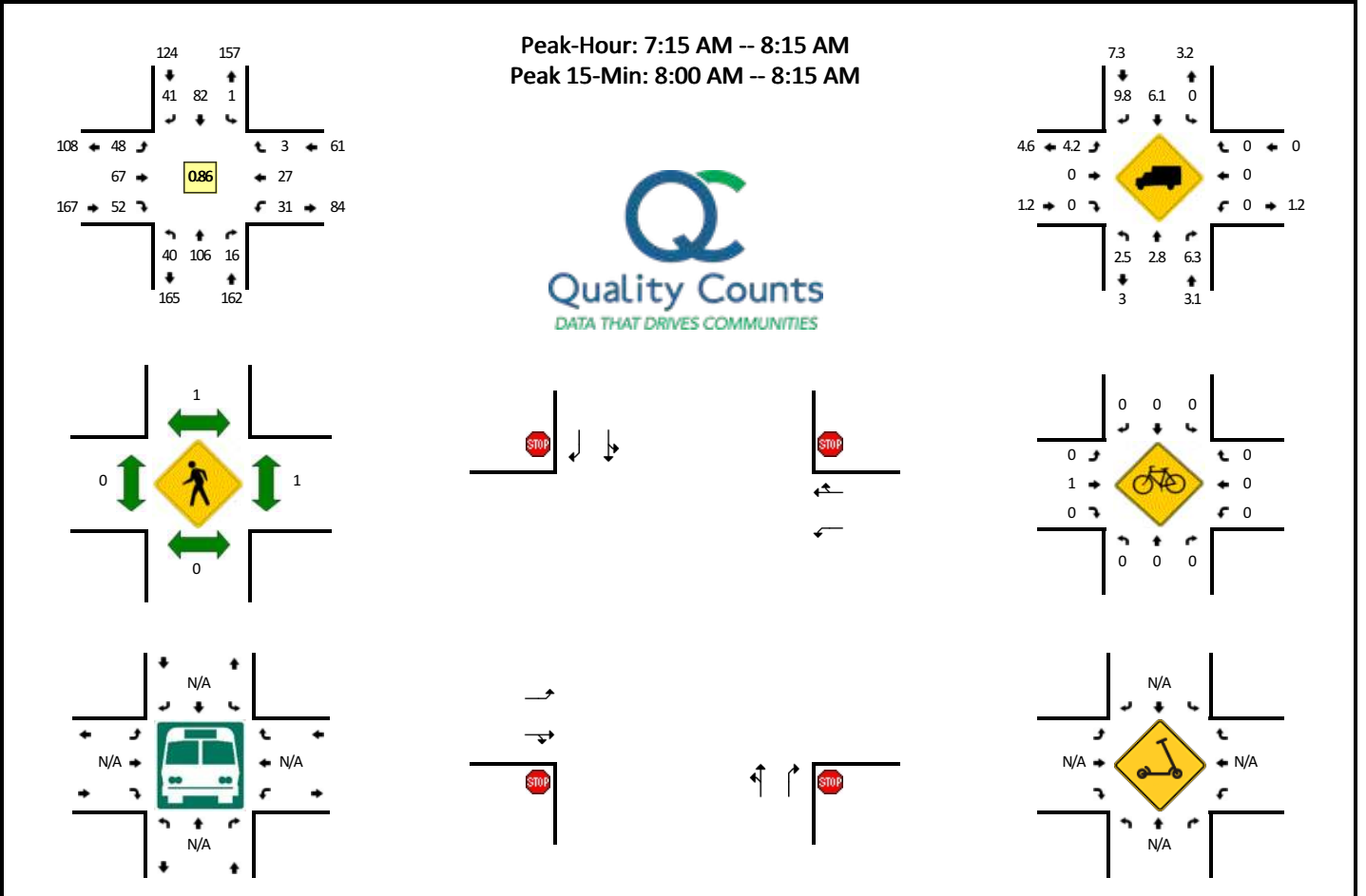


5-Min Count Period Beginning At	Stubb Rd NE (Northbound)				Stubb Rd NE (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	7	1	0	10	
7:05 AM	0	0	0	0	1	0	0	0	0	4	0	0	0	0	7	2	0	14	
7:10 AM	0	0	0	0	1	0	0	0	0	3	0	0	0	0	8	0	0	12	
7:15 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	0	6	0	0	17	
7:20 AM	0	0	0	0	1	0	0	0	0	11	0	0	0	0	2	1	0	15	
7:25 AM	0	0	0	0	3	0	1	0	0	7	0	0	0	0	4	1	0	16	
7:30 AM	0	0	0	0	1	0	0	0	0	8	0	0	0	0	3	0	0	12	
7:35 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	0	6	
7:40 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	0	5	0	0	13	
7:45 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	3	0	0	8	
7:50 AM	0	0	0	0	0	0	1	0	0	4	0	0	0	0	5	0	0	10	
7:55 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	4	0	0	6	139
8:00 AM	0	0	0	0	2	0	0	0	0	3	0	0	0	0	2	0	0	7	136
8:05 AM	0	0	0	0	0	0	0	0	0	52	0	0	0	0	1	0	0	53	175
8:10 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	0	1	2	0	15	178
8:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	10	171
8:20 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	0	6	162
8:25 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	3	149
8:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	140
8:35 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	0	1	0	0	7	141
8:40 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	5	0	0	9	137
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	2	0	0	5	134
8:50 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	4	128
8:55 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	1	0	8	130
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	8	0	0	0	0	268	0	0	0	0	16	8	0	300	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																			
Pedestrians		0				0				0				0				0	
Bicycles	0	0	0		0	0	0			4	0			0	0	0		4	
Scoters																			

Comments:

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

QC JOB #: 15682703
DATE: Wed, Jan 19 2022



5-Min Count Period Beginning At	S Boones Ferry Rd/Settlemier Ave (Northbound)				S Boones Ferry Rd/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		
7:00 AM	9	6	3	0	0	8	1	0	4	2	3	0	2	0	0	0	38	
7:05 AM	12	11	2	0	0	9	4	0	1	2	5	0	4	2	0	0	52	
7:10 AM	5	14	4	0	0	9	4	0	5	3	2	0	4	6	0	0	56	
7:15 AM	6	6	3	0	0	7	7	0	1	4	3	0	5	1	0	0	43	
7:20 AM	3	7	2	0	1	5	6	0	4	4	1	0	4	5	1	0	43	
7:25 AM	5	14	3	0	0	4	5	0	4	2	5	0	4	2	0	0	48	
7:30 AM	6	6	2	0	0	11	5	0	4	5	2	0	3	1	0	0	45	
7:35 AM	0	8	0	0	0	9	4	0	5	2	3	0	5	2	1	0	39	
7:40 AM	3	8	1	0	0	9	5	0	2	3	6	0	1	4	0	0	42	
7:45 AM	3	9	1	0	0	6	1	0	2	3	2	0	0	3	0	0	30	
7:50 AM	5	8	0	0	0	10	1	0	4	4	2	0	2	1	0	0	37	
7:55 AM	0	12	1	0	0	9	3	0	3	2	3	0	3	2	0	0	38	511
8:00 AM	1	10	1	0	0	5	1	0	1	2	2	0	0	2	0	0	25	498
8:05 AM	2	9	2	0	0	2	3	0	9	21	12	0	2	3	0	0	65	511
8:10 AM	6	9	0	0	0	5	0	0	9	15	11	0	2	1	1	0	59	514
8:15 AM	2	3	2	0	0	9	2	0	0	3	3	0	1	2	1	0	28	499
8:20 AM	1	7	0	0	0	6	3	0	2	1	8	0	2	1	0	0	31	487
8:25 AM	2	8	2	0	0	3	2	0	3	4	2	0	2	3	0	0	31	470
8:30 AM	1	2	1	0	1	2	1	0	2	0	3	0	0	1	0	0	14	439
8:35 AM	4	9	0	0	1	7	1	0	7	4	1	0	0	8	0	0	42	442
8:40 AM	2	13	0	0	0	6	3	0	6	0	3	0	0	2	0	0	35	435
8:45 AM	3	10	3	0	0	6	4	0	6	8	0	0	1	8	0	0	49	454
8:50 AM	6	2	1	0	1	8	7	0	3	6	3	0	0	4	0	0	41	458
8:55 AM	8	2	0	0	0	7	6	0	7	6	6	0	1	7	0	0	50	470
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	36	112	12	0	0	48	16	0	76	152	100	0	16	24	4	0	596	
Heavy Trucks	4	4	0		0	4	0		0	0	0		0	0	0		12	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	4	0		0	0	0		4	
Scoters																		

Comments:



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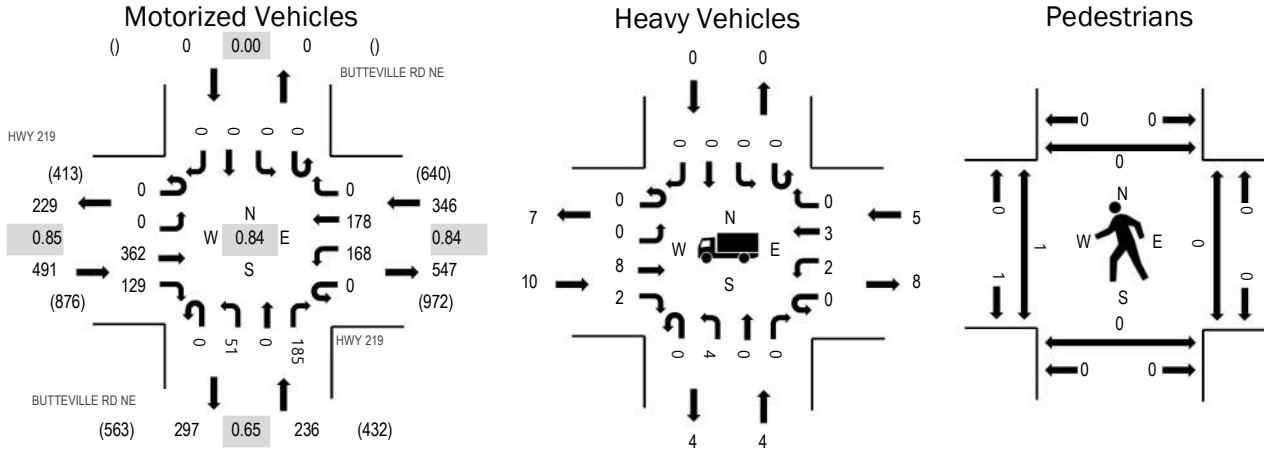
Location: 5 BUTTEVILLE RD NE & HWY 219 PM

Date: Wednesday, June 1, 2022

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.0%	0.85
WB	1.4%	0.84
NB	1.7%	0.65
SB	0.0%	0.00
All	1.8%	0.84

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 219 Eastbound				HWY 219 Westbound				BUTTEVILLE RD NE Northbound				BUTTEVILLE RD NE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	23	12	0	11	18	0	0	9	0	7	0	0	0	0	80	1,033
4:05 PM	0	0	34	13	0	11	16	0	0	8	0	11	0	0	0	0	93	1,042
4:10 PM	0	0	31	11	0	19	18	0	0	0	0	15	0	0	0	0	94	1,058
4:15 PM	0	0	21	12	0	8	8	0	0	5	0	18	0	0	0	0	72	1,061
4:20 PM	0	0	22	3	1	16	9	0	0	5	0	15	0	0	0	0	71	1,066
4:25 PM	0	0	23	9	0	10	11	0	0	5	0	15	0	0	0	0	73	1,070
4:30 PM	0	0	30	8	0	18	13	0	0	5	0	29	0	0	0	0	103	1,073
4:35 PM	0	0	28	8	0	20	21	0	0	11	0	29	0	0	0	0	117	1,044
4:40 PM	0	0	39	14	0	11	21	0	0	2	0	14	0	0	0	0	101	994
4:45 PM	0	0	33	14	0	12	12	0	0	2	0	16	0	0	0	0	89	959
4:50 PM	0	0	20	16	0	19	18	0	0	3	0	9	0	0	0	0	85	945
4:55 PM	0	0	21	7	0	10	11	0	0	0	0	6	0	0	0	0	55	913
5:00 PM	0	0	27	11	0	12	22	0	0	6	0	11	0	0	0	0	89	915
5:05 PM	0	0	44	10	0	13	17	0	0	3	0	22	0	0	0	0	109	
5:10 PM	0	0	41	13	0	9	19	0	0	6	0	9	0	0	0	0	97	
5:15 PM	0	0	26	10	0	15	7	0	0	5	0	14	0	0	0	0	77	
5:20 PM	0	0	32	11	0	10	7	0	0	4	0	11	0	0	0	0	75	
5:25 PM	0	0	21	7	0	19	10	0	0	4	0	15	0	0	0	0	76	
5:30 PM	0	0	25	9	0	15	16	0	0	1	0	8	0	0	0	0	74	
5:35 PM	0	0	25	9	0	12	9	0	0	1	0	11	0	0	0	0	67	
5:40 PM	0	0	16	6	0	20	6	0	0	3	0	15	0	0	0	0	66	
5:45 PM	0	0	15	11	0	13	15	0	0	6	0	15	0	0	0	0	75	
5:50 PM	0	0	14	7	0	13	6	0	0	1	0	12	0	0	0	0	53	
5:55 PM	0	0	24	10	0	6	7	0	0	1	0	9	0	0	0	0	57	
Count Total	0	0	635	241	1	322	317	0	0	96	0	336	0	0	0	0	1,948	
Peak Hour	0	0	362	129	0	168	178	0	0	51	0	185	0	0	0	0	1,073	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

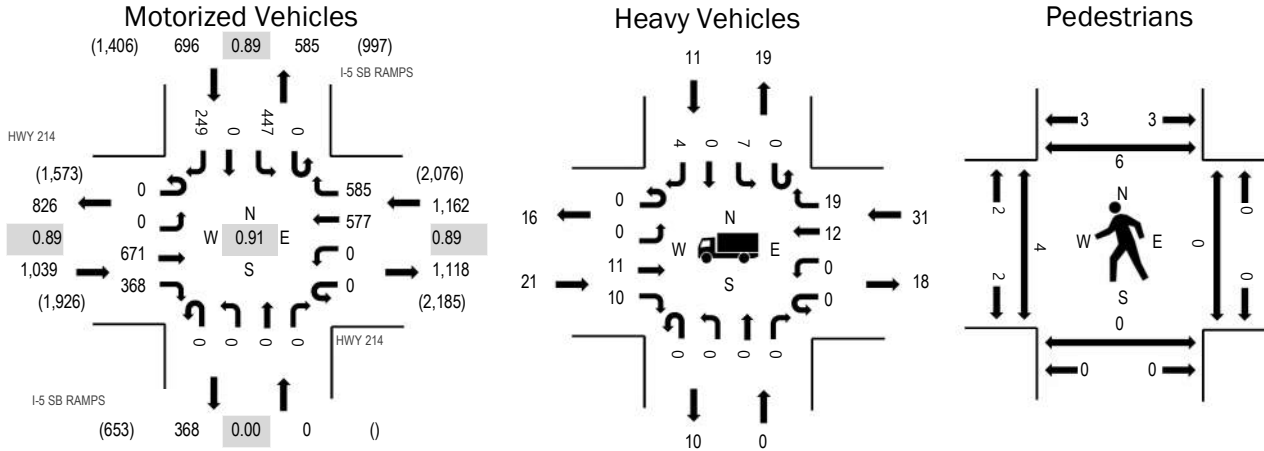
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	0	0	0	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	1	0	1	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	1	0	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	1	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	1	0	0	1	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	2	1	1	0	4	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	2	0	1	0	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	2	0	3	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	1	0	0	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	2	0	0	0	2	4:50 PM	0	0	0	0	0	4:50 PM	1	0	0	0	1
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	1	0	0	2	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	1	0	0	0	1	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	2	0	0	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	1	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	1	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	2	0	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	1	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	2	0	0	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	19	6	11	0	36	Count Total	0	0	0	0	0	Count Total	1	0	0	0	1
Peak Hour	10	4	5	0	19	Peak Hour	0	0	0	0	0	Peak Hour	1	0	0	0	1



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Location: 2 I-5 SB RAMPS & HWY 214 PM
Date: Wednesday, June 1, 2022
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.0%	0.89
WB	2.7%	0.89
NB	0.0%	0.00
SB	1.6%	0.89
All	2.2%	0.91

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 214 Eastbound				HWY 214 Westbound				I-5 SB RAMPS Northbound				I-5 SB RAMPS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	52	37	0	0	57	32	0	0	0	0	0	37	0	21	236	2,866
4:05 PM	0	0	53	26	0	0	36	42	0	0	0	0	0	45	0	17	219	2,857
4:10 PM	0	0	52	40	0	0	56	36	0	0	0	0	0	36	0	23	243	2,880
4:15 PM	0	0	59	20	0	0	40	46	0	0	0	0	0	38	0	18	221	2,866
4:20 PM	0	0	54	26	0	0	47	46	0	0	0	0	0	40	0	22	235	2,897
4:25 PM	0	0	59	20	0	0	41	54	0	0	0	0	0	40	0	15	229	2,864
4:30 PM	0	0	55	27	0	0	44	43	0	0	0	0	0	42	0	23	234	2,857
4:35 PM	0	0	66	40	0	0	58	59	0	0	0	0	0	38	0	30	291	2,819
4:40 PM	0	0	53	33	0	0	73	42	0	0	0	0	0	49	0	20	270	2,737
4:45 PM	0	0	52	24	0	0	51	45	0	0	0	0	0	35	0	20	227	2,669
4:50 PM	0	0	59	32	0	0	36	62	0	0	0	0	0	39	0	23	251	2,641
4:55 PM	0	0	46	27	0	0	43	49	0	0	0	0	0	27	0	18	210	2,569
5:00 PM	0	0	45	30	0	0	41	54	0	0	0	0	0	43	0	14	227	2,542
5:05 PM	0	0	55	26	0	0	56	46	0	0	0	0	0	37	0	22	242	
5:10 PM	0	0	55	43	0	0	50	37	0	0	0	0	0	30	0	14	229	
5:15 PM	0	0	72	40	0	0	37	48	0	0	0	0	0	27	0	28	252	
5:20 PM	0	0	51	25	0	0	30	43	0	0	0	0	0	33	0	20	202	
5:25 PM	0	0	58	24	0	0	42	29	0	0	0	0	0	45	0	24	222	
5:30 PM	0	0	44	23	0	0	38	36	0	0	0	0	0	35	0	20	196	
5:35 PM	0	0	47	23	0	0	35	36	0	0	0	0	0	43	0	25	209	
5:40 PM	0	0	44	23	0	0	45	28	0	0	0	0	0	42	0	20	202	
5:45 PM	0	0	45	12	0	0	46	32	0	0	0	0	0	40	0	24	199	
5:50 PM	0	0	56	18	0	0	37	22	0	0	0	0	0	30	0	16	179	
5:55 PM	0	0	41	14	0	0	40	30	0	0	0	0	0	41	0	17	183	
Count Total	0	0	1,273	653	0	0	1,079	997	0	0	0	0	0	912	0	494	5,408	
Peak Hour	0	0	671	368	0	0	577	585	0	0	0	0	0	447	0	249	2,897	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	0	5	0	8	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1
4:05 PM	4	0	4	0	8	4:05 PM	0	0	0	0	0	4:05 PM	1	0	0	1	2
4:10 PM	1	0	5	2	8	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	1	1
4:15 PM	4	0	4	0	8	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	1	0	3	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	2	0	5	0	7	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	1	1
4:30 PM	2	0	3	2	7	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	4	0	5	4	13	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	1	1
4:40 PM	0	0	2	2	4	4:40 PM	0	0	0	0	0	4:40 PM	1	0	0	1	2
4:45 PM	1	0	1	0	2	4:45 PM	0	0	0	0	0	4:45 PM	1	0	0	0	1
4:50 PM	4	0	3	0	7	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	2	2
4:55 PM	2	0	2	0	4	4:55 PM	0	0	0	0	0	4:55 PM	1	0	0	0	1
5:00 PM	1	0	1	1	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	1	0	3	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	1	1	2	5:10 PM	0	0	0	0	0	5:10 PM	1	0	0	1	2
5:15 PM	2	0	4	1	7	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	3	1	4	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	5	0	2	2	9	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	1	0	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	2	2
5:40 PM	0	0	0	2	2	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	2	0	3	1	6	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	0	0	1	2	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	2	2
5:55 PM	1	0	2	1	4	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	43	0	60	22	125	Count Total	0	0	0	0	0	Count Total	5	0	0	13	18
Peak Hour	21	0	31	11	63	Peak Hour	0	0	0	0	0	Peak Hour	4	0	0	6	10



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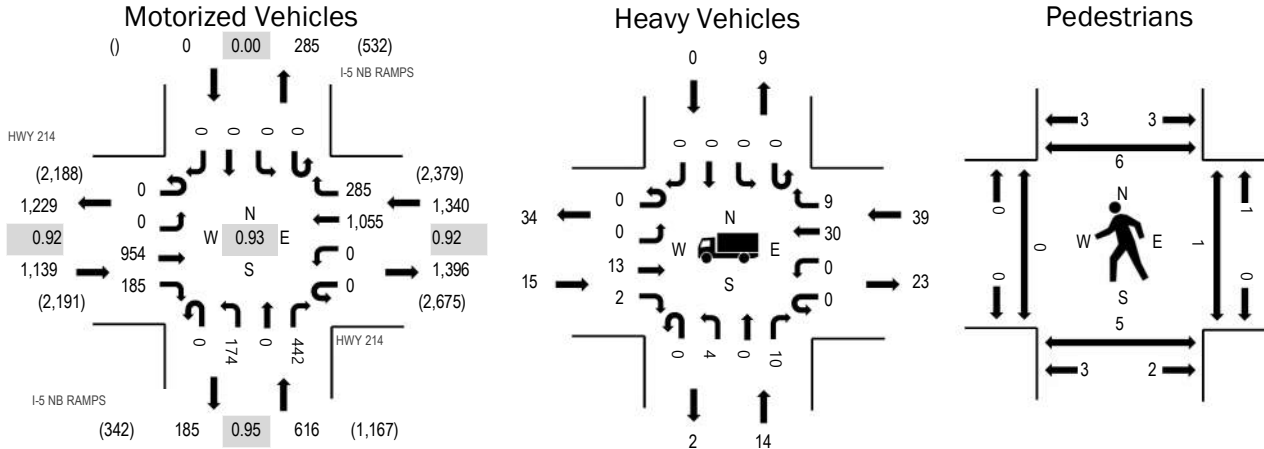
Location: 1 I-5 NB RAMPS & HWY 214 PM

Date: Wednesday, June 1, 2022

Peak Hour: 04:20 PM - 05:20 PM

Peak 15-Minutes: 04:35 PM - 04:50 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.3%	0.92
WB	2.9%	0.92
NB	2.3%	0.95
SB	0.0%	0.00
All	2.2%	0.93

Traffic Counts - Motorized Vehicles

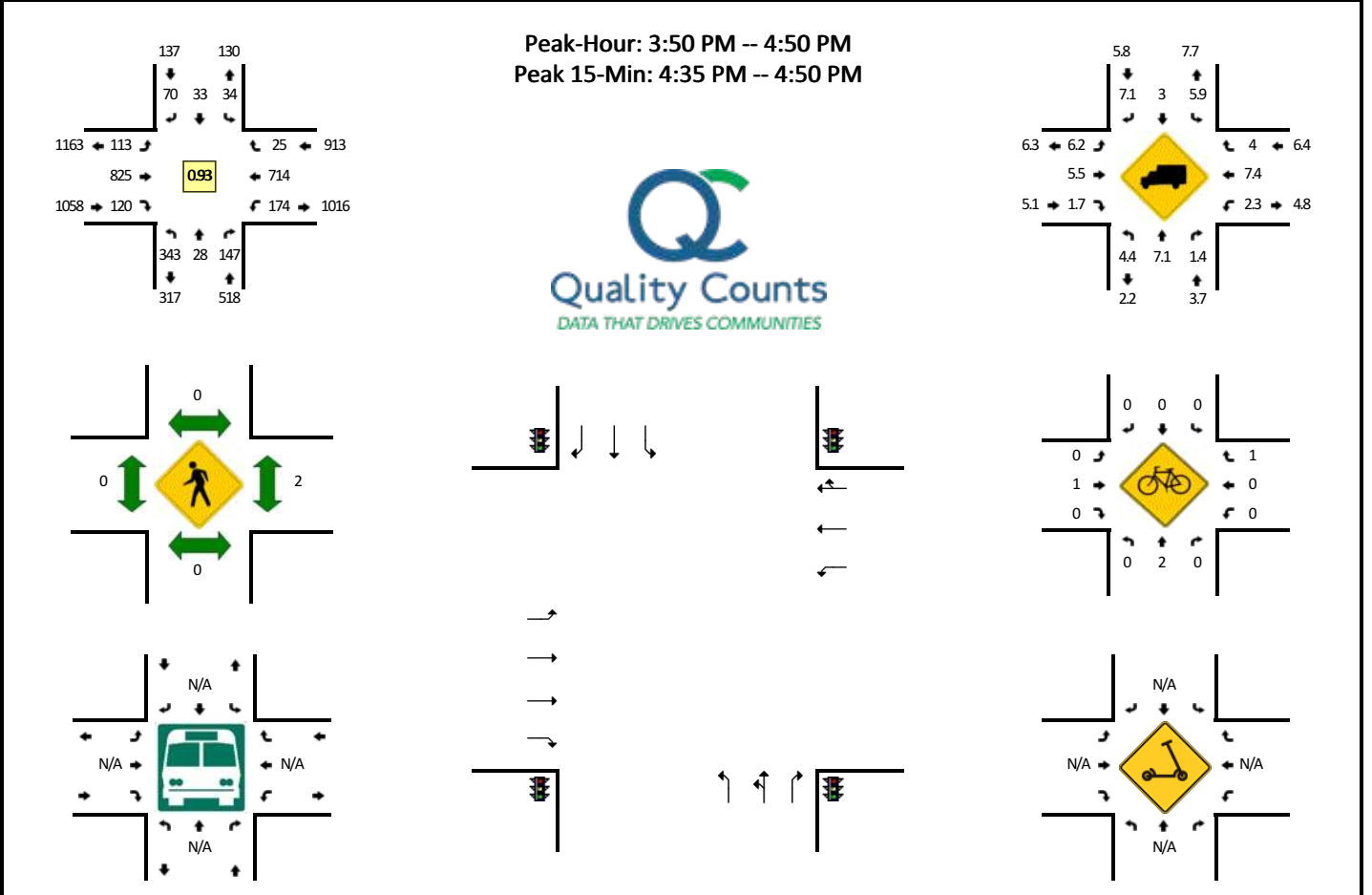
Interval Start Time	HWY 214 Eastbound				HWY 214 Westbound				I-5 NB RAMPS Northbound				I-5 NB RAMPS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	71	17	0	0	70	23	0	17	0	22	0	0	0	0	220	3,019
4:05 PM	0	0	66	16	0	0	66	33	0	14	0	33	0	0	0	0	228	3,054
4:10 PM	0	0	95	13	0	0	73	22	0	18	0	36	0	0	0	0	257	3,080
4:15 PM	0	0	72	16	0	0	73	31	0	17	0	36	0	0	0	0	245	3,059
4:20 PM	0	0	71	15	0	0	75	20	0	17	0	30	0	0	0	0	228	3,095
4:25 PM	0	0	73	19	0	0	87	23	0	10	0	31	0	0	0	0	243	3,085
4:30 PM	0	0	89	15	0	0	79	14	0	22	0	36	0	0	0	0	255	3,083
4:35 PM	0	0	78	24	0	0	104	29	0	19	0	34	0	0	0	0	288	3,049
4:40 PM	0	0	89	17	0	0	100	23	0	13	0	40	0	0	0	0	282	2,995
4:45 PM	0	0	91	10	0	0	81	26	0	15	0	35	0	0	0	0	258	2,916
4:50 PM	0	0	79	17	0	0	97	21	0	12	0	41	0	0	0	0	267	2,861
4:55 PM	0	0	69	14	0	0	94	23	0	12	0	36	0	0	0	0	248	2,781
5:00 PM	0	0	67	13	0	0	87	29	0	18	0	41	0	0	0	0	255	2,718
5:05 PM	0	0	77	9	0	0	89	21	0	20	0	38	0	0	0	0	254	
5:10 PM	0	0	78	16	0	0	73	26	0	10	0	33	0	0	0	0	236	
5:15 PM	0	0	93	16	0	0	89	30	0	6	0	47	0	0	0	0	281	
5:20 PM	0	0	73	12	0	0	64	21	0	12	0	36	0	0	0	0	218	
5:25 PM	0	0	87	15	0	0	62	27	0	12	0	38	0	0	0	0	241	
5:30 PM	0	0	72	12	0	0	75	12	0	8	0	42	0	0	0	0	221	
5:35 PM	0	0	86	10	0	0	64	22	0	18	0	34	0	0	0	0	234	
5:40 PM	0	0	73	8	0	0	72	14	0	13	0	23	0	0	0	0	203	
5:45 PM	0	0	68	12	0	0	74	13	0	9	0	27	0	0	0	0	203	
5:50 PM	0	0	66	17	0	0	47	19	0	16	0	22	0	0	0	0	187	
5:55 PM	0	0	66	9	0	0	52	10	0	13	0	35	0	0	0	0	185	
Count Total	0	0	1,849	342	0	0	1,847	532	0	341	0	826	0	0	0	0	5,737	
Peak Hour	0	0	954	185	0	0	1,055	285	0	174	0	442	0	0	0	0	3,095	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	4	6	0	12	4:00 PM	0	0	0	0	0	4:00 PM	0	1	0	1	2
4:05 PM	0	6	7	0	13	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	1	0	5	0	6	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	2	6	0	10	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	1	1
4:20 PM	0	0	4	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	1	5	0	7	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	2	2
4:30 PM	1	1	4	0	6	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	4	2	6	0	12	4:35 PM	0	0	0	0	0	4:35 PM	0	1	1	1	3
4:40 PM	2	0	1	0	3	4:40 PM	0	0	0	0	0	4:40 PM	0	1	0	1	2
4:45 PM	1	3	1	0	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	2	2	0	4	4:50 PM	0	0	0	0	0	4:50 PM	0	1	0	1	2
4:55 PM	0	1	4	0	5	4:55 PM	0	0	0	0	0	4:55 PM	0	1	0	0	1
5:00 PM	2	0	3	0	5	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	3	0	5	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	2	0	0	2	5:10 PM	0	0	0	0	0	5:10 PM	0	1	0	1	2
5:15 PM	2	2	6	0	10	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	2	2	2	0	6	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	1	1
5:25 PM	4	1	1	0	6	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	2	1	0	4	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	1	0	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	1	1
5:40 PM	0	1	0	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	1	1	0	2
5:45 PM	0	2	3	0	5	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	1	2	0	4	5:50 PM	0	0	0	0	0	5:50 PM	0	0	2	2	4
5:55 PM	2	1	1	0	4	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	30	36	74	0	140	Count Total	0	0	0	0	0	Count Total	0	7	4	12	23
Peak Hour	15	14	39	0	68	Peak Hour	0	0	0	0	0	Peak Hour	0	5	1	6	12

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	2480
4:00 PM	26	3	11	0	1	3	5	0	6	73	13	1	18	53	2	1	216	2497
4:05 PM	33	1	11	0	4	4	9	0	10	70	9	3	9	69	2	1	235	2543
4:10 PM	34	2	5	0	4	2	9	0	8	76	11	2	13	61	0	0	227	2581
4:15 PM	22	4	10	0	0	1	4	0	3	58	11	1	7	61	1	2	185	2571
4:20 PM	31	3	11	0	4	3	7	0	6	69	5	6	18	53	3	1	220	2589
4:25 PM	17	2	10	0	1	5	7	0	5	53	6	3	18	54	4	1	186	2563
4:30 PM	26	2	16	0	1	5	5	0	5	64	10	5	12	49	4	0	204	2562
4:35 PM	34	2	15	0	6	2	4	0	5	76	10	6	13	57	2	1	233	2580
4:40 PM	33	2	13	0	1	3	6	0	5	74	12	1	17	73	2	1	243	2599
4:45 PM	29	0	17	0	4	3	7	0	6	79	8	1	19	59	1	0	233	2626
4:50 PM	27	4	13	0	0	1	7	0	8	71	14	2	18	51	1	2	219	2615
4:55 PM	18	0	5	0	1	3	3	0	6	73	12	5	18	46	1	1	192	2593
5:00 PM	25	2	10	0	1	1	6	0	6	68	9	0	12	52	2	0	194	2571
5:05 PM	18	3	10	0	2	4	12	0	5	57	7	2	14	70	0	2	206	2542
5:10 PM	33	2	11	0	2	2	4	0	5	71	7	2	16	74	0	0	229	2544
5:15 PM	18	2	11	0	3	3	8	0	9	86	9	4	21	58	1	1	234	2593
5:20 PM	31	3	12	0	3	0	5	0	6	70	11	1	13	50	2	1	208	2581
5:25 PM	24	4	16	0	2	2	3	0	5	74	10	7	17	64	0	1	229	2624
5:30 PM	14	1	10	0	2	0	7	0	5	69	6	6	5	40	1	1	167	2587
5:35 PM	25	1	17	0	3	2	5	0	7	72	8	1	11	63	1	3	219	2573
5:40 PM	30	1	13	0	3	2	7	0	4	59	8	1	17	50	3	2	200	2530
5:45 PM	20	1	16	0	0	1	5	0	5	76	13	0	11	39	0	0	187	2484
5:50 PM	27	1	8	0	4	0	2	0	7	64	16	4	14	44	2	0	193	2458
5:55 PM	30	0	12	0	5	0	8	0	3	63	14	5	9	35	1	1	186	2452
6:00 PM	36	1	13	0	1	0	6	0	8	59	6	5	8	39	0	0	182	2440
6:05 PM	16	1	8	0	2	0	5	0	5	72	6	0	12	52	3	0	182	2416

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 4/8/2022 12:04 PM

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



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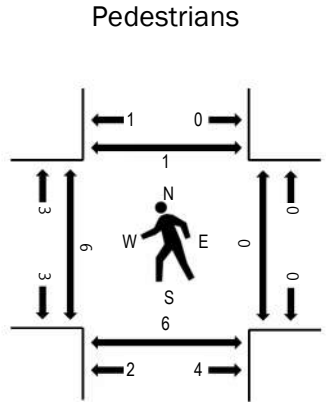
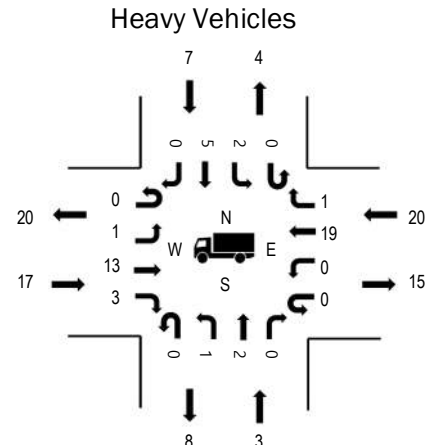
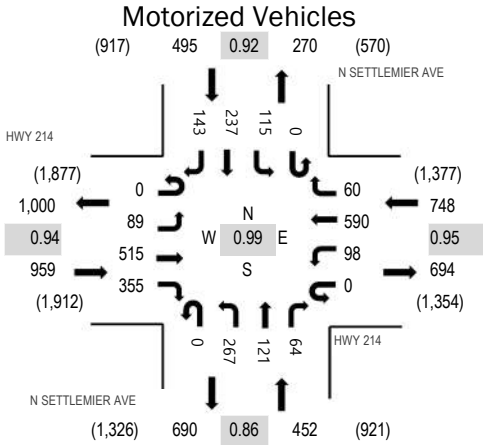
Location: 3 N SETTLEMIER AVE & HWY 214 PM

Date: Wednesday, June 1, 2022

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:50 PM - 05:05 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.8%	0.94
WB	2.7%	0.95
NB	0.7%	0.86
SB	1.4%	0.92
All	1.8%	0.99

Traffic Counts - Motorized Vehicles

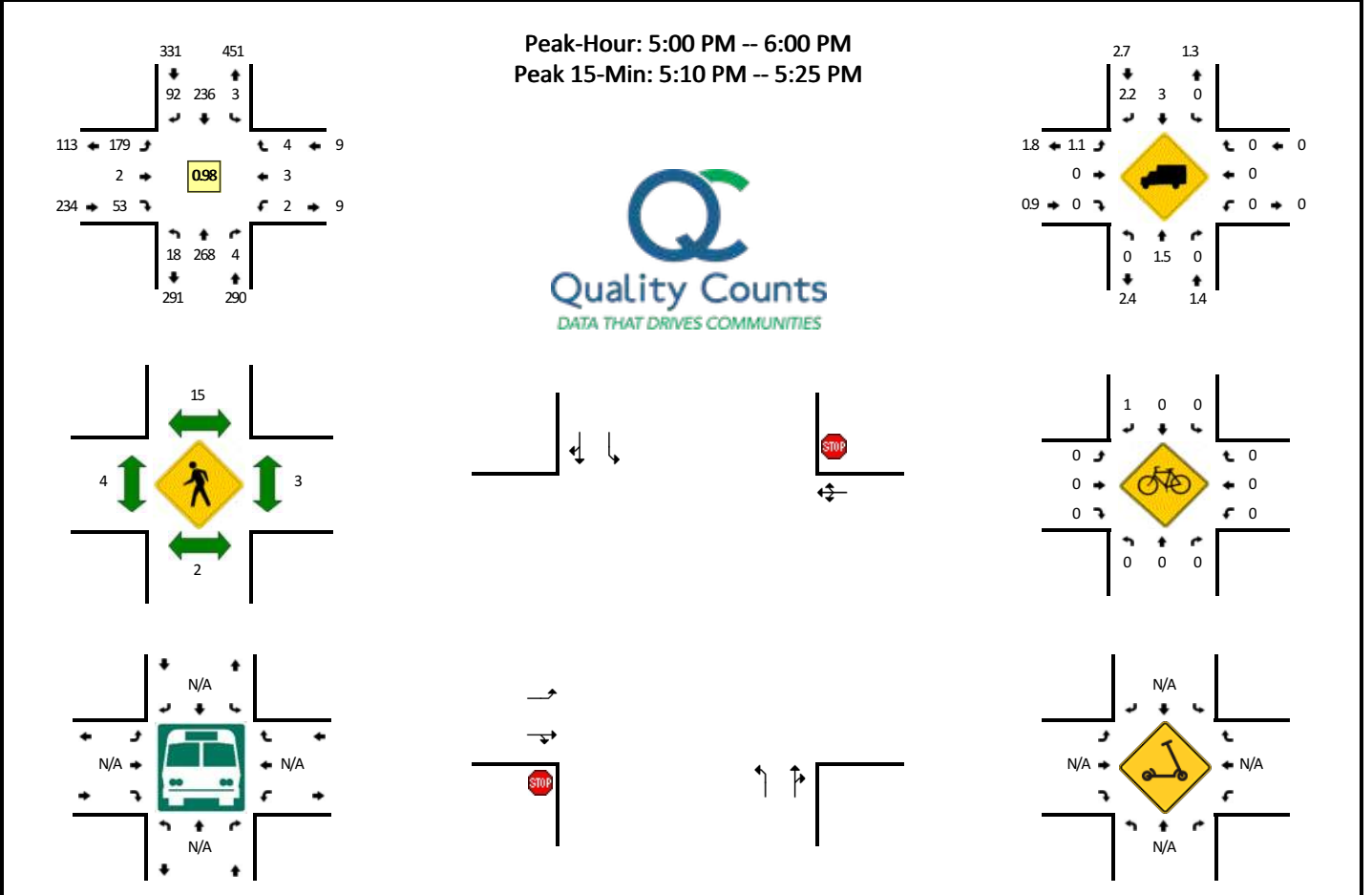
Interval Start Time	HWY 214 Eastbound				HWY 214 Westbound				N SETTLEMIER AVE Northbound				N SETTLEMIER AVE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	7	49	32	0	2	38	1	0	9	4	6	0	7	13	14	182	2,602
4:05 PM	0	3	42	38	0	0	47	2	0	25	19	3	0	11	17	10	217	2,633
4:10 PM	0	14	43	31	0	7	53	1	0	19	3	5	0	10	15	13	214	2,630
4:15 PM	0	10	41	32	0	3	40	3	0	36	22	6	0	15	15	14	237	2,636
4:20 PM	0	4	40	16	0	8	51	2	0	28	8	3	0	10	16	7	193	2,617
4:25 PM	0	3	40	33	0	9	50	6	0	24	8	10	0	7	15	18	223	2,646
4:30 PM	0	6	46	29	0	8	54	4	0	20	8	6	0	9	16	9	215	2,654
4:35 PM	0	8	50	33	0	4	49	3	0	22	9	8	0	8	21	16	231	2,651
4:40 PM	0	13	42	18	0	6	47	6	0	24	14	8	0	4	23	13	218	2,628
4:45 PM	0	7	27	33	0	12	44	3	0	25	11	4	0	9	24	13	212	2,614
4:50 PM	0	4	43	22	0	7	54	6	0	27	10	4	0	14	23	9	223	2,598
4:55 PM	0	2	47	45	0	11	50	8	0	23	9	5	0	8	19	10	237	2,562
5:00 PM	0	9	42	22	0	8	48	6	0	22	12	6	0	6	20	12	213	2,525
5:05 PM	0	12	48	29	0	4	50	3	0	26	3	2	0	13	12	12	214	
5:10 PM	0	10	37	36	0	15	56	1	0	19	7	2	0	14	13	10	220	
5:15 PM	0	9	43	28	0	8	48	5	0	19	13	6	0	2	19	18	218	
5:20 PM	0	3	40	26	0	8	43	7	0	26	13	10	0	15	22	9	222	
5:25 PM	0	6	50	34	0	7	47	8	0	14	12	3	0	13	25	12	231	
5:30 PM	0	8	45	30	0	8	39	7	0	21	16	5	0	11	12	10	212	
5:35 PM	0	8	42	39	0	6	37	3	0	20	13	5	0	7	18	10	208	
5:40 PM	0	7	34	35	0	4	44	10	0	15	16	6	0	5	19	9	204	
5:45 PM	0	8	38	34	0	6	32	9	0	24	10	5	0	11	13	6	196	
5:50 PM	0	7	41	31	0	11	28	11	0	20	9	2	0	4	15	8	187	
5:55 PM	0	8	34	26	0	5	37	9	0	14	21	9	0	8	22	7	200	
Count Total	0	176	1,004	732	0	167	1,086	124	0	522	270	129	0	221	427	269	5,127	
Peak Hour	0	89	515	355	0	98	590	60	0	267	121	64	0	115	237	143	2,654	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	5	2	4	0	11	4:00 PM	0	0	0	0	0	4:00 PM	1	0	0	0	1
4:05 PM	6	2	3	0	11	4:05 PM	0	0	0	0	0	4:05 PM	4	1	0	0	5
4:10 PM	3	1	3	0	7	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	1	1	0	3	4:15 PM	0	0	0	0	0	4:15 PM	1	0	0	1	2
4:20 PM	2	2	3	1	8	4:20 PM	0	0	0	0	0	4:20 PM	1	1	0	0	2
4:25 PM	3	1	3	0	7	4:25 PM	0	0	0	0	0	4:25 PM	3	2	0	0	5
4:30 PM	1	1	3	0	5	4:30 PM	0	0	0	0	0	4:30 PM	1	1	0	0	2
4:35 PM	3	0	3	1	7	4:35 PM	0	0	0	0	0	4:35 PM	1	1	0	0	2
4:40 PM	2	0	0	1	3	4:40 PM	0	0	0	0	0	4:40 PM	2	1	0	0	3
4:45 PM	0	0	0	2	2	4:45 PM	0	0	0	0	0	4:45 PM	1	1	0	0	2
4:50 PM	2	1	1	1	5	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	2	0	6	0	8	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	2	1	0	1	4	5:00 PM	0	0	0	0	0	5:00 PM	0	1	0	0	1
5:05 PM	1	0	0	1	2	5:05 PM	0	0	0	0	0	5:05 PM	0	1	0	0	1
5:10 PM	1	0	2	0	3	5:10 PM	0	0	0	0	0	5:10 PM	1	0	0	1	2
5:15 PM	2	0	3	0	5	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	1	0	0	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	2	0	2	5:25 PM	0	0	0	0	0	5:25 PM	1	0	0	0	1
5:30 PM	2	1	0	0	3	5:30 PM	0	0	0	2	2	5:30 PM	1	2	0	0	3
5:35 PM	0	0	1	1	2	5:35 PM	0	0	0	0	0	5:35 PM	3	0	0	0	3
5:40 PM	0	0	2	0	2	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	1	1	0	3	5:45 PM	0	0	0	1	1	5:45 PM	0	0	0	0	0
5:50 PM	3	0	2	0	5	5:50 PM	0	0	0	0	0	5:50 PM	1	0	0	0	1
5:55 PM	1	2	1	0	4	5:55 PM	0	0	0	0	0	5:55 PM	2	0	0	0	2
Count Total	44	16	44	9	113	Count Total	0	0	0	3	3	Count Total	24	12	0	2	38
Peak Hour	17	3	20	7	47	Peak Hour	0	0	0	0	0	Peak Hour	7	6	0	1	14

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

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



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																		

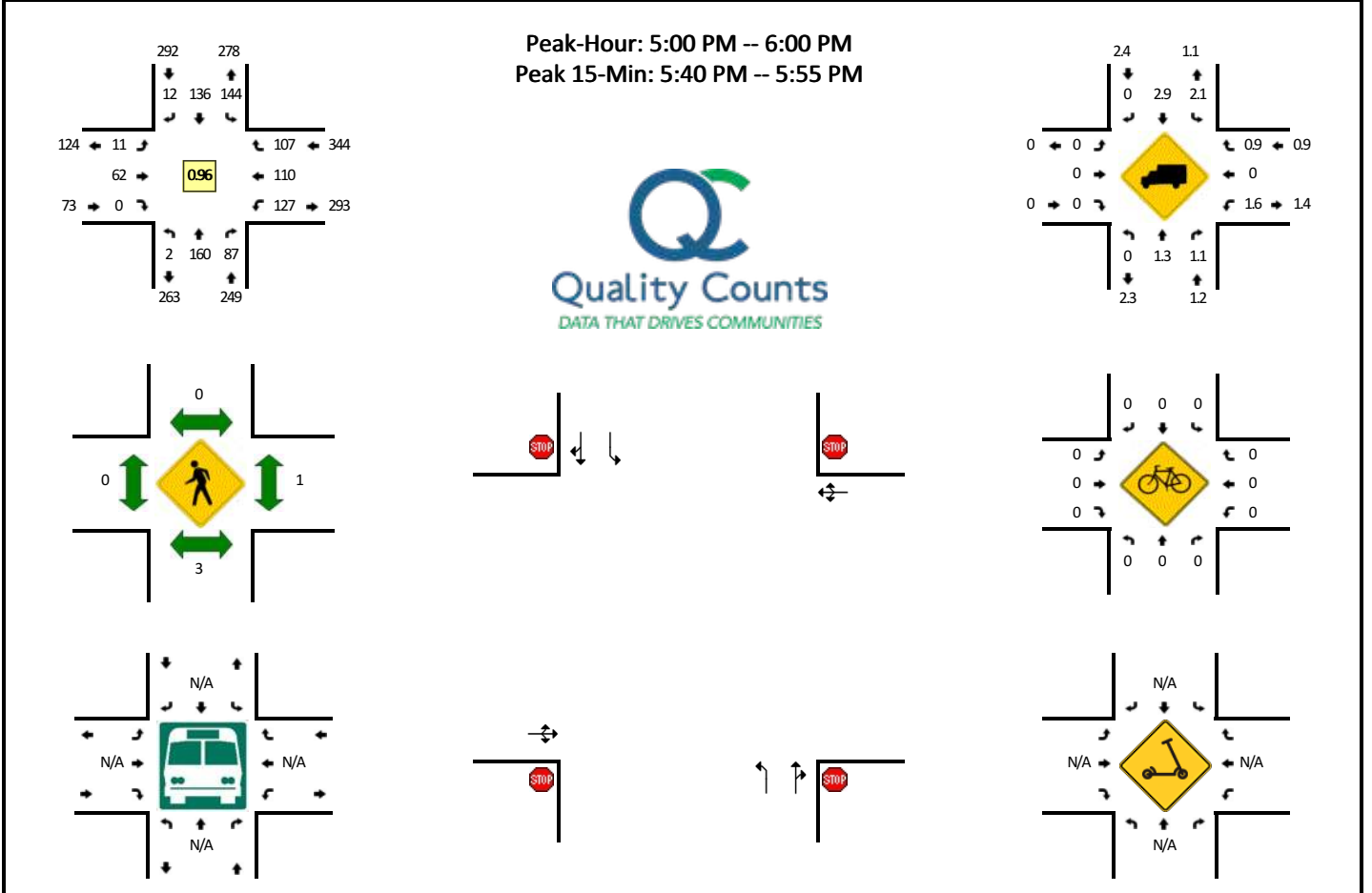
Comments:

Report generated on 5/27/2022 1:05 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 #: 15702408
DATE: Wed, Feb 9 2022



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	
Scoters																		

Comments:

Report generated on 5/27/2022 1:05 PM

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



(303) 216-2439
www.alltrafficdata.net

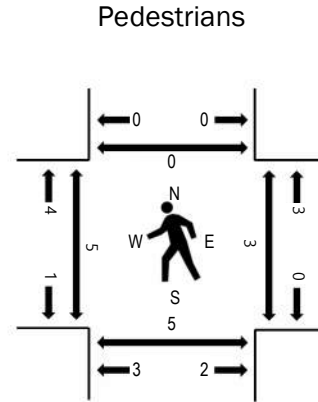
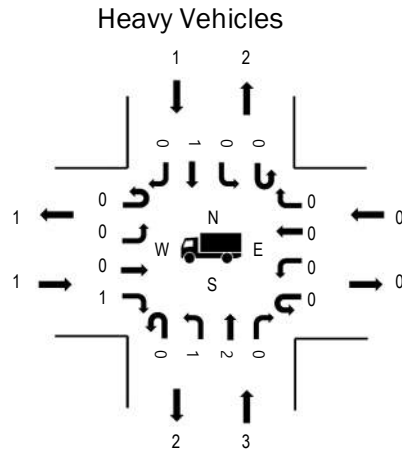
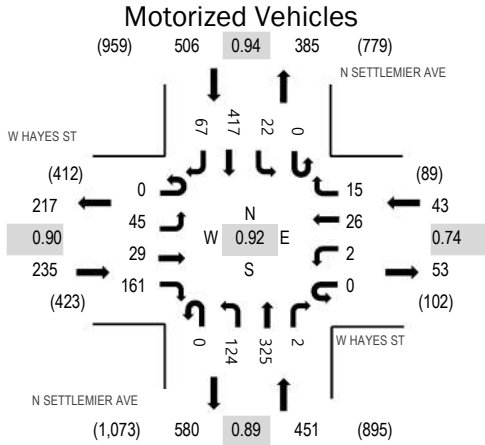
Location: 4 N SETTLEMIER AVE & W HAYES ST PM

Date: Wednesday, June 1, 2022

Peak Hour: 04:55 PM - 05:55 PM

Peak 15-Minutes: 05:25 PM - 05:40 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.4%	0.90
WB	0.0%	0.74
NB	0.7%	0.89
SB	0.2%	0.94
All	0.4%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	W HAYES ST Eastbound				W HAYES ST Westbound				N SETTLEMIER AVE Northbound				N SETTLEMIER AVE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	5	1	14	0	0	1	0	0	5	31	0	0	1	30	3	91	1,135
4:05 PM	0	3	1	14	0	0	3	2	0	8	29	0	0	2	48	6	116	1,135
4:10 PM	0	3	2	4	0	0	3	1	0	10	38	0	0	1	25	2	89	1,111
4:15 PM	0	3	2	6	0	0	2	0	0	8	27	2	0	1	32	7	90	1,132
4:20 PM	0	0	2	5	0	0	2	1	0	8	24	1	0	1	25	10	79	1,135
4:25 PM	0	6	1	7	0	0	3	2	0	5	26	0	0	2	40	5	97	1,167
4:30 PM	0	3	7	14	0	0	2	3	0	10	21	2	0	3	29	3	97	1,178
4:35 PM	0	4	3	14	0	0	1	1	0	10	37	0	0	1	31	5	107	1,188
4:40 PM	0	2	2	7	0	0	1	3	0	13	19	0	0	0	25	7	79	1,201
4:45 PM	0	4	2	13	0	0	3	4	0	6	26	0	0	4	23	9	94	1,220
4:50 PM	0	0	1	16	0	0	3	3	0	6	20	1	0	0	33	5	88	1,227
4:55 PM	0	4	3	20	0	0	2	1	0	5	33	0	0	2	34	4	108	1,235
5:00 PM	0	3	5	11	0	0	1	3	0	8	17	0	0	5	33	5	91	1,231
5:05 PM	0	3	1	7	0	0	3	0	0	13	25	0	0	0	30	10	92	
5:10 PM	0	3	0	21	0	0	1	0	0	13	28	0	0	3	32	9	110	
5:15 PM	0	7	0	15	0	0	1	0	0	4	25	0	0	2	34	5	93	
5:20 PM	0	2	3	16	0	1	3	3	0	12	31	0	0	4	30	6	111	
5:25 PM	0	6	6	13	0	0	2	0	0	9	34	1	0	2	31	4	108	
5:30 PM	0	5	1	15	0	0	4	2	0	12	22	0	0	0	38	8	107	
5:35 PM	0	2	2	14	0	0	2	3	0	13	34	0	0	0	47	3	120	
5:40 PM	0	8	2	12	0	0	3	2	0	15	17	0	0	1	33	5	98	
5:45 PM	0	0	2	10	0	1	3	0	0	13	33	1	0	0	35	3	101	
5:50 PM	0	2	4	7	0	0	1	1	0	7	26	0	0	3	40	5	96	
5:55 PM	0	4	2	11	0	0	1	1	0	13	38	0	0	1	27	6	104	
Count Total	0	82	55	286	0	2	51	36	0	226	661	8	0	39	785	135	2,366	
Peak Hour	0	45	29	161	0	2	26	15	0	124	325	2	0	22	417	67	1,235	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	3	0	0	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	1	0	1	0	2
4:10 PM	0	0	1	0	1	4:10 PM	3	0	0	0	3	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	2	0	0	0	2
4:20 PM	0	2	0	0	2	4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	1	1	0	0	2
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	1	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	1	0	1
4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0	4:45 PM	0	2	1	0	3
4:50 PM	0	0	0	0	0	4:50 PM	0	1	0	0	1	4:50 PM	0	1	0	0	1
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	2	0	0	0	2
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	1	0	0	1
5:05 PM	0	1	0	0	1	5:05 PM	0	0	0	0	0	5:05 PM	0	3	0	0	3
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	1	0	1	0	2
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	2	2	5:30 PM	1	0	0	0	1
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	1	0	0	0	1
5:45 PM	0	1	0	0	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	1	0	0	1	5:50 PM	0	1	0	0	1	5:50 PM	1	1	2	0	4
5:55 PM	1	1	0	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	10	1	4	17	Count Total	3	2	0	2	7	Count Total	10	10	6	0	26
Peak Hour	1	3	0	1	5	Peak Hour	0	1	0	2	3	Peak Hour	6	5	3	0	14

Location: 3 Harvard Dr & Evergreen Rd PM



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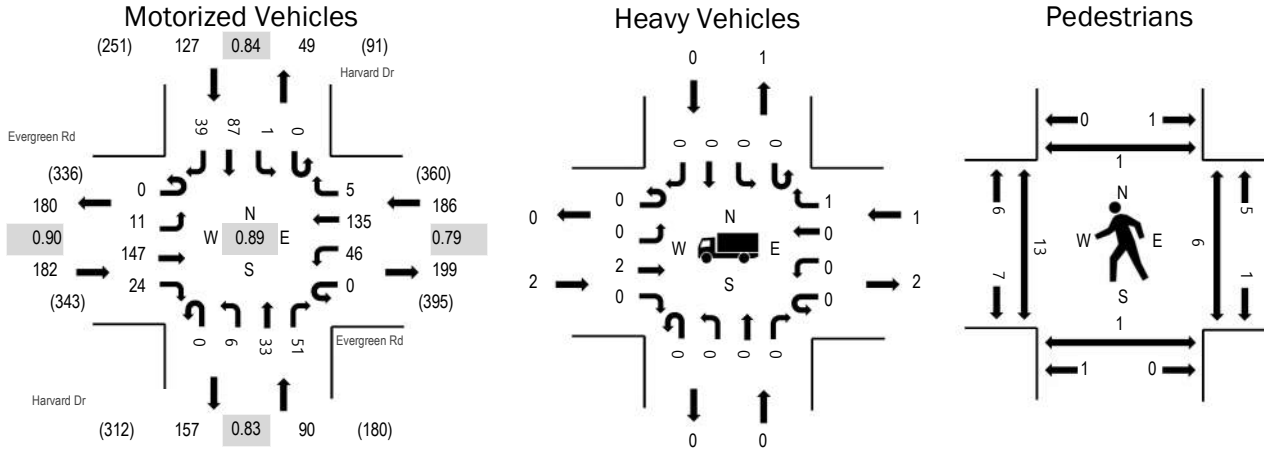
Location: 3 Harvard Dr & Evergreen Rd PM

Date: Tuesday, April 12, 2022

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:20 PM - 05:35 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.1%	0.90
WB	0.5%	0.79
NB	0.0%	0.83
SB	0.0%	0.84
All	0.5%	0.89

Traffic Counts - Motorized Vehicles

Interval Start Time	Evergreen Rd Eastbound				Evergreen Rd Westbound				Harvard Dr Northbound				Harvard Dr Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	3	13	2	0	10	12	0	0	0	5	8	0	0	9	1	63	550
4:05 PM	0	0	11	1	0	8	20	0	0	0	3	2	0	2	8	5	60	545
4:10 PM	0	0	6	2	0	1	5	0	0	1	4	5	0	1	4	4	33	522
4:15 PM	0	0	16	2	0	4	6	0	0	1	1	7	0	0	8	0	45	531
4:20 PM	0	1	12	1	0	7	11	1	0	0	2	3	0	1	7	2	48	534
4:25 PM	0	0	8	0	0	5	6	0	0	1	3	2	0	1	9	2	37	548
4:30 PM	0	1	10	3	0	1	8	0	0	1	1	4	0	0	5	5	39	562
4:35 PM	0	0	10	0	0	4	8	0	0	1	1	3	0	0	5	2	34	575
4:40 PM	0	0	8	1	0	5	11	2	0	1	3	2	0	1	7	1	42	583
4:45 PM	0	0	8	2	0	6	16	1	0	1	2	5	0	0	4	3	48	585
4:50 PM	0	2	13	2	0	3	18	0	0	0	3	4	0	0	7	4	56	584
4:55 PM	0	1	6	1	0	4	12	1	0	1	7	3	0	0	7	2	45	584
5:00 PM	0	0	15	1	0	3	13	0	0	1	3	5	0	0	10	7	58	584
5:05 PM	0	0	7	3	0	1	7	0	0	2	1	5	0	0	7	4	37	
5:10 PM	0	1	14	3	0	3	6	0	0	0	3	4	0	0	7	1	42	
5:15 PM	0	0	16	2	0	4	11	0	0	0	3	2	0	0	8	2	48	
5:20 PM	0	2	14	2	0	6	18	0	0	1	2	3	0	0	9	5	62	
5:25 PM	0	0	13	2	0	6	9	2	0	0	2	6	0	1	6	4	51	
5:30 PM	0	0	15	2	0	2	7	0	0	0	3	8	0	0	12	3	52	
5:35 PM	0	1	10	2	0	5	10	0	0	0	2	4	0	0	5	3	42	
5:40 PM	0	4	16	2	0	3	8	1	0	0	2	2	0	0	5	1	44	
5:45 PM	0	0	15	1	0	3	11	0	0	0	2	4	0	0	7	4	47	
5:50 PM	0	1	13	3	0	1	11	0	0	0	2	10	0	0	11	4	56	
5:55 PM	0	2	13	2	0	4	8	1	0	0	3	4	0	1	4	3	45	
Count Total	0	19	282	42	0	99	252	9	0	12	63	105	0	8	171	72	1,134	
Peak Hour	0	11	147	24	0	46	135	5	0	6	33	51	0	1	87	39	585	

Location: 3 Harvard Dr & Evergreen Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	0	1	4:00 PM	0	0	0	0	0	4:00 PM	1	4	0	0	5
4:05 PM	0	0	0	1	1	4:05 PM	0	0	0	0	0	4:05 PM	0	1	0	0	1
4:10 PM	1	0	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	1	0	0	1
4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	2	0	2
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	1	0	0	0	1
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	2	0	0	2
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	2	0	0	0	2
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	1	0	1
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	1	0	0	0	1
4:50 PM	1	0	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	1	0	0	0	1
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	3	0	0	0	3
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	5	0	5
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	2	0	0	0	2
5:20 PM	0	0	0	0	0	5:20 PM	1	0	0	0	1	5:20 PM	4	0	0	1	5
5:25 PM	0	0	1	0	1	5:25 PM	0	0	0	0	0	5:25 PM	2	1	1	0	4
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	1	0	1	2
5:40 PM	1	0	0	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	1	0	1	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	5	0	0	0	5
Count Total	6	0	1	1	8	Count Total	1	0	0	0	1	Count Total	23	10	10	2	45
Peak Hour	2	0	1	0	3	Peak Hour	1	0	0	0	1	Peak Hour	13	2	6	2	23

Location: 2 Butteville Rd NE & Parr Rd NE PM



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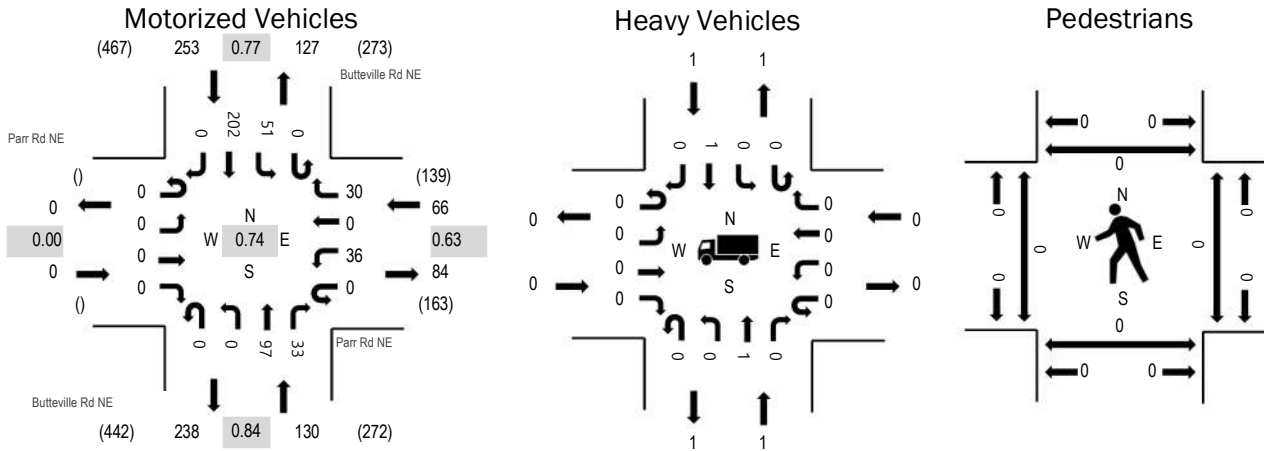
Location: 2 Butteville Rd NE & Parr Rd NE PM

Date: Tuesday, April 12, 2022

Peak Hour: 04:25 PM - 05:25 PM

Peak 15-Minutes: 05:10 PM - 05:25 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.63
NB	0.8%	0.84
SB	0.4%	0.77
All	0.4%	0.74

Traffic Counts - Motorized Vehicles

Interval Start Time	Parr Rd NE Eastbound				Parr Rd NE Westbound				Butteville Rd NE Northbound				Butteville Rd NE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	5	0	6	0	0	7	2	0	5	13	0	38	434
4:05 PM	0	0	0	0	0	4	0	2	0	0	9	5	0	3	19	0	42	426
4:10 PM	0	0	0	0	0	4	0	11	0	0	9	3	0	4	14	0	45	417
4:15 PM	0	0	0	0	0	5	0	2	0	0	15	3	0	9	12	0	46	424
4:20 PM	0	0	0	0	0	1	0	1	0	0	8	3	0	3	13	0	29	436
4:25 PM	0	0	0	0	0	3	0	2	0	0	7	3	0	4	19	0	38	449
4:30 PM	0	0	0	0	0	1	0	3	0	0	5	5	0	2	12	0	28	443
4:35 PM	0	0	0	0	0	2	0	6	0	0	6	1	0	3	15	0	33	449
4:40 PM	0	0	0	0	0	2	0	1	0	0	4	2	0	7	19	0	35	441
4:45 PM	0	0	0	0	0	1	0	0	0	0	11	0	0	3	13	0	28	434
4:50 PM	0	0	0	0	0	2	0	0	0	0	8	4	0	3	16	0	33	443
4:55 PM	0	0	0	0	0	2	0	4	0	0	6	2	0	6	19	0	39	446
5:00 PM	0	0	0	0	0	3	0	2	0	0	9	3	0	3	10	0	30	444
5:05 PM	0	0	0	0	0	0	0	4	0	0	9	2	0	2	16	0	33	
5:10 PM	0	0	0	0	0	6	0	5	0	0	8	2	0	10	21	0	52	
5:15 PM	0	0	0	0	0	6	0	0	0	0	14	5	0	5	28	0	58	
5:20 PM	0	0	0	0	0	8	0	3	0	0	10	4	0	3	14	0	42	
5:25 PM	0	0	0	0	0	4	0	5	0	0	7	3	0	4	9	0	32	
5:30 PM	0	0	0	0	0	0	0	2	0	0	11	2	0	2	17	0	34	
5:35 PM	0	0	0	0	0	1	0	1	0	0	8	3	0	2	10	0	25	
5:40 PM	0	0	0	0	0	3	0	2	0	0	7	3	0	5	8	0	28	
5:45 PM	0	0	0	0	0	4	0	2	0	0	9	4	0	1	17	0	37	
5:50 PM	0	0	0	0	0	1	0	3	0	0	7	2	0	3	20	0	36	
5:55 PM	0	0	0	0	0	1	0	3	0	0	9	3	0	2	19	0	37	
Count Total	0	0	0	0	0	69	0	70	0	0	203	69	0	94	373	0	878	
Peak Hour	0	0	0	0	0	36	0	30	0	0	97	33	0	51	202	0	449	

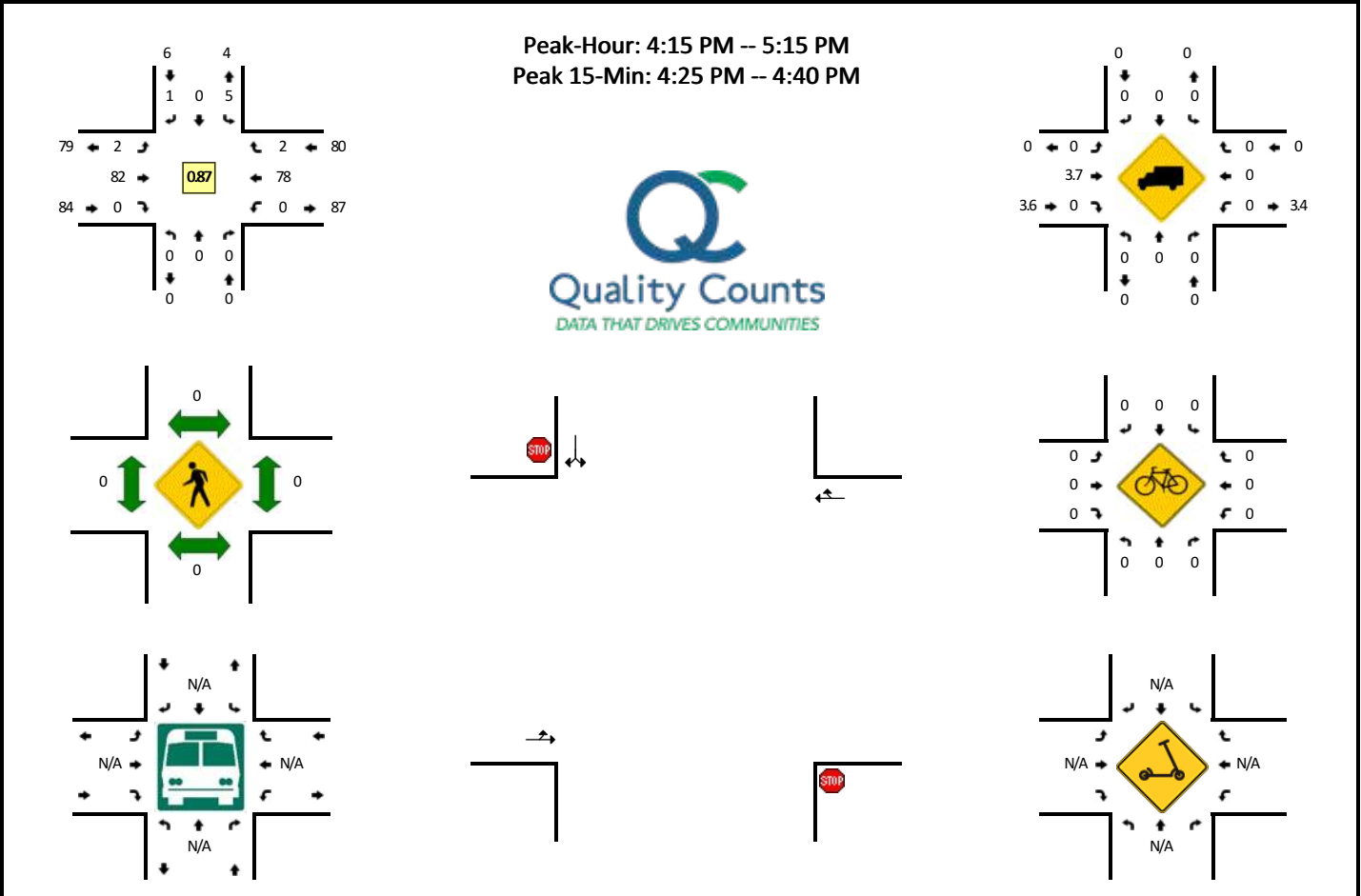
Location: 2 Butteville Rd NE & Parr Rd NE PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	1	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	1	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	1	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	1	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	3	1	4	8	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	1	0	1	2	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

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

QC JOB #: 15682702
DATE: Wed, Jan 19 2022

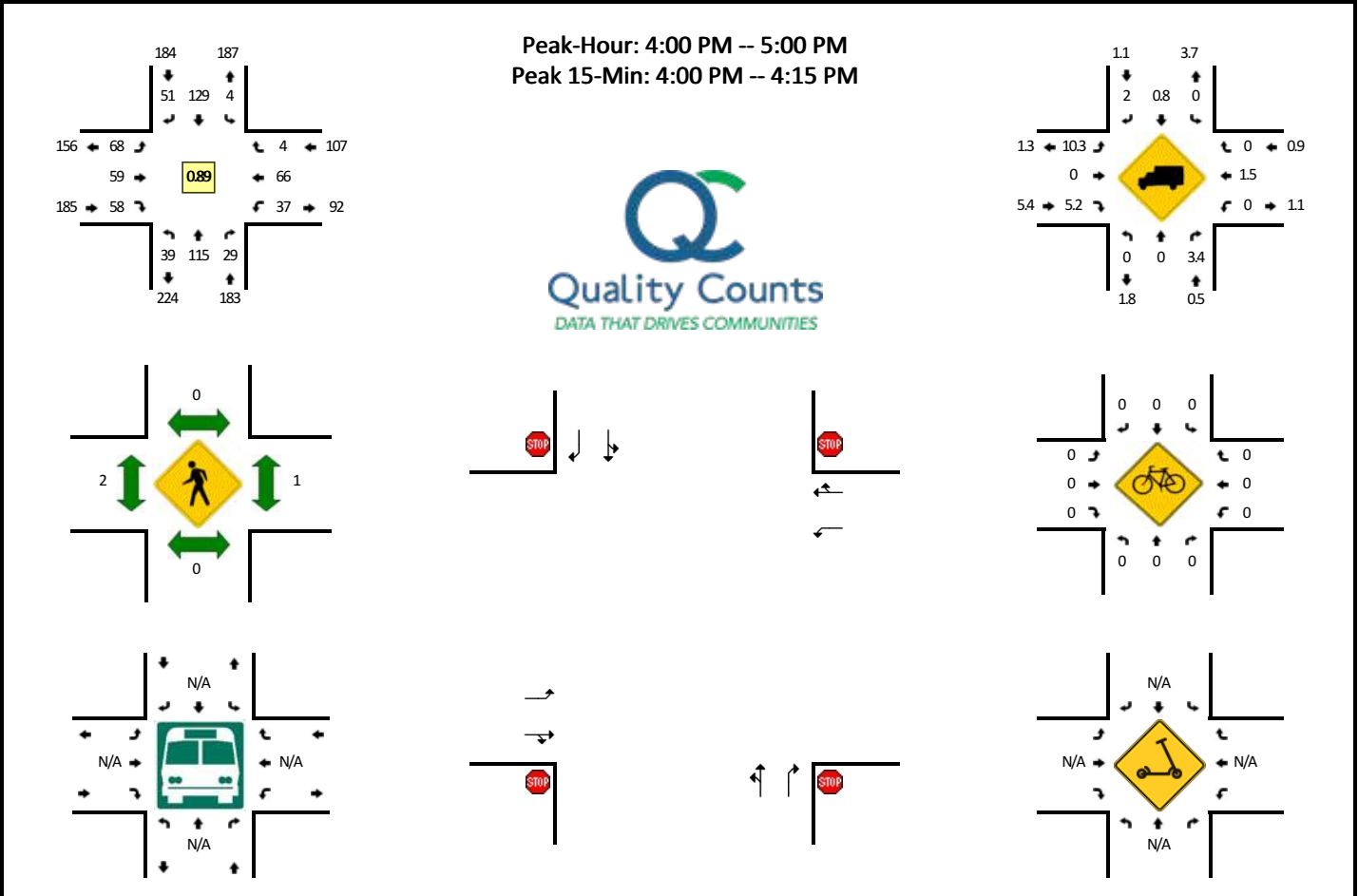


5-Min Count Period Beginning At	Stubb Rd NE (Northbound)				Stubb Rd NE (Southbound)				Parr Rd NE (Eastbound)				Parr Rd NE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	9	0	0	18	
4:05 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5	
4:10 PM	0	0	0	0	0	0	0	0	1	8	0	0	0	6	0	0	15	
4:15 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	5	0	0	14	
4:20 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	1	0	8	
4:25 PM	0	0	0	0	1	0	0	0	0	10	0	0	0	11	0	0	22	
4:30 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	5	0	0	8	
4:35 PM	0	0	0	0	1	0	0	0	1	10	0	0	0	7	0	0	19	
4:40 PM	0	0	0	0	1	0	1	0	0	6	0	0	0	4	0	0	12	
4:45 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	12	
4:50 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	9	0	0	18	
4:55 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	7	0	0	9	160
5:00 PM	0	0	0	0	0	0	0	0	0	8	0	0	0	8	0	0	16	158
5:05 PM	0	0	0	0	0	0	0	0	0	8	0	0	0	4	1	0	13	166
5:10 PM	0	0	0	0	1	0	0	0	1	9	0	0	0	8	0	0	19	170
5:15 PM	0	0	0	0	1	0	0	0	3	3	0	0	0	6	0	0	13	169
5:20 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	2	0	0	9	170
5:25 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	2	0	0	11	159
5:30 PM	0	0	0	0	0	0	0	0	0	8	0	0	0	9	0	0	17	168
5:35 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	5	154
5:40 PM	0	0	0	0	1	0	0	0	1	9	0	0	0	3	1	0	15	157
5:45 PM	0	0	0	0	0	0	0	0	0	16	0	0	0	8	1	0	25	170
5:50 PM	0	0	0	0	1	0	0	0	0	7	0	0	0	5	2	0	15	167
5:55 PM	0	0	0	0	2	0	0	0	0	5	0	0	0	2	1	0	10	168
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	12	0	0	0	4	88	0	0	0	92	0	0	196	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

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

QC JOB #: 15682704
DATE: Wed, Jan 19 2022



5-Min Count Period Beginning At	S Boones Ferry Rd/Settlemier Ave (Northbound)				S Boones Ferry Rd/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		
4:00 PM	4	9	4	0	1	14	3	0	3	10	6	0	3	5	0	0	62	
4:05 PM	3	9	6	0	0	14	4	0	11	4	7	0	4	4	0	0	66	
4:10 PM	2	12	3	0	1	11	3	0	5	3	7	0	4	6	0	0	57	
4:15 PM	3	10	3	0	1	9	4	0	7	9	6	0	3	5	0	0	60	659
4:20 PM	3	13	1	0	0	16	3	0	5	2	7	0	5	10	0	0	65	
4:25 PM	3	7	1	0	0	11	1	0	4	8	3	0	3	6	0	0	47	
4:30 PM	5	5	1	0	1	5	7	0	4	4	2	0	3	3	0	0	40	
4:35 PM	0	11	1	0	0	11	7	0	5	4	5	0	3	4	0	0	51	
4:40 PM	5	9	0	0	0	6	3	0	5	5	5	0	2	6	0	0	46	
4:45 PM	3	9	2	0	0	13	3	0	7	3	2	0	3	7	2	0	54	
4:50 PM	6	6	2	0	0	5	8	0	6	2	4	0	0	5	1	0	45	
4:55 PM	2	15	5	0	0	14	5	0	6	5	4	0	4	5	1	0	66	
5:00 PM	4	12	3	0	2	6	10	0	2	6	4	0	3	5	1	0	58	
5:05 PM	7	9	1	0	0	13	7	0	2	3	8	0	0	8	1	0	59	648
5:10 PM	4	7	5	0	0	12	3	0	7	2	8	0	3	3	0	0	54	645
5:15 PM	2	11	3	0	0	7	3	0	2	6	0	0	3	8	0	0	45	630
5:20 PM	4	6	4	0	0	10	3	0	3	6	7	0	6	4	0	0	53	618
5:25 PM	4	11	3	0	0	8	4	0	2	3	3	0	4	4	0	0	46	617
5:30 PM	10	9	3	0	0	9	5	0	1	3	1	0	4	2	0	0	47	624
5:35 PM	3	12	3	0	0	14	7	0	4	1	4	0	0	5	0	0	53	626
5:40 PM	7	14	2	0	0	10	2	0	3	6	1	0	5	4	1	0	55	635
5:45 PM	5	4	4	0	0	6	4	0	3	11	8	0	4	4	0	0	53	634
5:50 PM	3	6	1	0	1	10	3	0	3	6	8	0	1	8	0	0	50	639
5:55 PM	4	2	2	0	0	7	2	0	3	5	3	0	4	3	1	0	36	609
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	36	120	52	0	8	156	40	0	76	68	80	0	44	60	0	0	740	
Heavy Trucks	0	0	4		0	0	4		12	0	0		0	0	0		20	
Buses																		
Pedestrians		0				0				4				0			4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

The anticipated distribution of site traffic is assumed to be:

- 30 percent to/from the west on Parr Road NE
 - 15 percent to/from the north on I-5
 - 10 percent to/from the south on I-5
 - 5 percent to/from destinations west of I-5
- 20 percent to/from the east on Parr Road NE
 - 5 percent to/from the north on S Settlemeier Avenue
 - 15 percent to/from the north on S Front Street
- 50 percent to/from the north on Stubbs Road SE
 - 30 percent to/from the north on I-5
 - 20 percent to/from the south on I-5

With this distribution, no more than 24 to 32 trips would be added to any roadway during the morning or evening peak hour.

Crash History

Using data obtained from ODOT's Crash Data System, a review of five years of the most recent available crash history (January 2015 through December 2019) was performed along Parr Road NE. Seven crashes occurred on the section within the Woodburn city limits and four crashes occurred on the section in Marion County. No crashes were reported at Stubbs Road NE and none were reported along the site frontage.

Access Spacing

Parr Road NE is under Marion County jurisdiction west of Harvest Way and under City of Woodburn jurisdiction between Harvest Way and S Settlemeier Road. The Woodburn Transportation System Plan² (TSP) classifies Parr Road NE as a Service Collector within the city's Urban Growth Boundary (UGB) while the Marion County TSP³ classifies it as a Minor Collector outside of the UGB.

According to the Woodburn Development Ordinance (WDO) Section 3.04.03, a minimum of two driveways shall be provided in developments with 30 dwelling units in single-family dwellings. WDO Table 3.04A indicates driveway spacing on a Service Collector shall be a minimum of 50 feet with a footnote indicating that spacing should be maximized.

As stated in the Marion County TSP Table 10-1, spacing standards for a Minor Collector are 300 feet from any intersection with an arterial or state highway and 150 feet from any other intersection, including a private access.

The proposed development includes one driveway aligned opposite Stubbs Road NE. The second driveway will be located approximately 440 feet east of Stubbs Road NE, as measured centerline-to-centerline, and approximately 400 feet west of the entrance to Centennial Park. The driveway serving the parcel to the west of

² Woodburn Transportation System Plan, Final September 2019

³ Marion County Rural Transportation System Plan 2005 Update



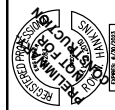
908 PARR ROAD NE
 MARION COUNTY
 TAXLOT 052W13000800
 GERVAIS, OR 97026
 OREGON

TENTATIVE SITE PLAN

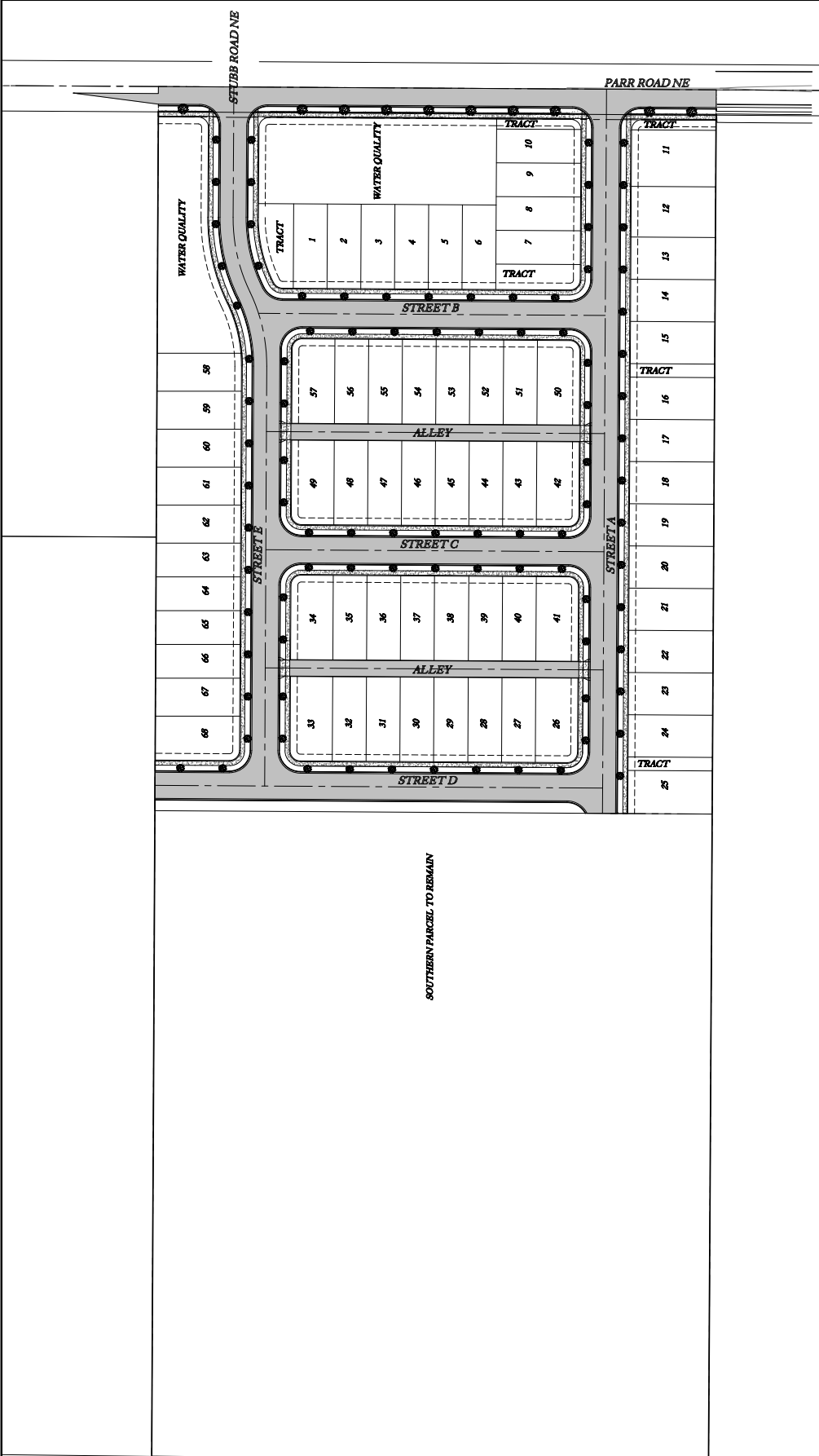
NO.	DATE	DESCRIPTION



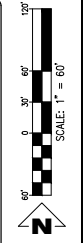
1600 WALLEY RIVER DRIVE, SUITE 100
 EUGENE, OREGON 97401
 TEL: (503) 464-8812
 FAX: (503) 459-0552
 www.emeriodesign.com



SHEET
 P4.0 OF 8



- STREET TREE PLANTING NOTES**
- ONE TREE PER EVERY ENTIRE 50 FEET OF STREET FRONTAGE SHALL BE PLANTED WITHIN THE RIGHT-OF-WAY, SUBJECT TO VISION CLEARANCE AREA STANDARDS AND PLACEMENT OF PUBLIC UTILITIES.
 - MEDIUM TREES SHALL BE PLANTED ALONG THE PARR ROAD NE FRONTAGE.
 - SMALL TREES SHALL BE PLANTED ALONG ALL OTHER NEW LOCAL RESIDENTIAL STREETS.





TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use: Single-Family Detached Housing
Land Use Code: 210
Land Use Subcategory: All Sites
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Trip Type: Vehicle
Variable Quantity: **68**

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	26%	74%	
Trip Ends	12	36	48

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	40	24	64

WEEKDAY

Trip Rate: 9.43

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	321	321	642

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	322	322	644



Site Trips

Trip Generation

To estimate the number of trips that will be generated by the site, trip rates from the *Trip Generation Manual*² were used. Trip rates for land-use code #221, *Multi-Family Housing (Mid-Rise)*, were used to estimate the trip generation based on the number of proposed dwelling units.

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. The trip generation calculation results are summarized in Table 3.

Table 3 - Trip Generation Summary

Land Use Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
		In	Out	Total	In	Out	Total	
221 – Multifamily Housing (Mid-Rise)	586 units	55	156	211	157	101	258	3,188

Trip Distribution

The directional distribution of site trips to and from the proposed development was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections. Since a significant number of parking is provided along the eastern edge of the site, it is anticipated that 70% of site trips will enter/exit the site via Hooper Street and 30% of site trips will enter/exit the site via Stacey Allison Way. The following trip distribution was estimated and used for analysis:

- Approximately 50% of site trips will travel to/from the north along Interstate 5.
- Approximately 20% of site trips will travel to/from the east along OR 214.
- Approximately 10% of site trips will travel to/from the south along Interstate 5.
- Approximately 10% of site trips will travel to/from the west along OR 214.
- Approximately 5% of site trips will travel to/from the east along Hayes Street.
- Approximately 5% of site trips will travel to/from the retail and restaurants near Stacey Allison Way and Lawson Avenue.

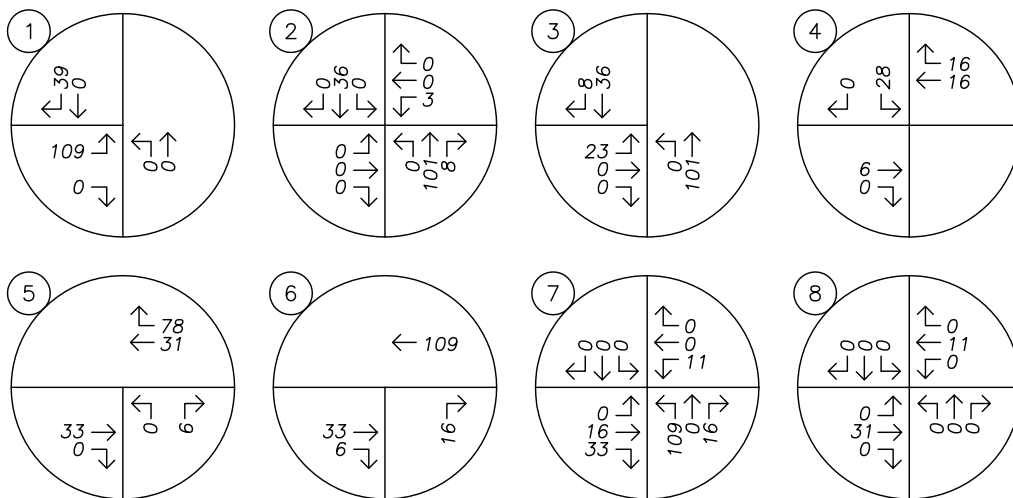
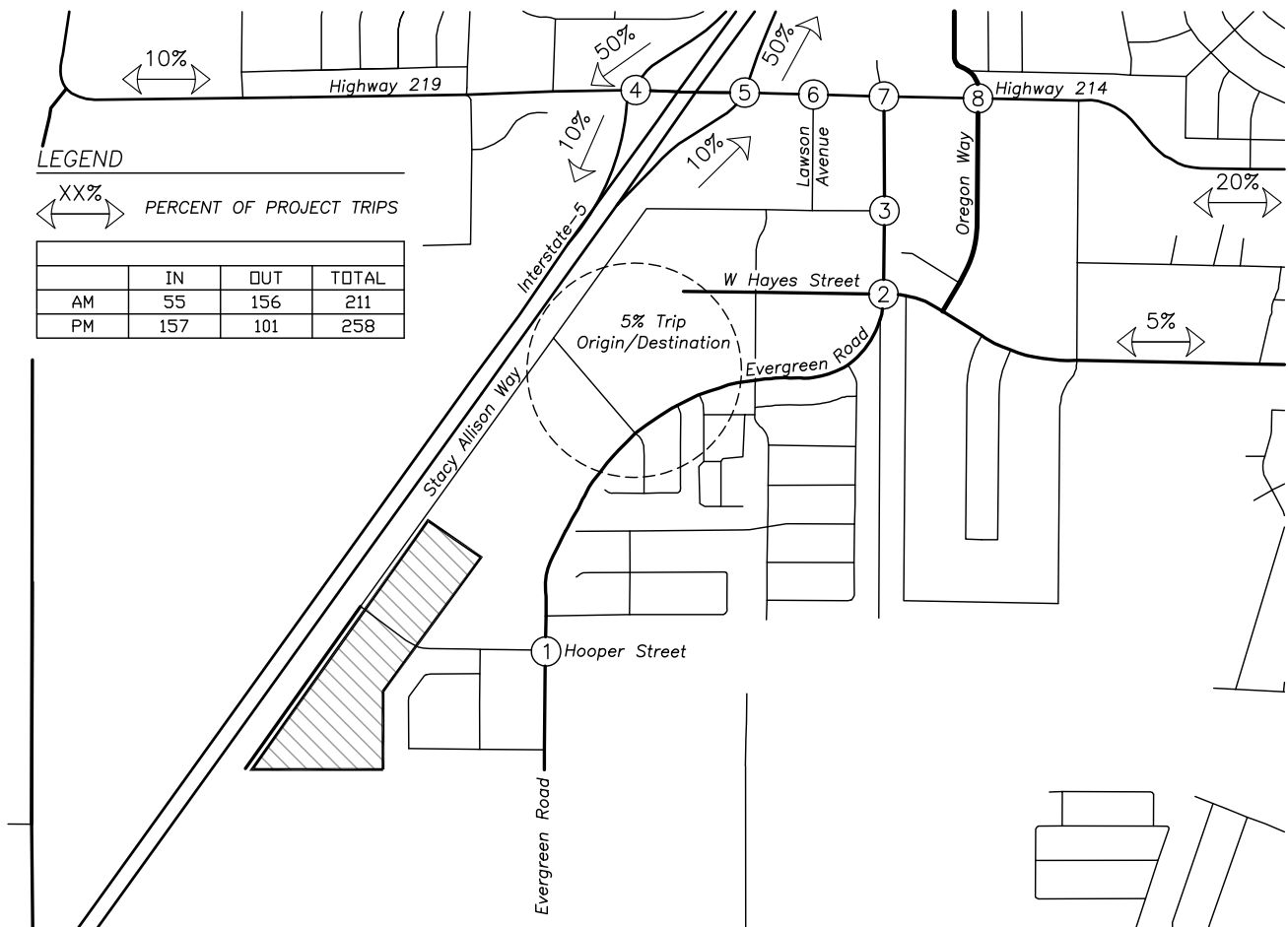
The site trip assignment and distribution for Phase 1 during the morning and evening peak hours is shown in Figure 3 on page 8 and Figure 4 on page 9, respectively. The site trip assignment and distribution for Phase 1

² Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.

LEGEND

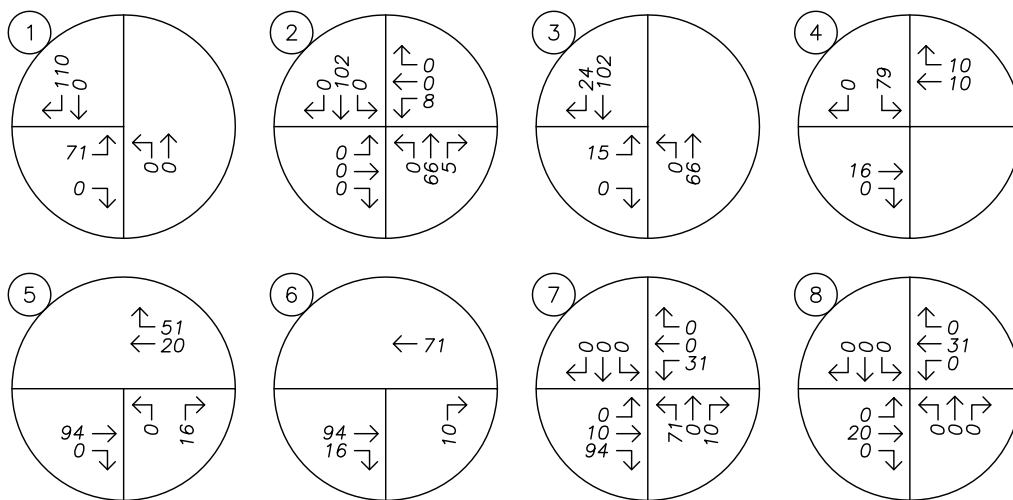
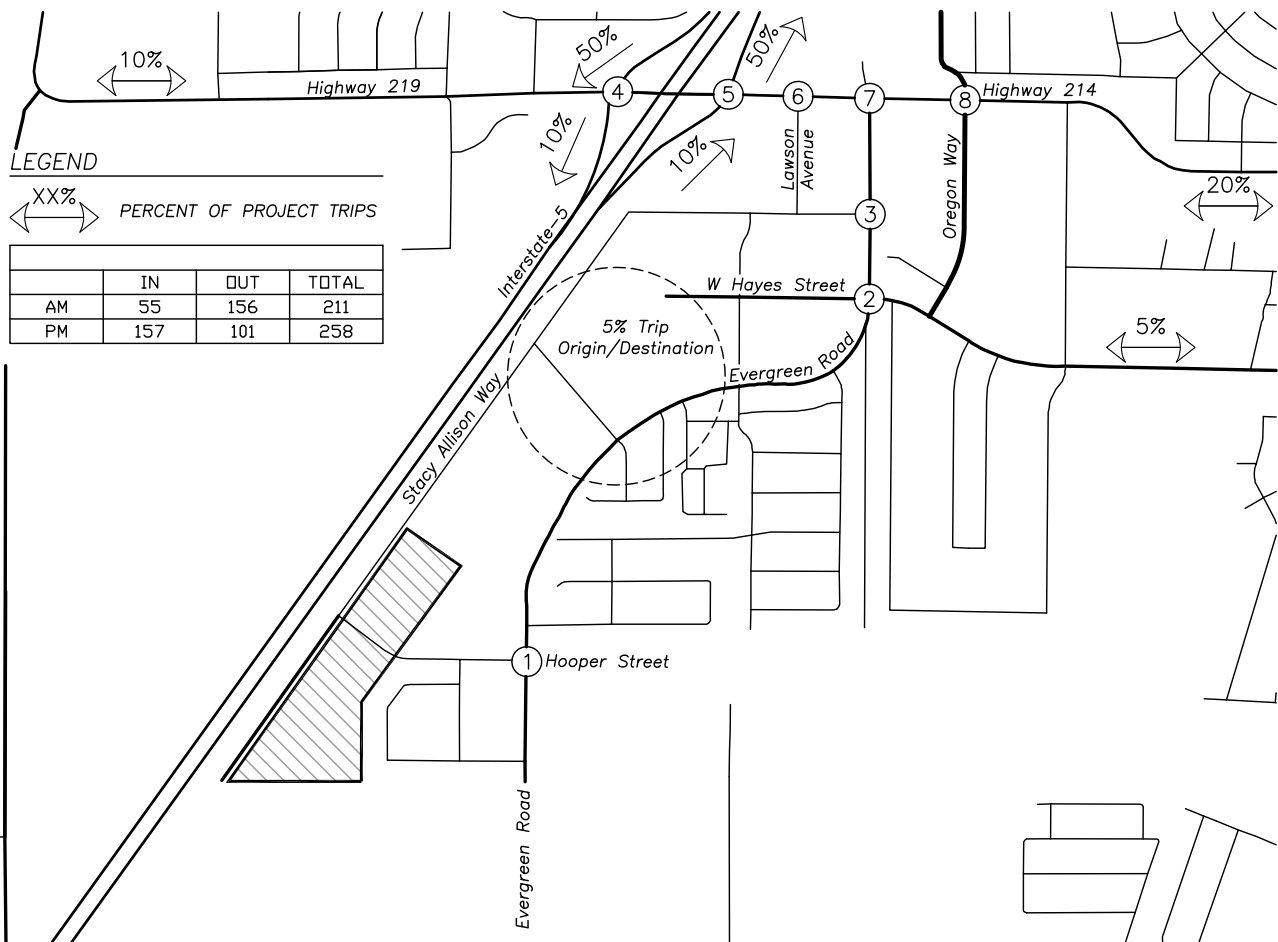
XX% PERCENT OF PROJECT TRIPS

	IN	OUT	TOTAL
AM	55	156	211
PM	157	101	258



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





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



Trip Generation Estimate

Trip generation estimates are typically based on data derived from *Trip Generation, 10th Edition*, published by the Institute of Transportation Engineers (ITE). Project Basie will be used for storage and consolidation of products prior to their larger regional and local distribution and would be considered a “sortable” facility. The ITE land use that most closely matches this function is “High-Cube Fulfillment Center Warehouse” (Land Use 155). Table 9 provides the estimated trip generation using ITE data.

Table 9 - Estimated Trip Generation (ITE) – High Cube Fulfillment Center (Sortable)

Land Use	ITE Code	Size	Weekday Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
High-Cube Fulfillment Center Warehouse	155	3,849,000 sq. ft.	23,640	1,705	853	852	3,959	1,980	1,979

In reviewing Table 9, it is important to note that these ITE rates are based on one or two study sites (depending on the analysis period) with a facility square footage that is significantly smaller than the proposed 3.849 million square foot Project Basie facility. In consultation with the Project Basie tenant, it was determined that the application of the Land Use 155 rates would significantly overestimate the daily and peak hour trip profile of the site.

Instead, the Project Basie tenant supplied a detailed employee and truck arrival/departure profile that was developed specifically for the proposed site, taking into consideration the size of the building, its geographic location and relation to other in-network distribution facilities, the finite processing capabilities of the facility, internal automation technology, anticipated employee levels, and site-specific work schedules. These variables are based on operational experience at other facilities with similar functions nationwide. A detailed summary of this profile is included in *Appendix G* along with additional trip generation information requested by City of Woodburn staff. As shown, the proposed site is anticipated to be a 24-hour facility with multiple shift change patterns. In particular, there are two key shift change periods that are anticipated to occur near the typical weekday AM and PM peak periods:

- 6:30-7:30 AM which accounts for the peak arrival period for the dayshift.
- 5:30-6:30 PM which accounts for peak dayshift departure period and the peak nightshift arrival period.

These shift change periods represent what ITE defines as “the Peak Hour of the Generator”. The resulting trip profile is summarized in Table 10 below.

Table 10 - Project Basie - Peak Hour of the Generator Trip Generation Estimate

Land Use	Size	Trip Type	Weekday Daily Trips	Weekday AM Peak Hour of Generator Trips (6:30-7:30 AM)			Weekday PM Peak Hour of Generator Trips (5:30-6:30 PM)		
				Total	In	Out	Total	In	Out
Project Basie	937 employees per shift	Employees	3,558	676	648	28	1,156	573	583
		Trucks	612	26	13	13	20	10	10
		Total	4,170	702	661	41	1,176	583	593

Source: Tenet supplied employee and freight arrival/departure schedule. See Appendix G.

Note: The trip generation profile in Table 10 is consistent with the proposed 3.849 million square foot facility. The square footage identified in the 4/16/21 Scoping Memo was incorrectly stated.

In addition to the Peak Hour of the Generator, the traffic counts along the OR 219 study corridor revealed that Woodburn’s street system has different peak time periods than reflected in Table 10. In particular, the weekday AM peak hour in Woodburn has been found to occur from 7:00-8:00 AM while the weekday PM system peak hour has been found to occur from 4:30-5:30 PM. The resulting trip profile for the proposed building during these times is shown in Table 11.

Table 11 - Project Basie - Peak Hour of the System Trip Generation Estimate

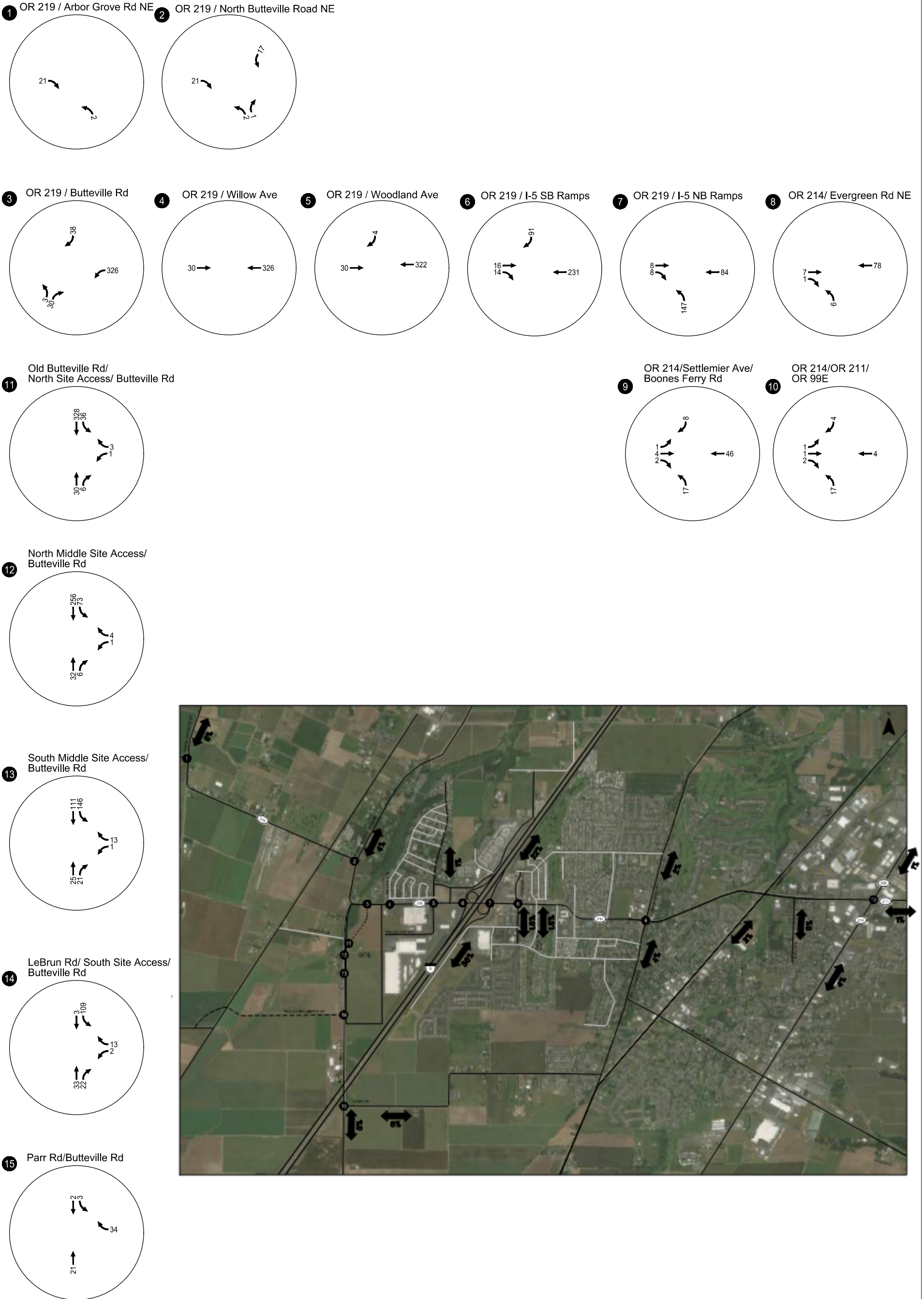
Land Use	Size	Trip Type	Weekday Daily Trips	Weekday AM Peak Hour of the System Trips (7:00-8:00 AM)			Weekday PM Peak Hour of the System Trips (4:30-5:30 PM)		
				Total	In	Out	Total	In	Out
Project Basie	937 employees per shift	Employees	3,558	427	404	23	154	93	61
		Trucks	612	30	15	15	22	11	11
		Total	4,170	457	419	38	176	104	72

Source: Tenet supplied employee and freight arrival/departure schedule. See Appendix G.

Note: The trip generation profile in Table 11 is consistent with the proposed 3.849 million square foot facility. The square footage identified in the 4/16/21 Scoping Memo was incorrectly stated.

Site Trip Distribution/Trip Assignment

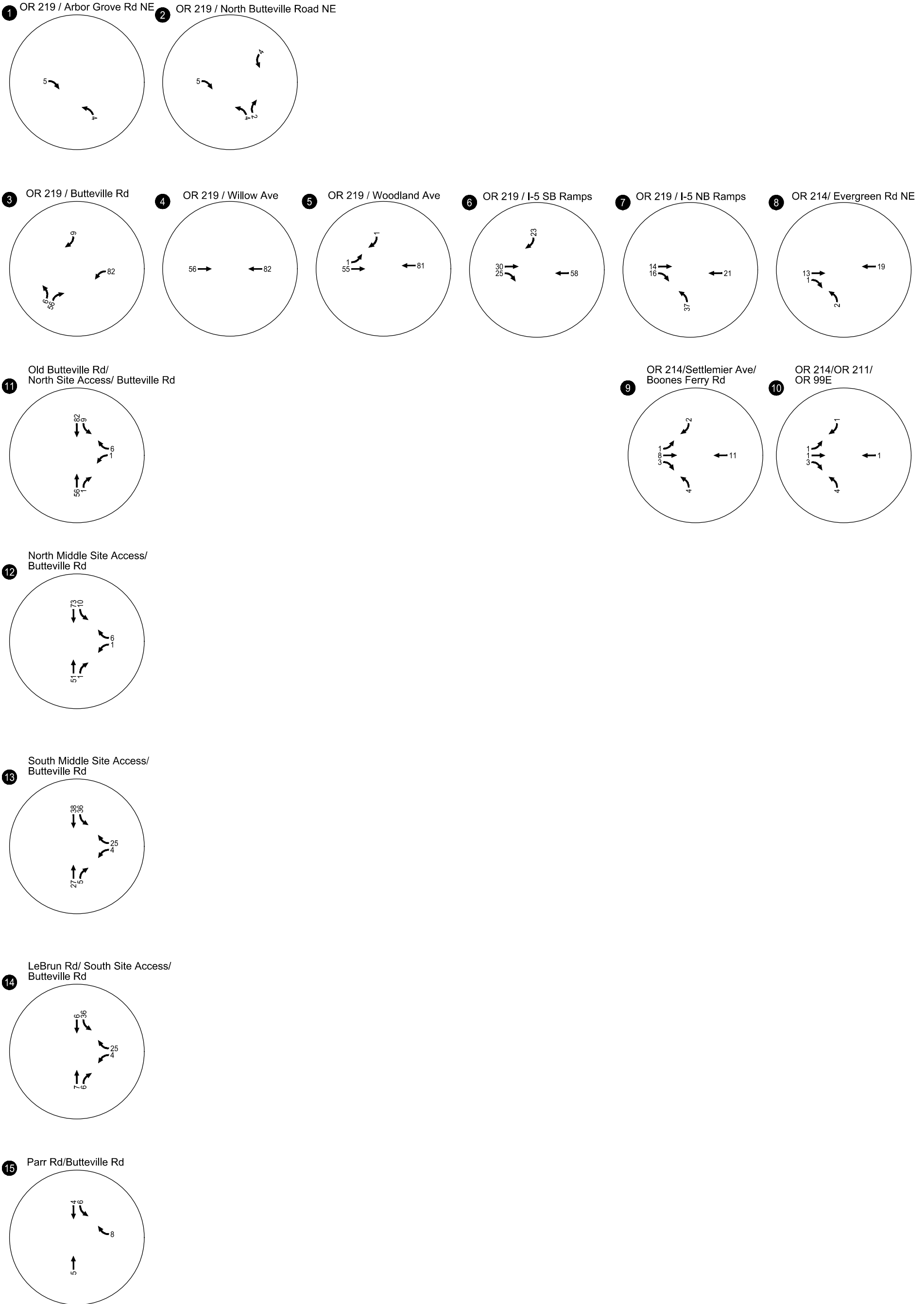
A trip distribution pattern was identified for the proposed fulfillment center, taking into consideration the number of anticipated jobs that will be provided by the development, the site’s location with respect to both the city and other population centers in the Willamette Valley. In addition to these factors, US Census OnTheMap (<https://onthemap.ces.census.gov/>) data was consulted which identifies statistics about the origins of workers who are employed in the Woodburn area (see Appendix H for a more detailed summary of the census employee origin data for Woodburn). Using a combination of these factors and based on preliminary scoping feedback from City, County, and ODOT staff, a refined trip distribution pattern was developed for the site. The trip distribution pattern and resulting assignment of weekday AM and PM peak period site-generated trips to the study intersections and site driveways is illustrated in Figures 13-16.



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

Figure
13

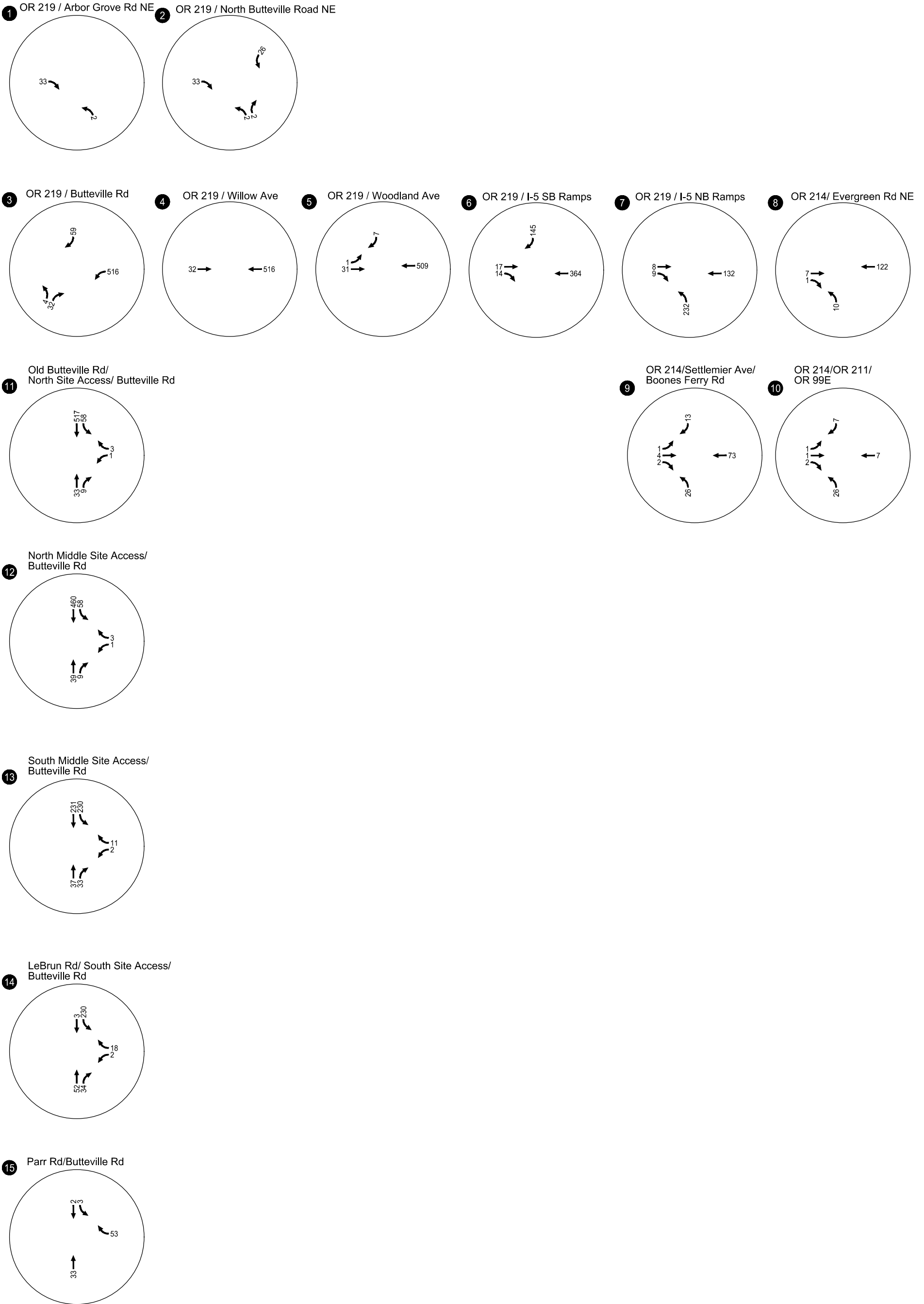
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Site-Generated Trips
System Peak Hour (4:30 PM to 5:30 PM)
Woodburn, OR

Figure
14

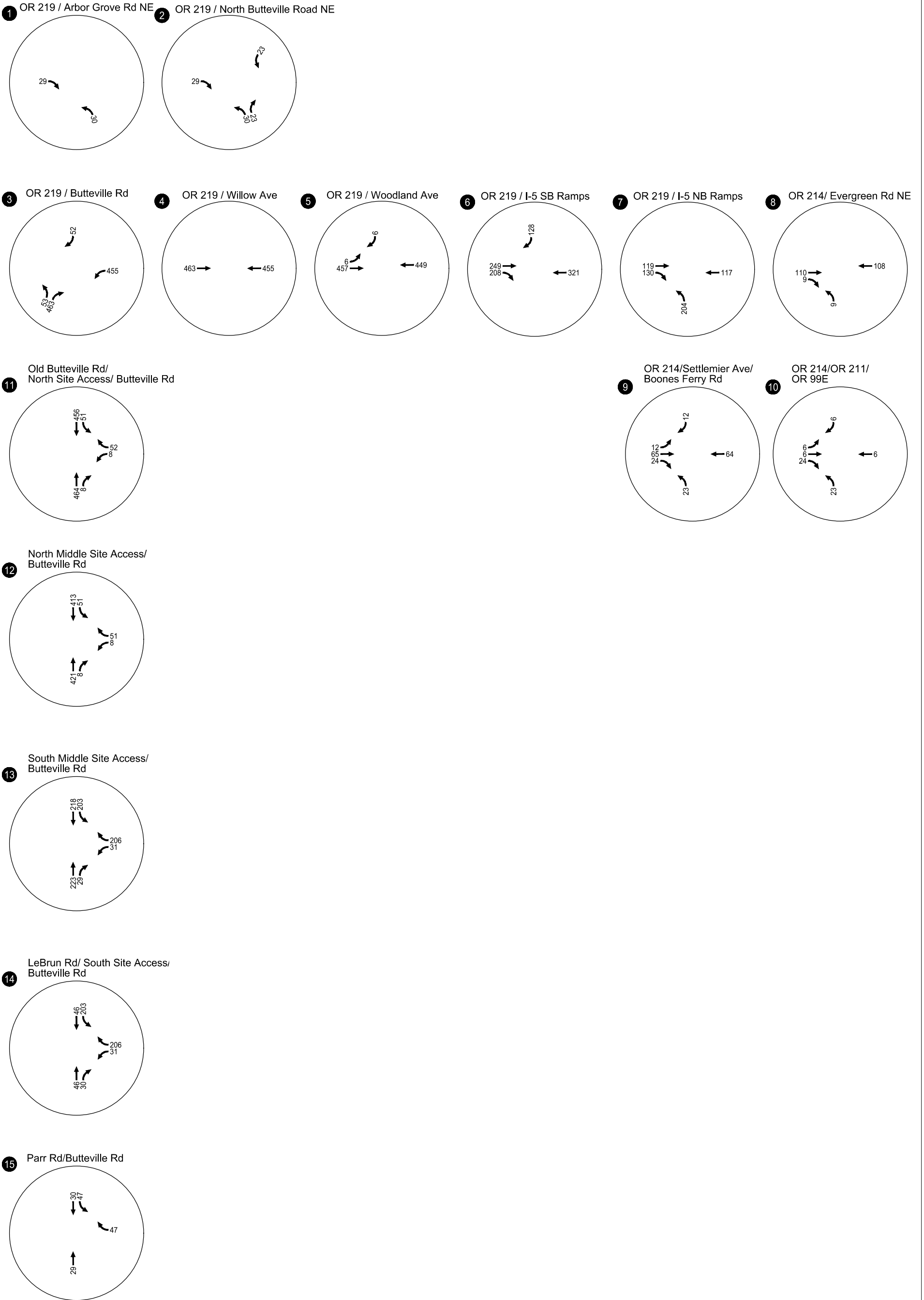
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Site-Generated Trips
Peak Hour of Generator (6:30 AM to 7:30 AM)
Woodburn, OR

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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Site Trips

This section quantifies the trips from the proposed development and discusses how they will be distributed through the study-area intersections.

Trip Generation

To estimate the number of trips that will be generated by the site, trip rates from the *Trip Generation Manual*¹ were used. Trip rates for land-use code #210, Single Family Detached Housing, was used to estimate the trip generation for the proposed development.

The trip generation calculations show that the proposed use of the site will generate 108 trips during the morning peak hour, 145 trips during the evening peak hour, and 1,378 trips on a typical weekday. A summary of the trip generation is shown in Table 3.

Table 3: Trip Generation Summary

Land Use – ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
		In	Out	Total	In	Out	Total	
Single Family Detached Housing - 210	154 lots	29	85	114	96	56	152	1,454

Trip Distribution

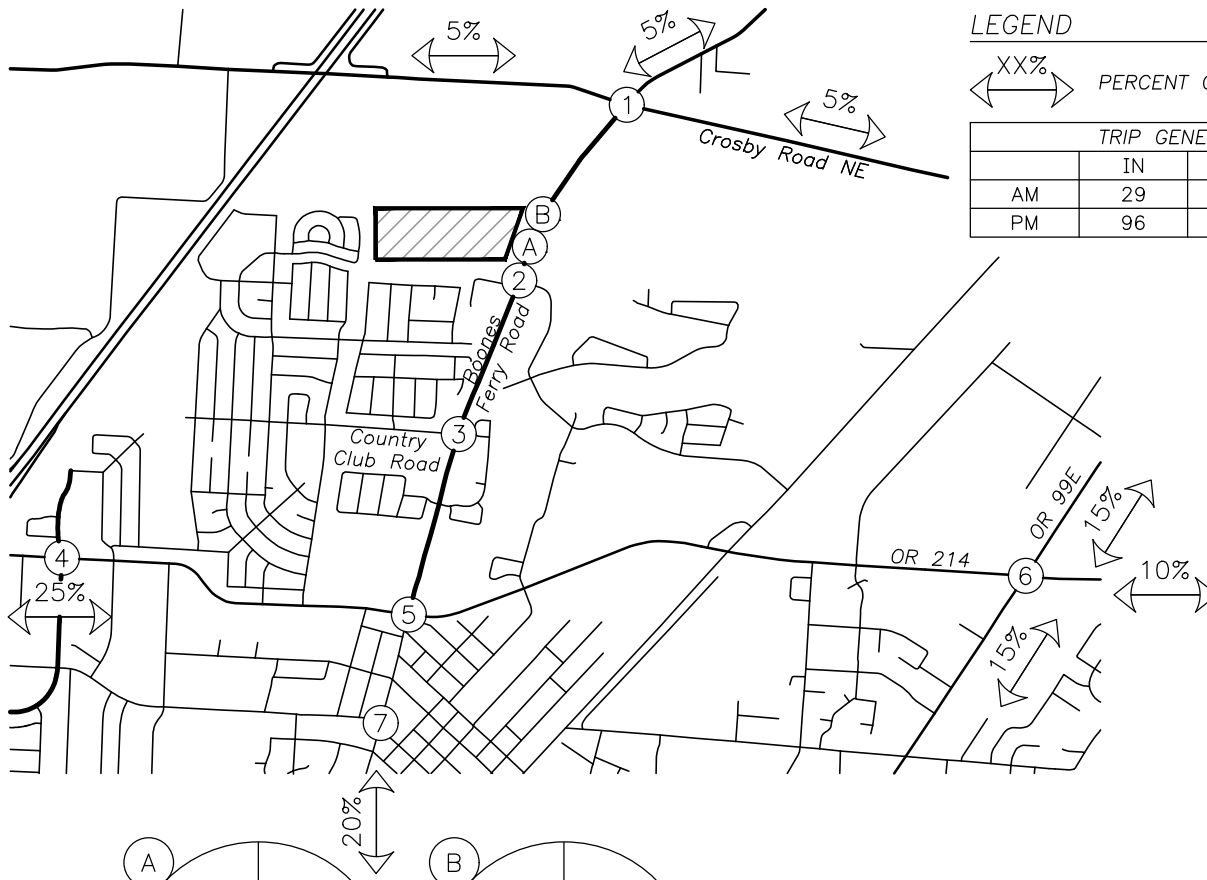
The directional distribution of site trips to and from the proposed development was estimated based on locations of likely trip destinations and locations of major transportation facilities in the site vicinity.

The following trip distribution was estimated and used for analysis:

- 5% of site trips will travel to/from the west along Crosby Road NE.
- 5% of site trips will travel to/from the north along NE Boones Ferry Road.
- 5% of site trips will travel to/from the east along Crosby Road NE.
- 25% of site trips will travel to/from the west along OR 214.
- 15% of site trips will travel to/from the north along OR 99E.
- 15% of site trips will travel to/from the south along OR 99E.
- 20% of site trips will travel to/from the south along N Settlemier Avenue.
- 10% of site trips will travel to/from the east along OR 214.

The site trip assignment and distribution for the morning and evening peak hours are shown in Figure 2 on page 10 and Figure 3 on page 11.

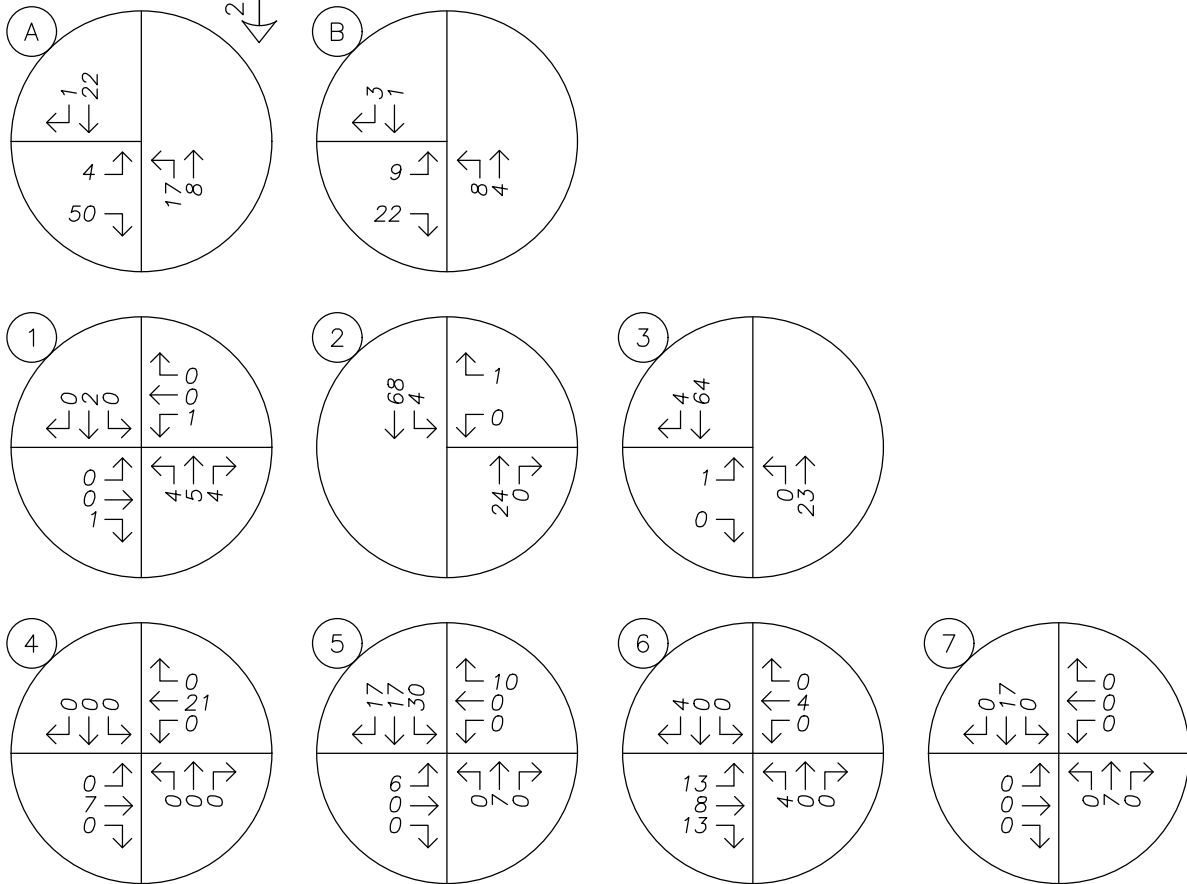
¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017



LEGEND

XX% PERCENT OF PROJECT TRIPS

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



no scale

Figure 8: Trip Distribution

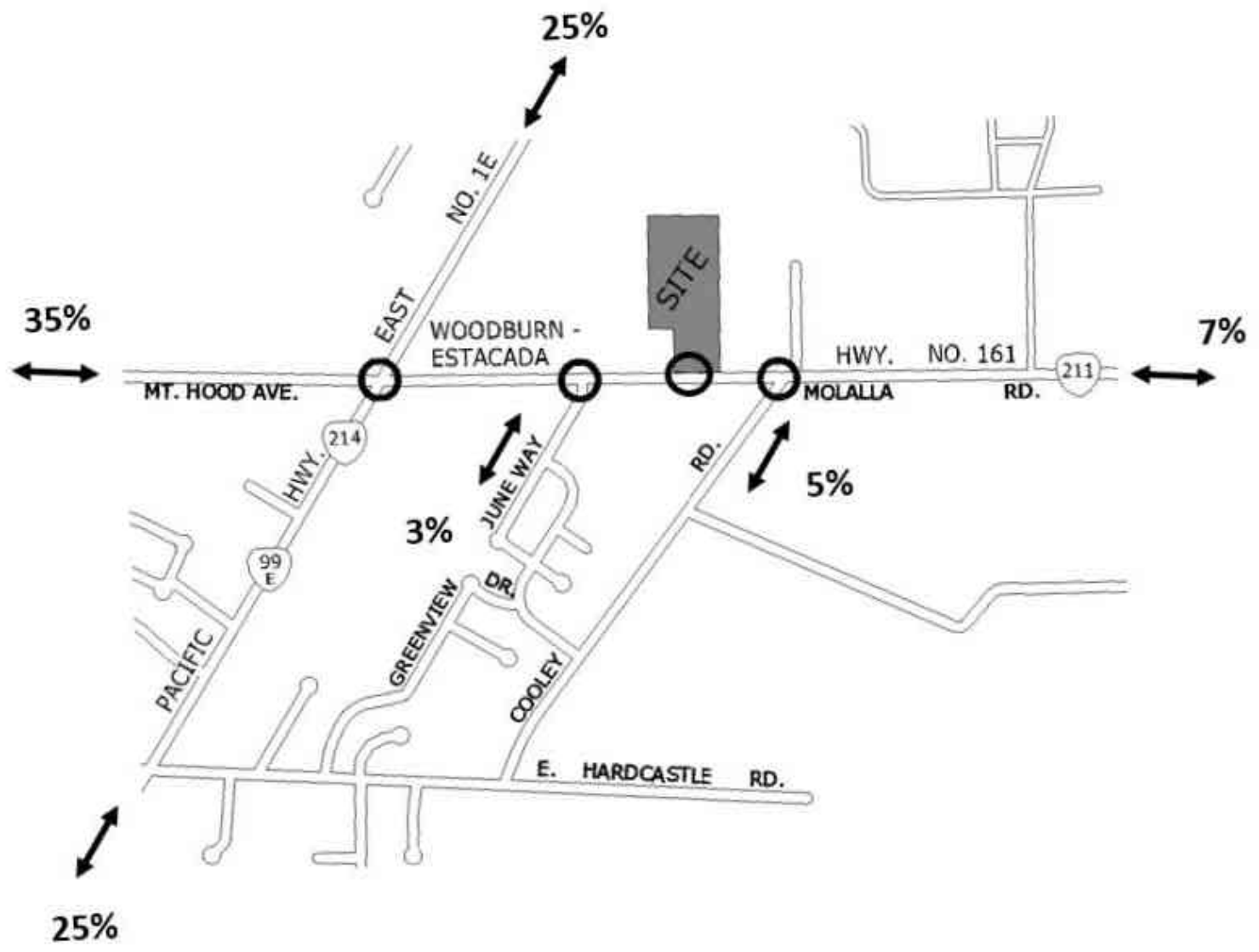


Figure 9: AM Peak Hour Site Generated Volumes

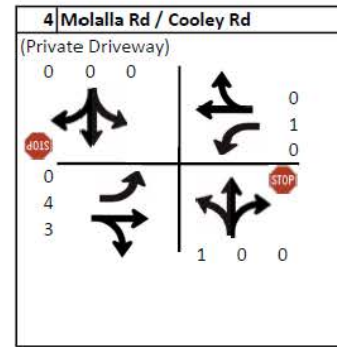
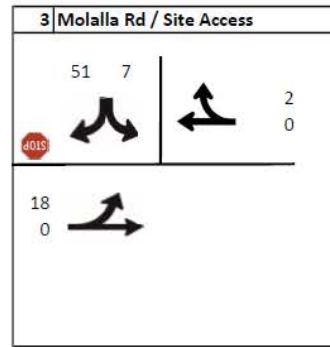
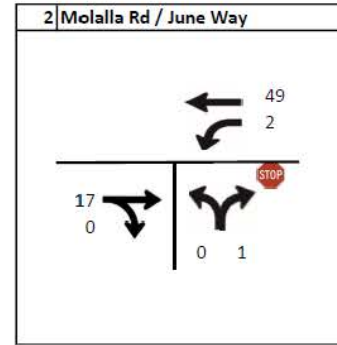
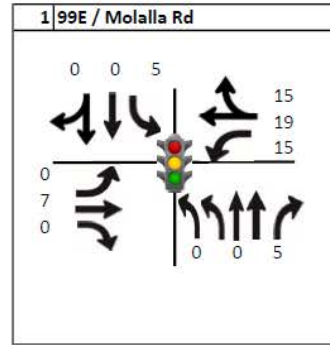
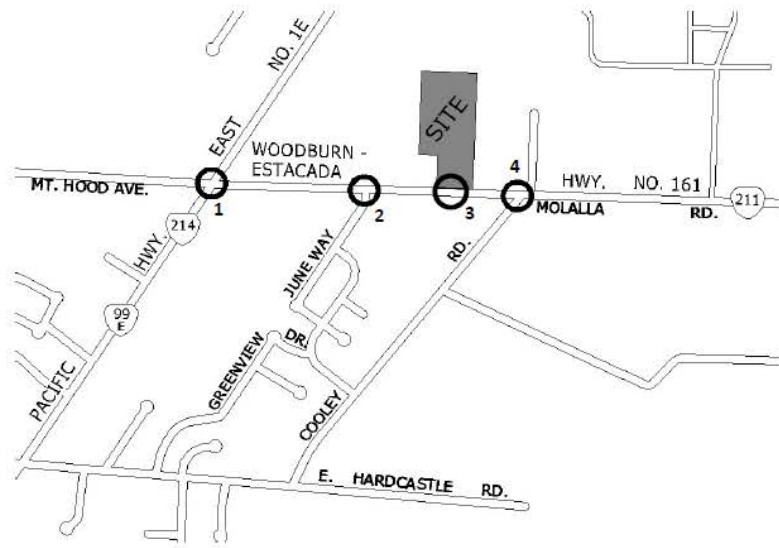
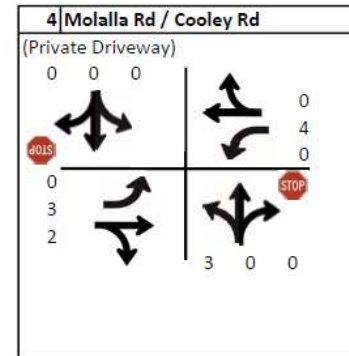
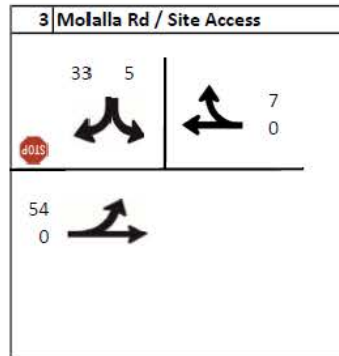
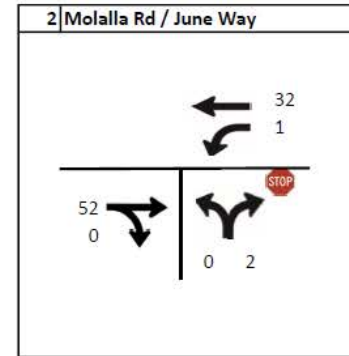
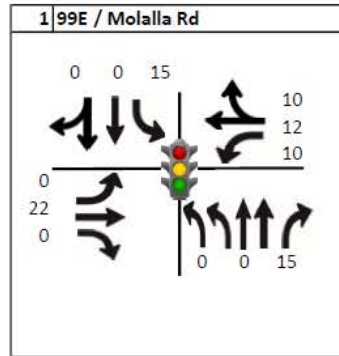
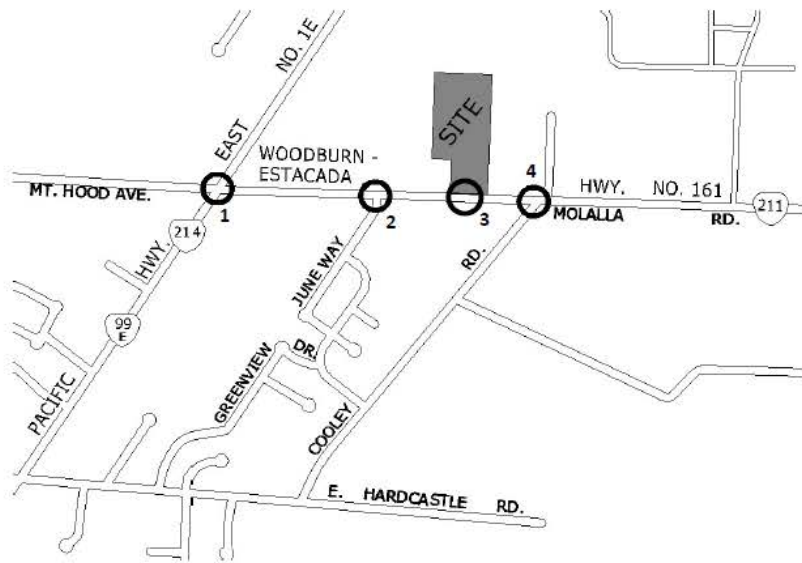
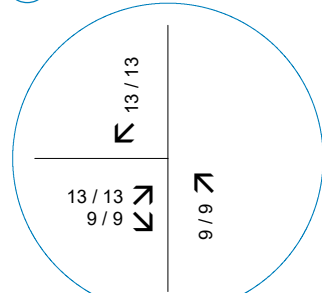


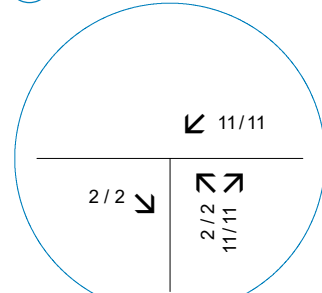
Figure 10: PM Peak Hour Site Generated Volumes



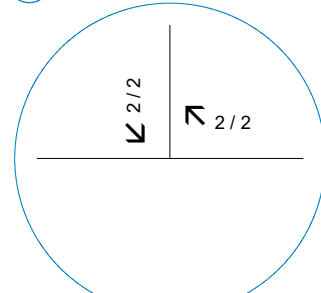
1 Butteville Road NE & Le Brun Road NE



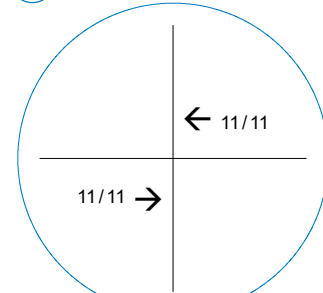
2 Butteville Road NE & OR 219



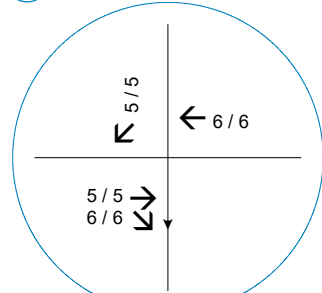
3 OR 219 & Butteville Road NE



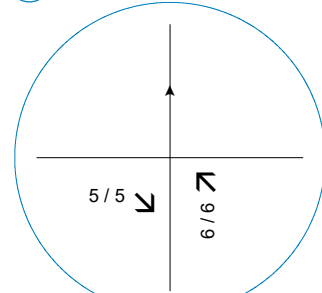
4 OR 219 & Woodland Avenue



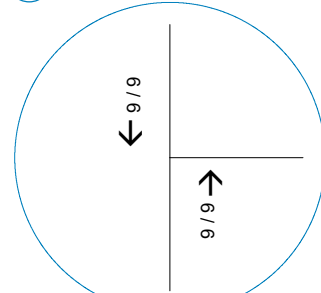
5 OR 219/OR 214/219 & I-5 SB Ramps



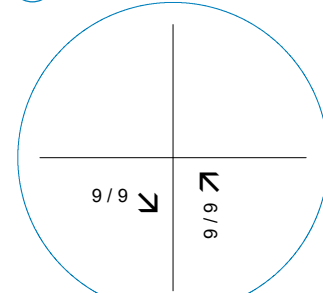
6 I-5 NB Ramps & OR 214/219/OR 214



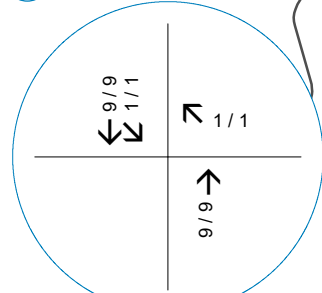
7 Butteville Road NE & Parr Road NE



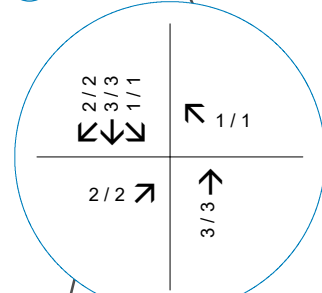
8 3rd Street NE & Ivy Avenue



9 3rd Street NE & Douglas Avenue NE



10 OR 99E & Brooklake Road NE

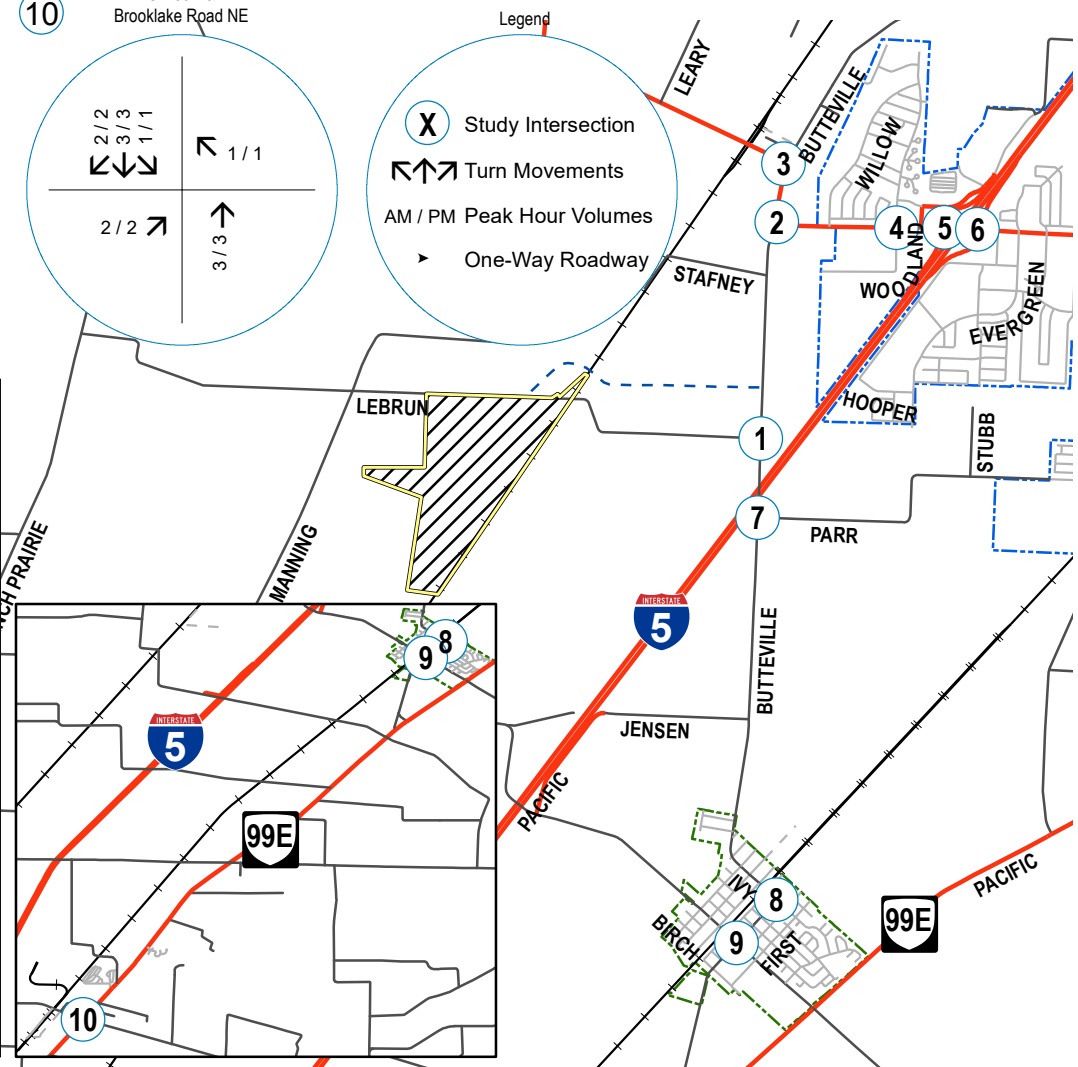


Legend

- 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



KEY ASSUMPTIONS AND METHODOLOGIES

The following section outlines key assumptions and methodologies associated with the proposed project that were used to analyze future conditions and identify any potential impacts at study intersections. Areas of interest covered in this section are trip generation, trip distribution, and background traffic growth.

PROJECT DESCRIPTION

The proposed project is the multi-phase Smith Creek Development. The project is primarily a residential project which consists of a mix of single family detached housing, townhouses, and multi-family. The proposed Project Site Plan is shown in Figure 4. The plan shows 607 single family residential units and 201 multi-family housing units along Kirksey Street. To be conservative, we assumed that all of this property would be developed at site build out.

TRIP GENERATION

Trip generation is the method used to estimate the number of vehicles that are added to the surrounding roadway network as a result of the proposed project. The trip generation for the proposed project was estimated using similar land uses as reported by the Institute of Transportation Engineers (ITE)⁸. Since the proposed site would be adding residential units, the potential trip generation was calculated for the AM and PM peak hour using the Single-Family Detached Housing (ITE Code 210) and Residential Condominiums/Townhouse (ITE Code 230) land use. The proposed project will be built in three scenarios as follows:

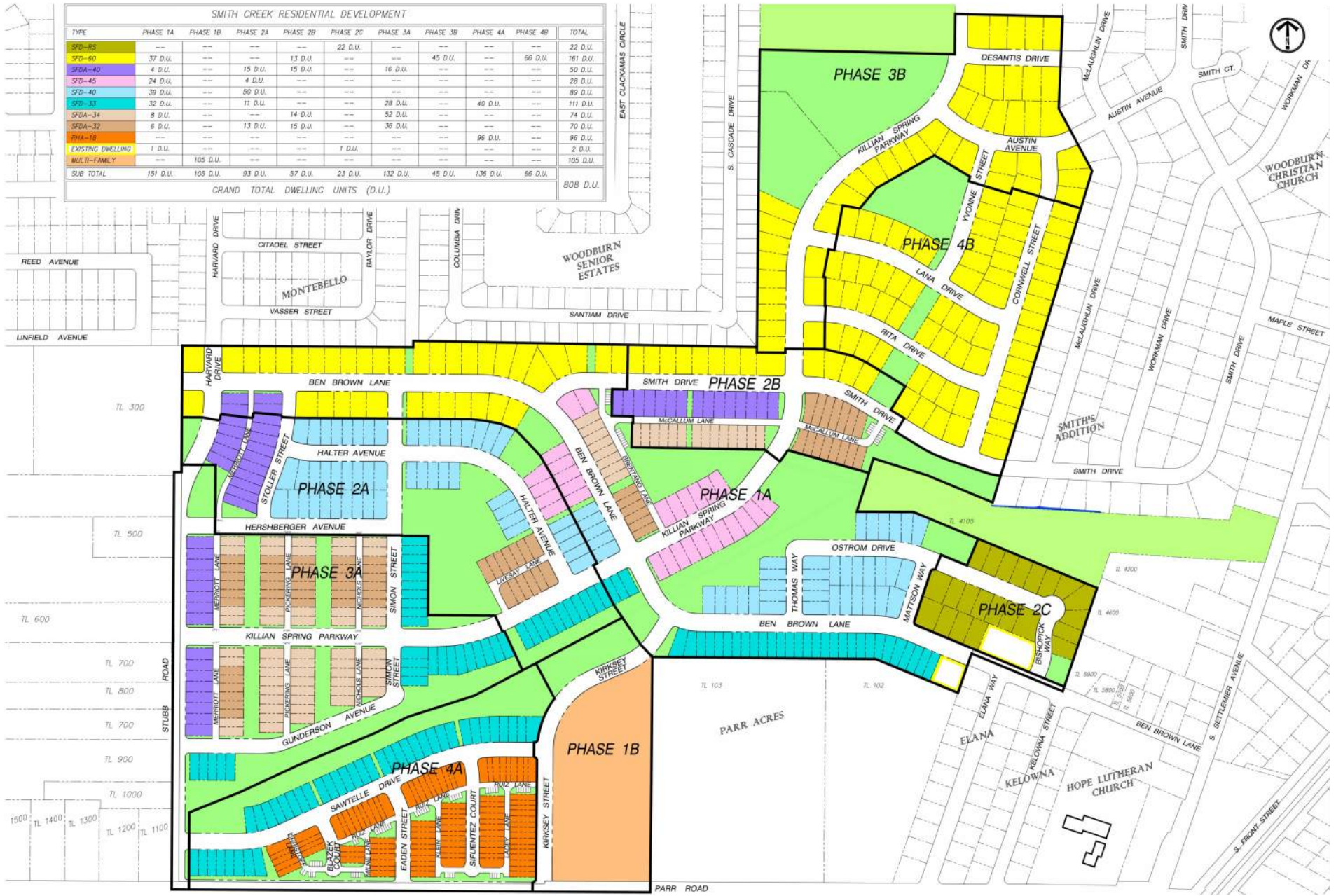
- **Scenario 1:** Phase 1A, 1B, 2A, 2B and 2C will be built. Internal street connections to Harvard Drive, Ben Brown Lane and Kirksey Drive will be built. Completion Year 2021.
- **Scenario 2:** Phase 3A and 4A will be built. Internal street connections to Stubb Road will be built. Completion Year 2023.
- **Scenario 3:** All the remaining project phases (Phases 3B and 4B) will be built-out. Completion Year 2025.

As shown in Table 4, project site has the potential to generate 543 trips in the AM peak hour, 712 trips in the PM peak hour and 6,946 daily trips.

TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution reflects how site traffic will leave and arrive at the site and what roads those trips will take. The distribution of site-generated trips through the study intersections was estimated using the US Census data and observed local traffic patterns. It is estimated that of the total project trips, 45% would travel north and 30% would travel south using the I-5 freeway, 20% would travel to the east and 5% would travel to the west of the project site. The trip distribution percentage to/from the project site for each scenario is shown in Appendix C. The Trip assignment showing the project trips at each study intersection is shown in Figure 5a and 5b.

⁸ Institute of Transportation Engineers (ITE) manual, Trip Generation, 9th Edition.



SMITH CREEK RESIDENTIAL DEVELOPMENT										
TYPE	PHASE 1A	PHASE 1B	PHASE 2A	PHASE 2B	PHASE 2C	PHASE 3A	PHASE 3B	PHASE 4A	PHASE 4B	TOTAL
SFD-RS	---	---	---	---	22 D.U.	---	---	---	---	22 D.U.
SFD-60	37 D.U.	---	---	13 D.U.	---	---	45 D.U.	---	66 D.U.	161 D.U.
SFDA-40	4 D.U.	---	15 D.U.	15 D.U.	---	16 D.U.	---	---	---	50 D.U.
SFD-45	24 D.U.	---	4 D.U.	---	---	---	---	---	---	28 D.U.
SFD-40	39 D.U.	---	50 D.U.	---	---	---	---	---	---	89 D.U.
SFD-33	32 D.U.	---	11 D.U.	---	28 D.U.	---	40 D.U.	---	---	111 D.U.
SFDA-34	8 D.U.	---	---	14 D.U.	---	52 D.U.	---	---	---	74 D.U.
SFDA-32	6 D.U.	---	13 D.U.	15 D.U.	---	36 D.U.	---	---	---	70 D.U.
RHA-18	---	---	---	---	---	---	96 D.U.	---	---	96 D.U.
EXISTING DWELLING	7 D.U.	---	---	---	1 D.U.	---	---	---	---	2 D.U.
MULTI-FAMILY	---	105 D.U.	---	---	---	---	---	---	---	105 D.U.
SUB TOTAL	151 D.U.	105 D.U.	93 D.U.	57 D.U.	23 D.U.	132 D.U.	45 D.U.	136 D.U.	66 D.U.	808 D.U.
GRAND TOTAL DWELLING UNITS (D.U.)										

DKS

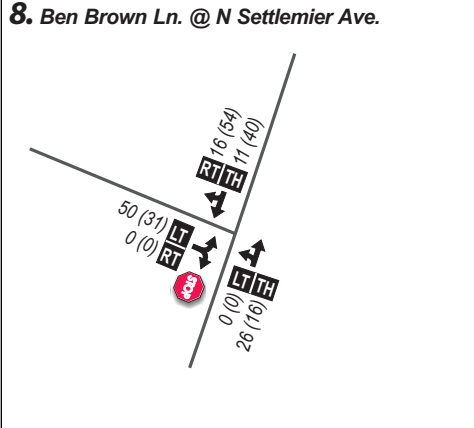
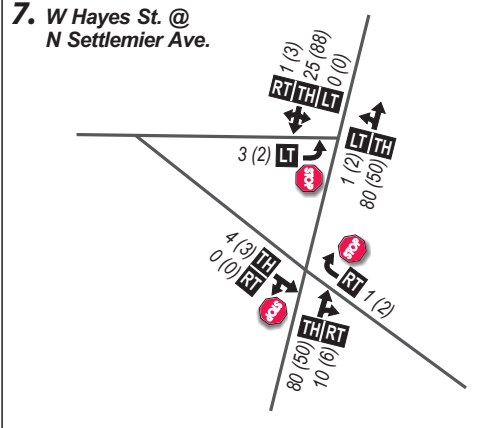
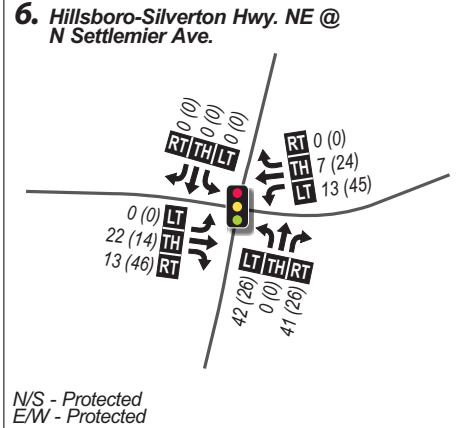
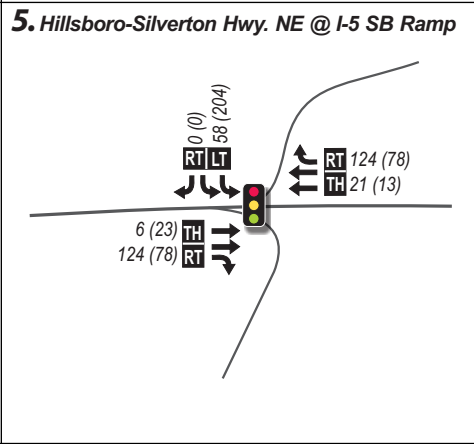
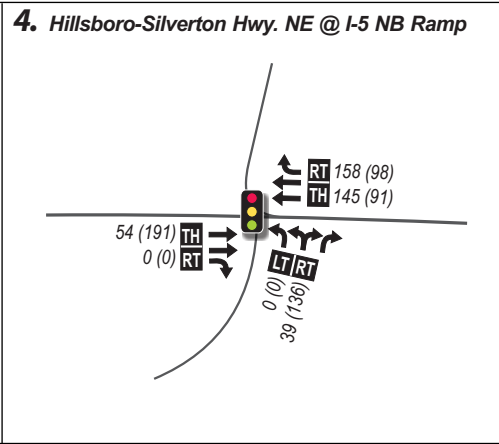
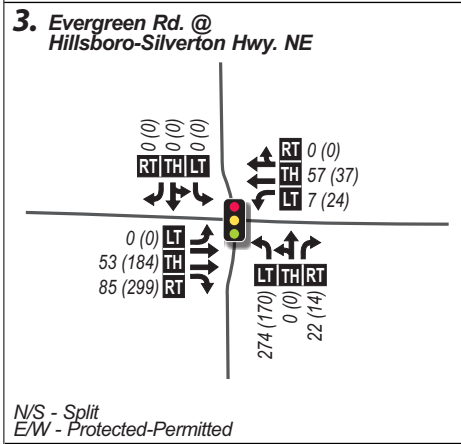
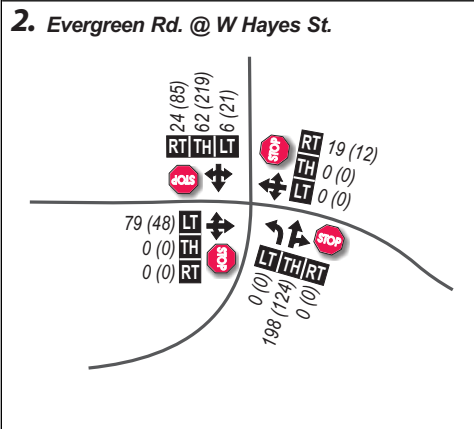
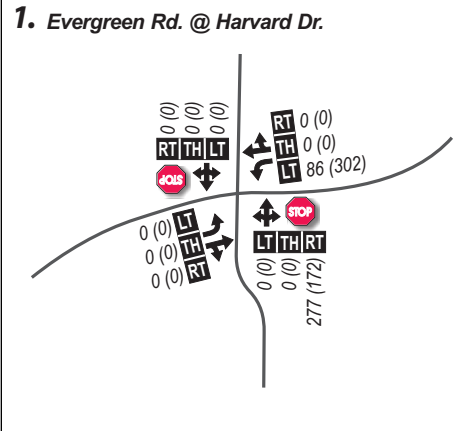
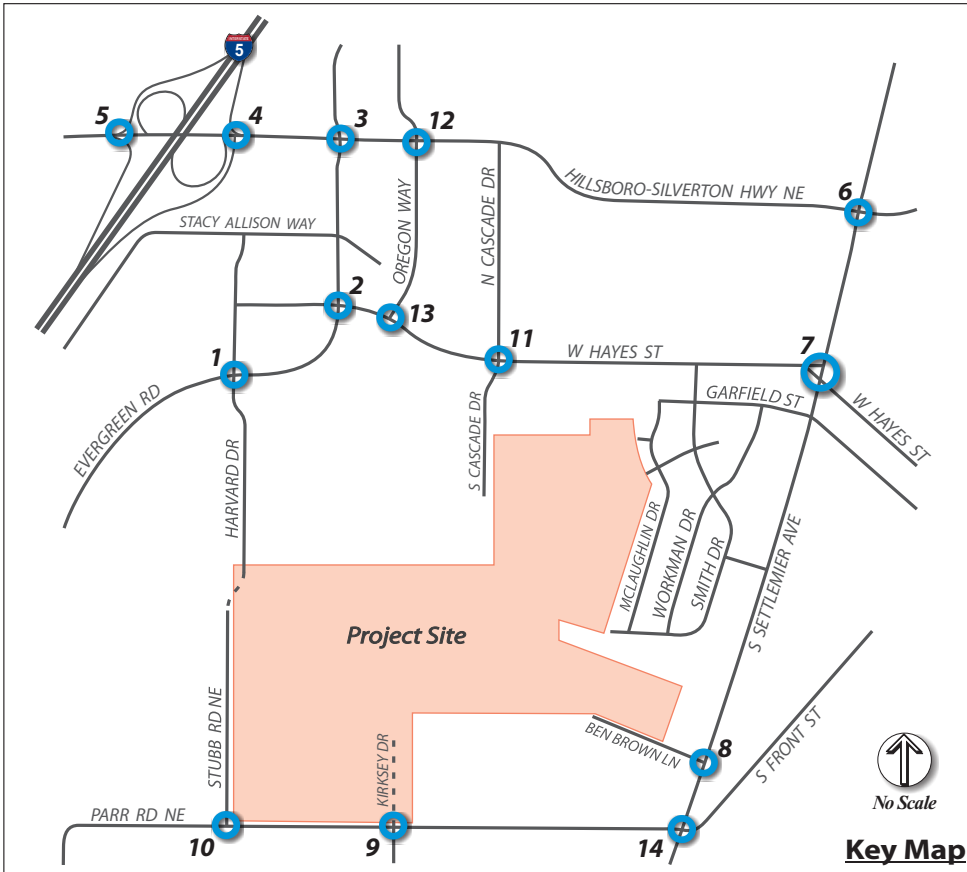
Figure 4



Project Site Plan
Source: Planning & Land Design

TABLE 4: SMITH CREEK DEVELOPMENT VEHICLE TRIP GENERATION BY PROJECT DEVELOPMENT PHASE

ITE Land Use	Quantity	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Scenario 1								
Single-Family Detached	324	3,084	62	181	243	204	120	324
Residential Condominium/Townhouse	105	610	7	39	46	37	18	55
Scenario 2								
Single-Family Detached	172	1,637	33	96	129	108	64	172
Residential Condominium/Townhouse	96	558	7	36	42	34	16	50
Scenario 3								
Single-Family Detached	111	1,057	21	62	83	70	41	111
TOTAL VEHICLE TRIPS	808	6,946	129	414	543	453	259	712



LEGEND

- # - Study Intersection
- Traffic Signal
- Stop Sign
- ← - Lane Configuration
- AM (PM) - Peak Hour Traffic Volumes
- Volume Turn Movement (Left-Thru-Right)

DKS

Figure 5a

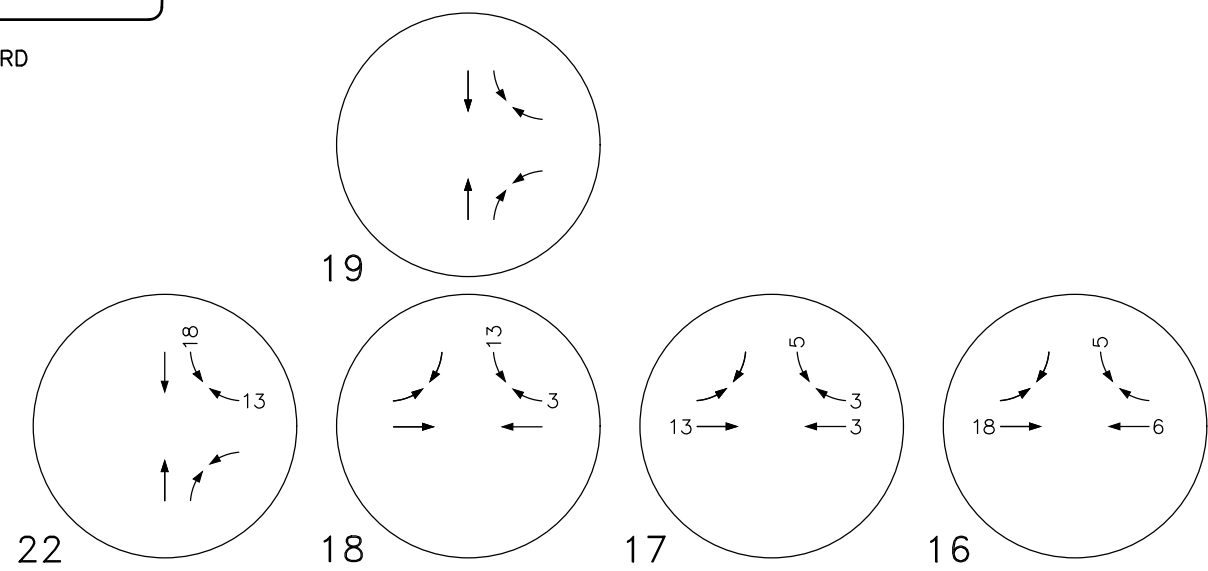
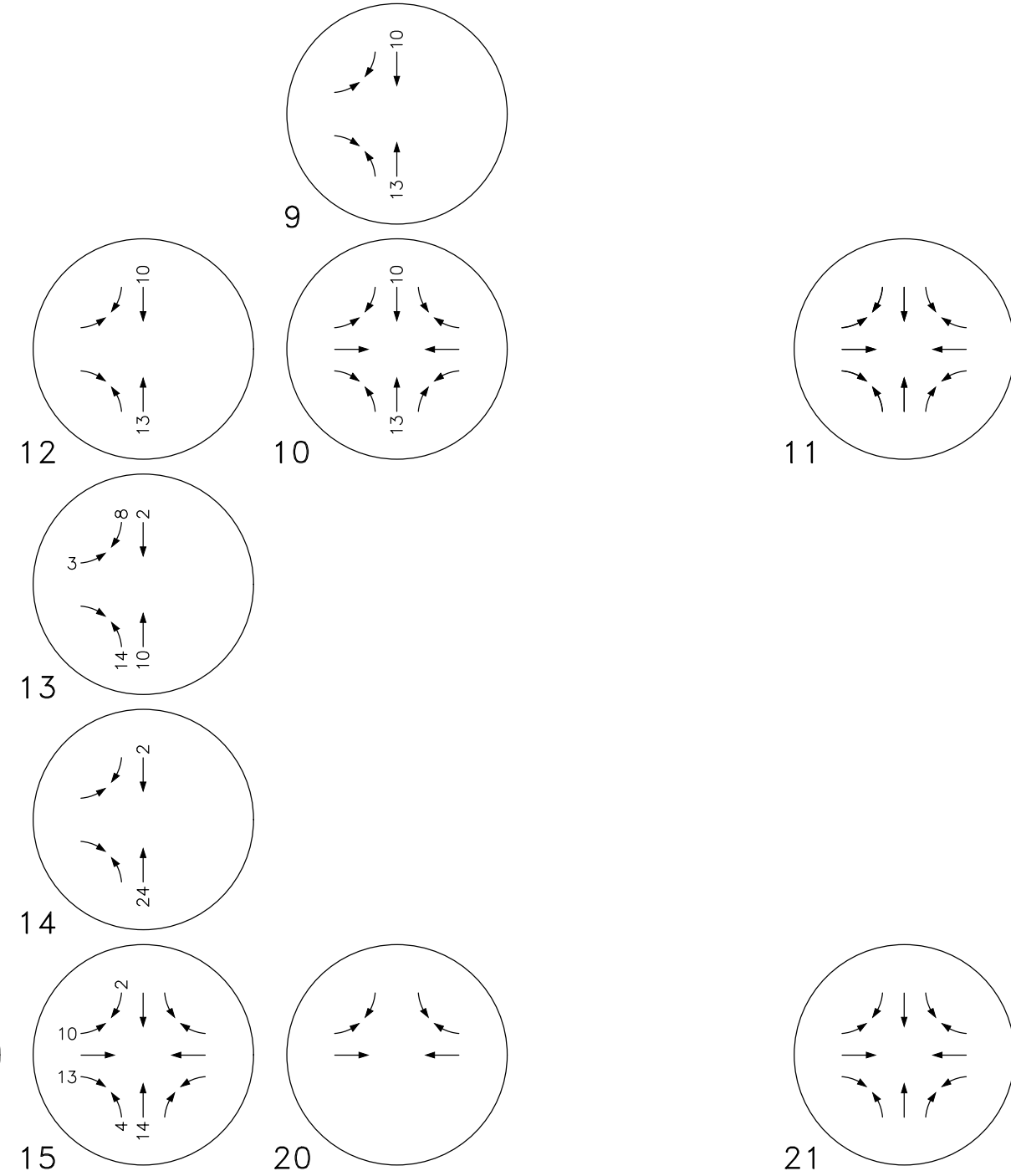
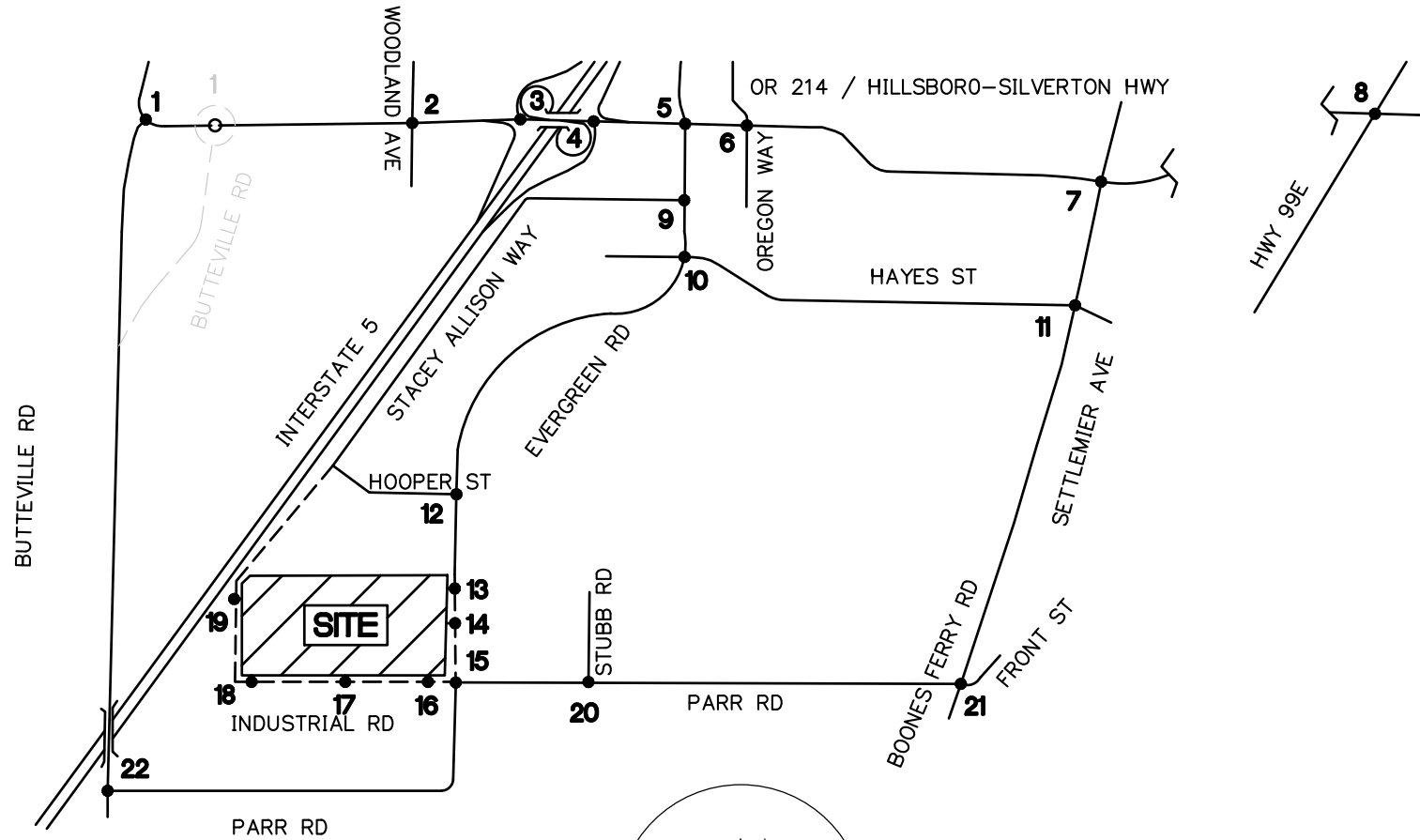
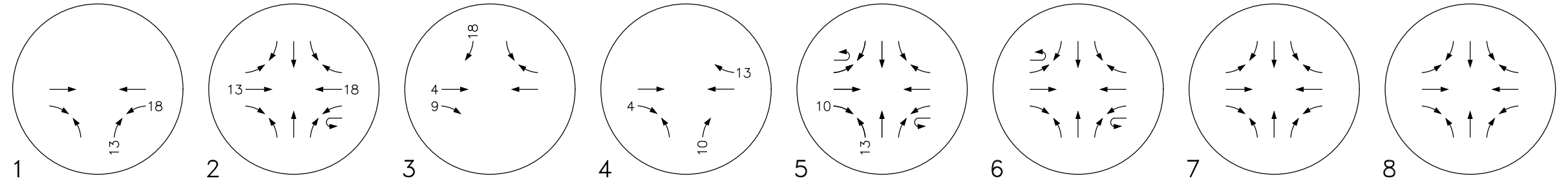
Project Trip Assignment at Full Buildout



NOT TO SCALE

AM PEAK HOUR

Enter - 28
Exit - 28
Total - 54



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CHECKED BY: BTA
JOB NO: 222008500

PHASE 1 + 2 TRUCK ASSIGNMENT
W/ STACY ALLISON WAY -
AM PEAK HOUR
WEISZ PROPERTY
WOODBURN, OREGON

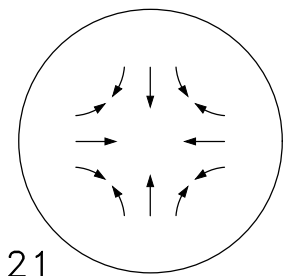
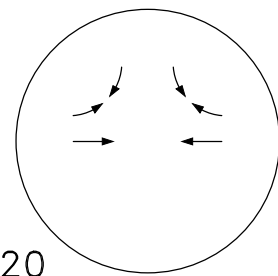
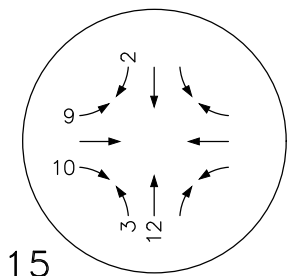
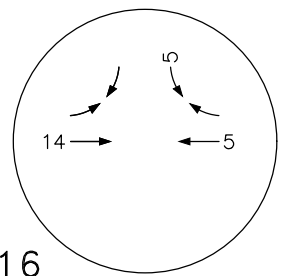
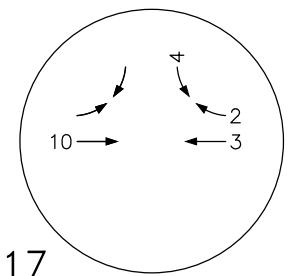
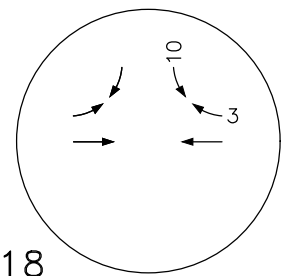
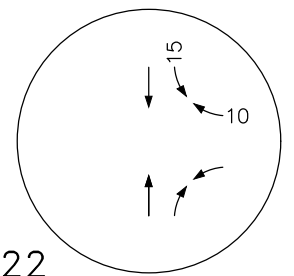
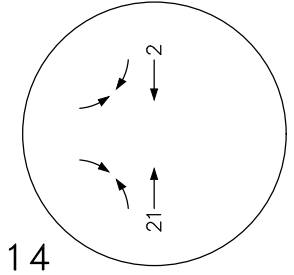
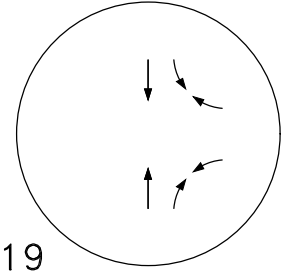
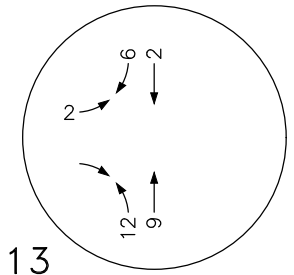
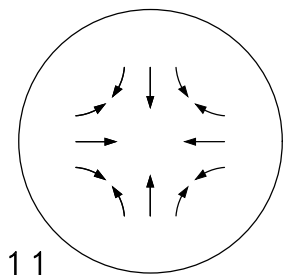
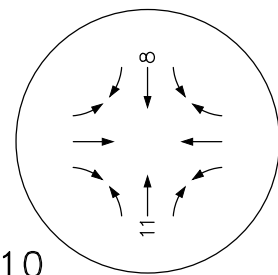
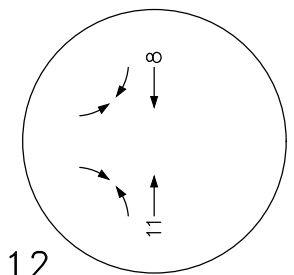
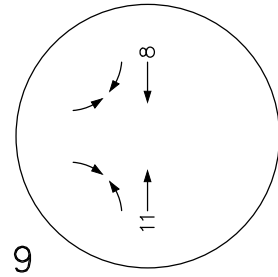
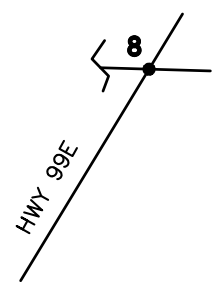
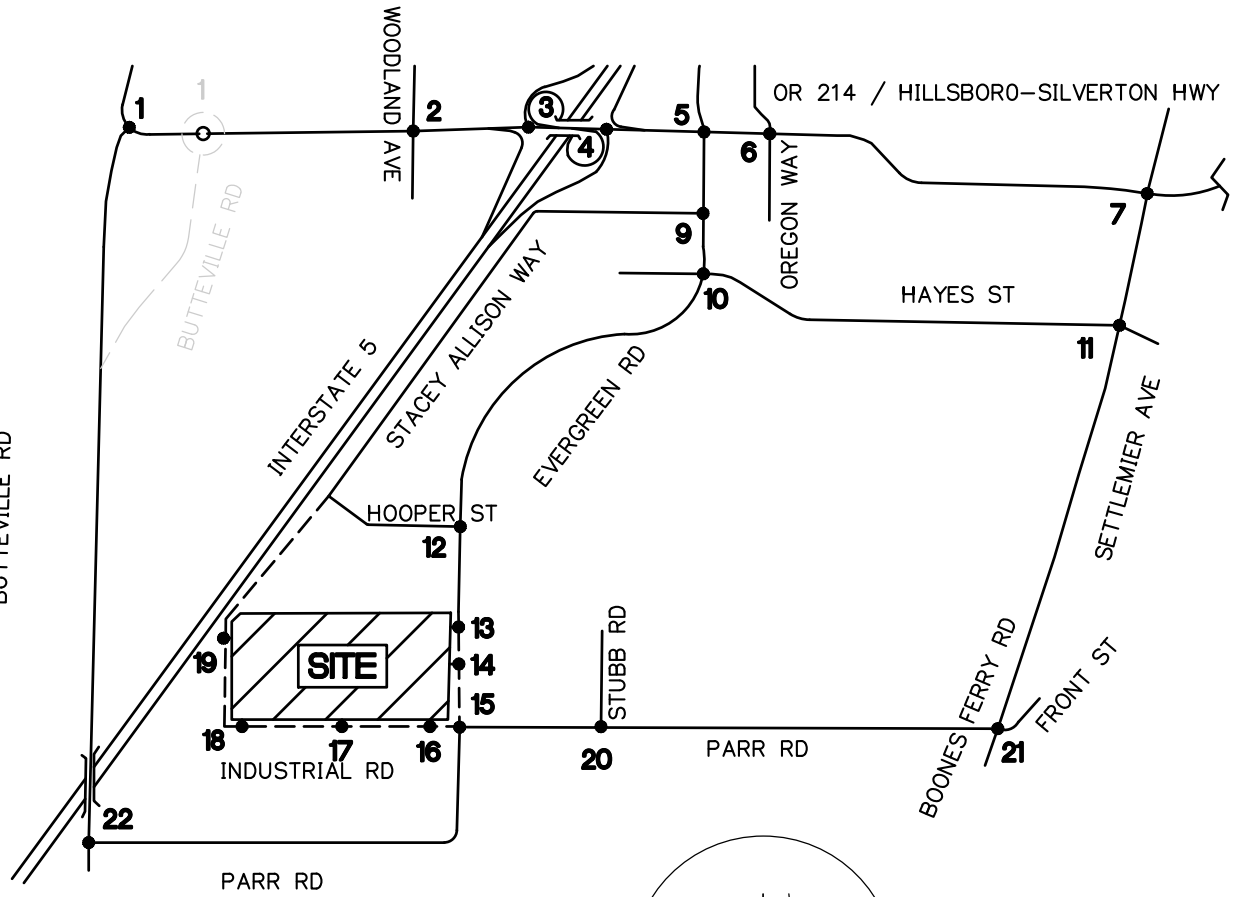
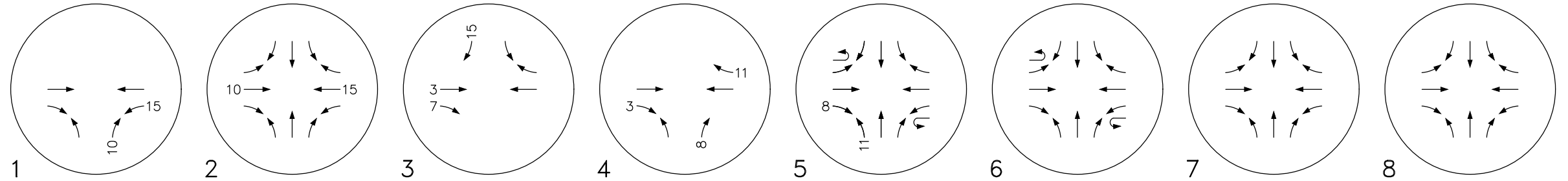
FIGURE
14A



NOT TO SCALE

PM PEAK HOUR

Enter - 23
Exit - 21
Total - 44



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FIGURE
14B

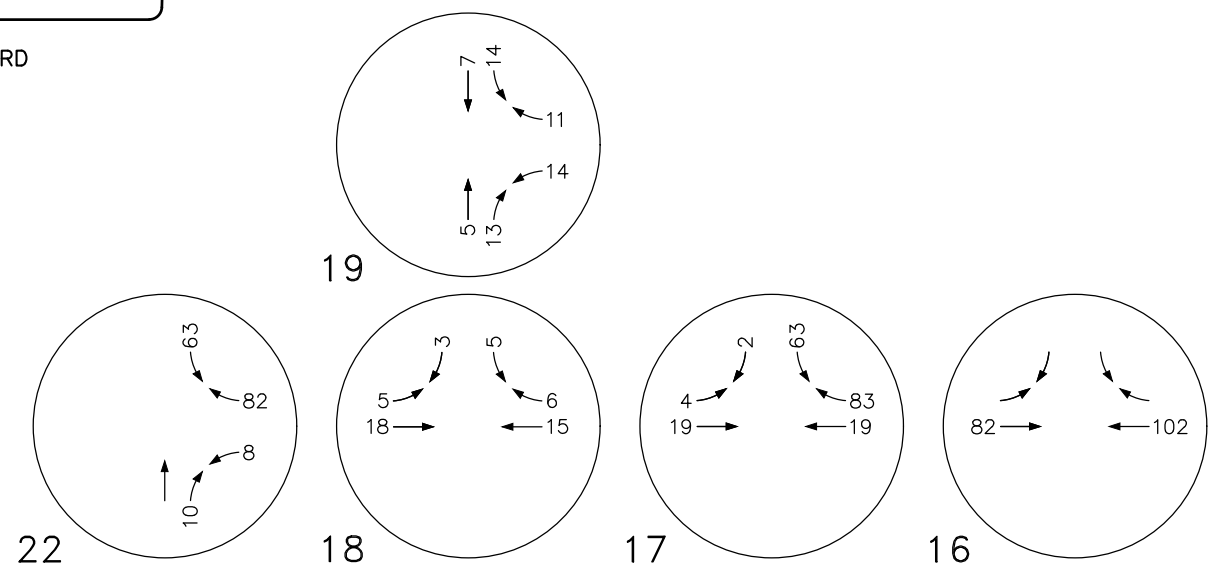
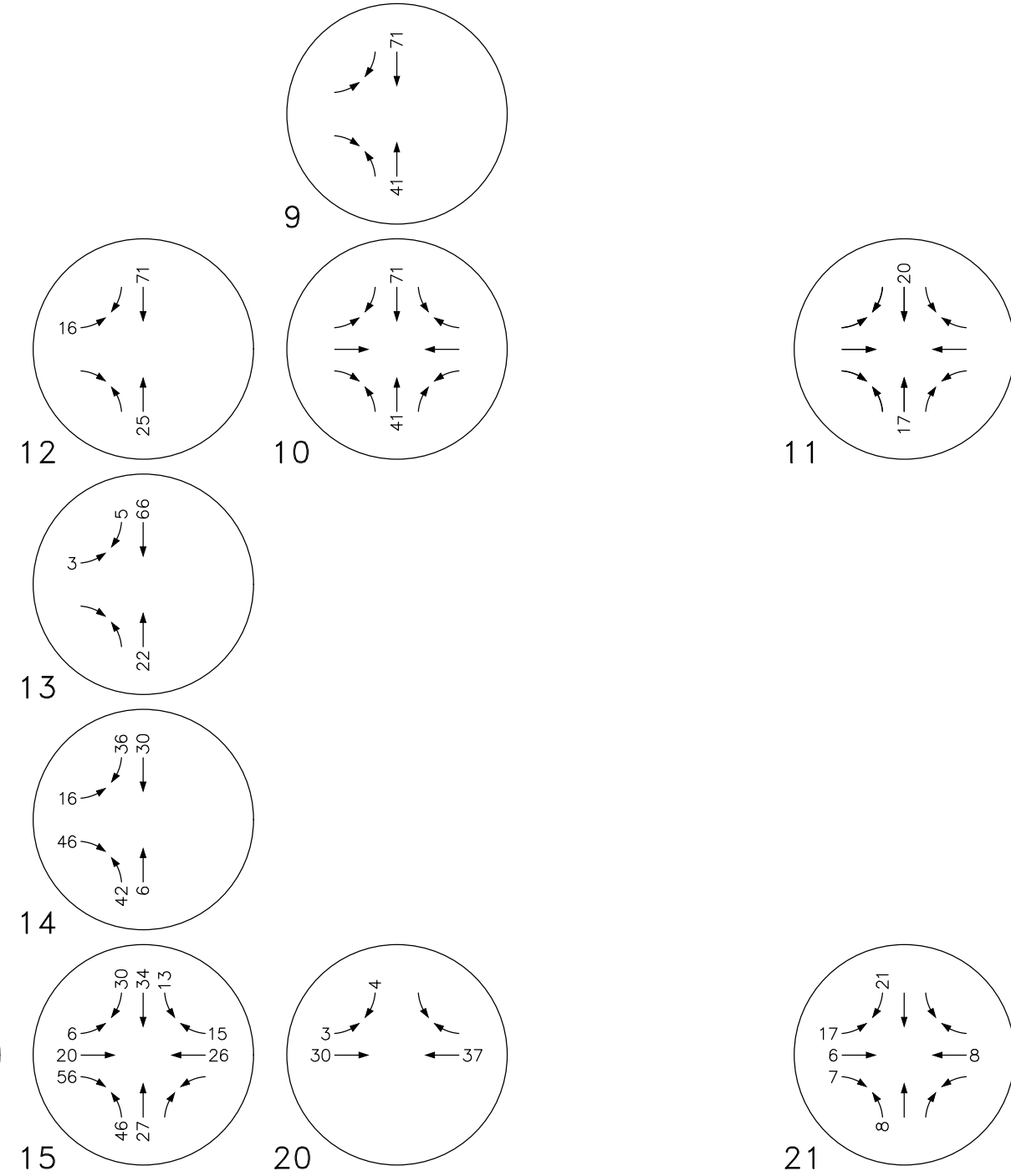
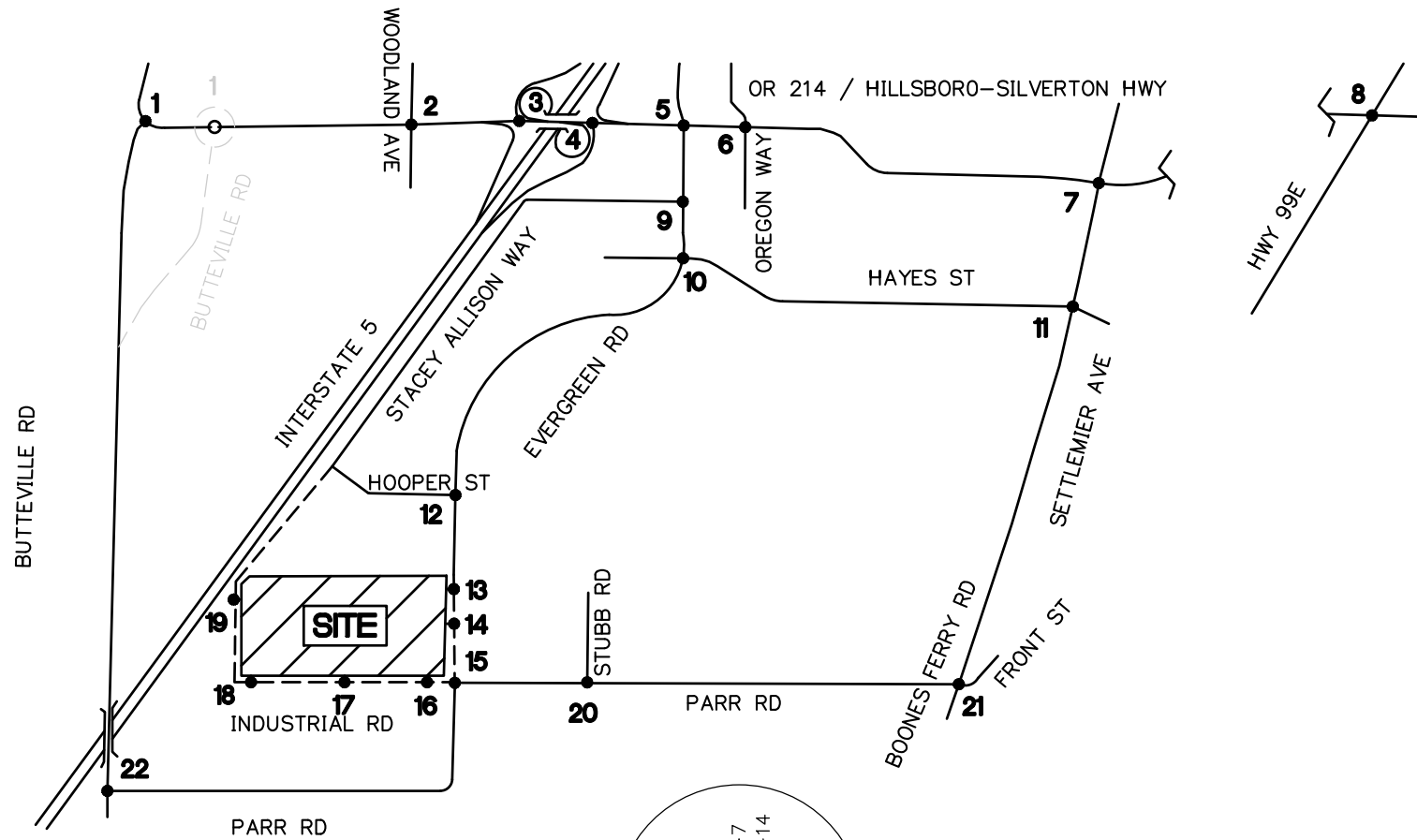
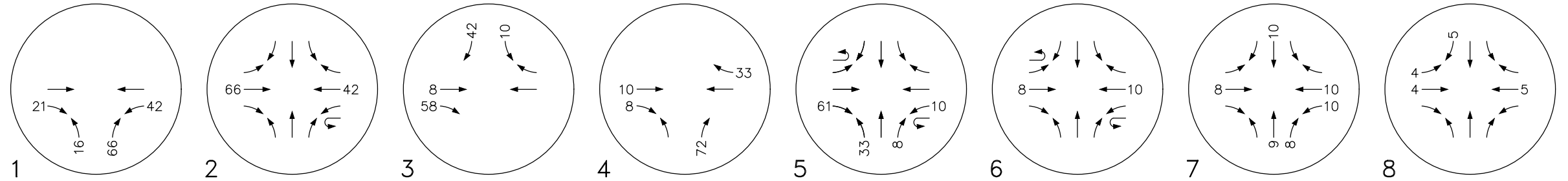
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AM PEAK HOUR

Enter - 207
Exit - 164
Total - 371



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FIGURE
14C

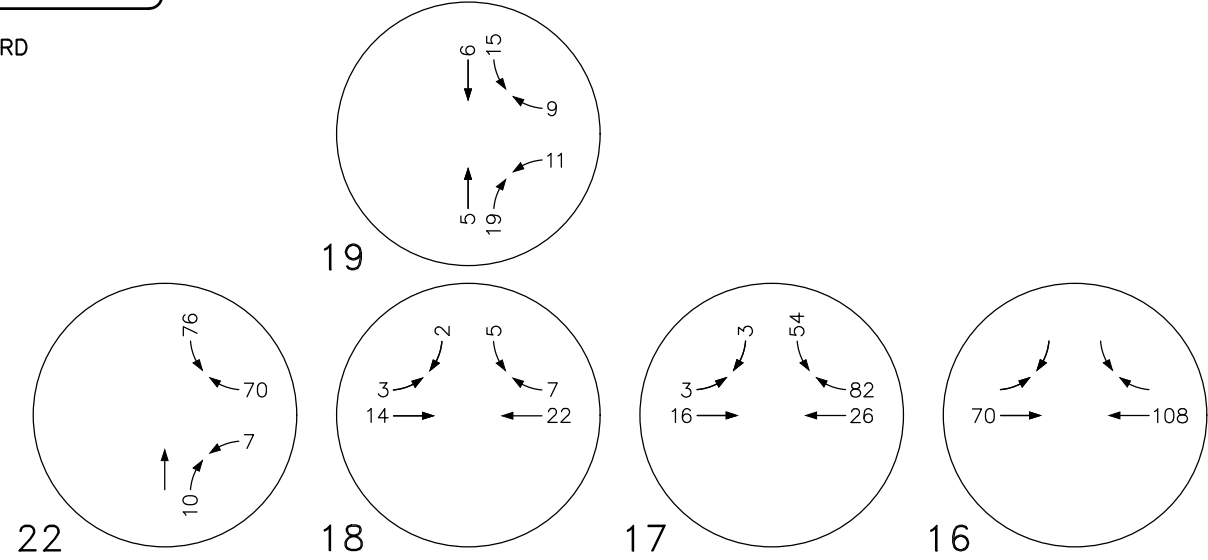
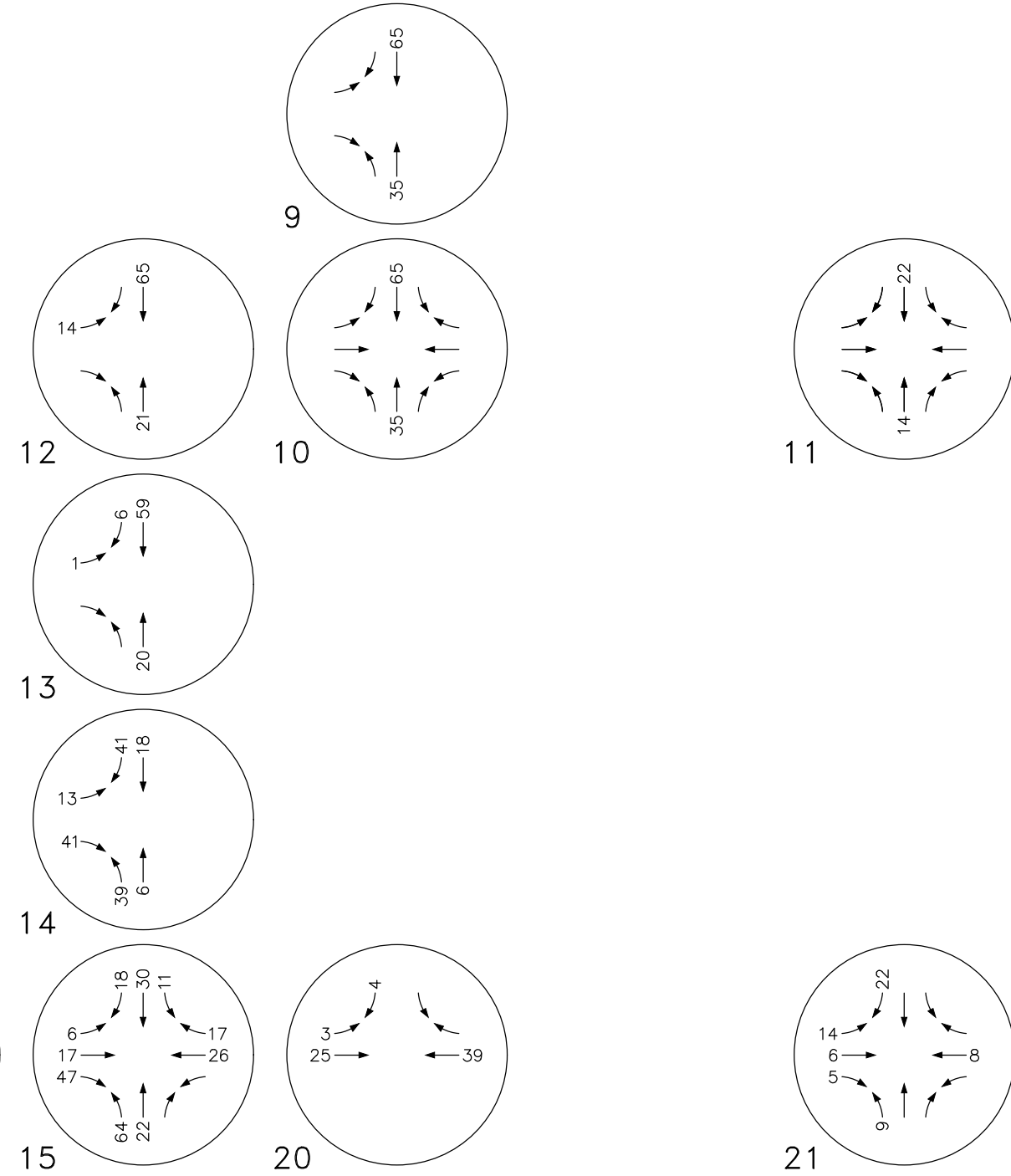
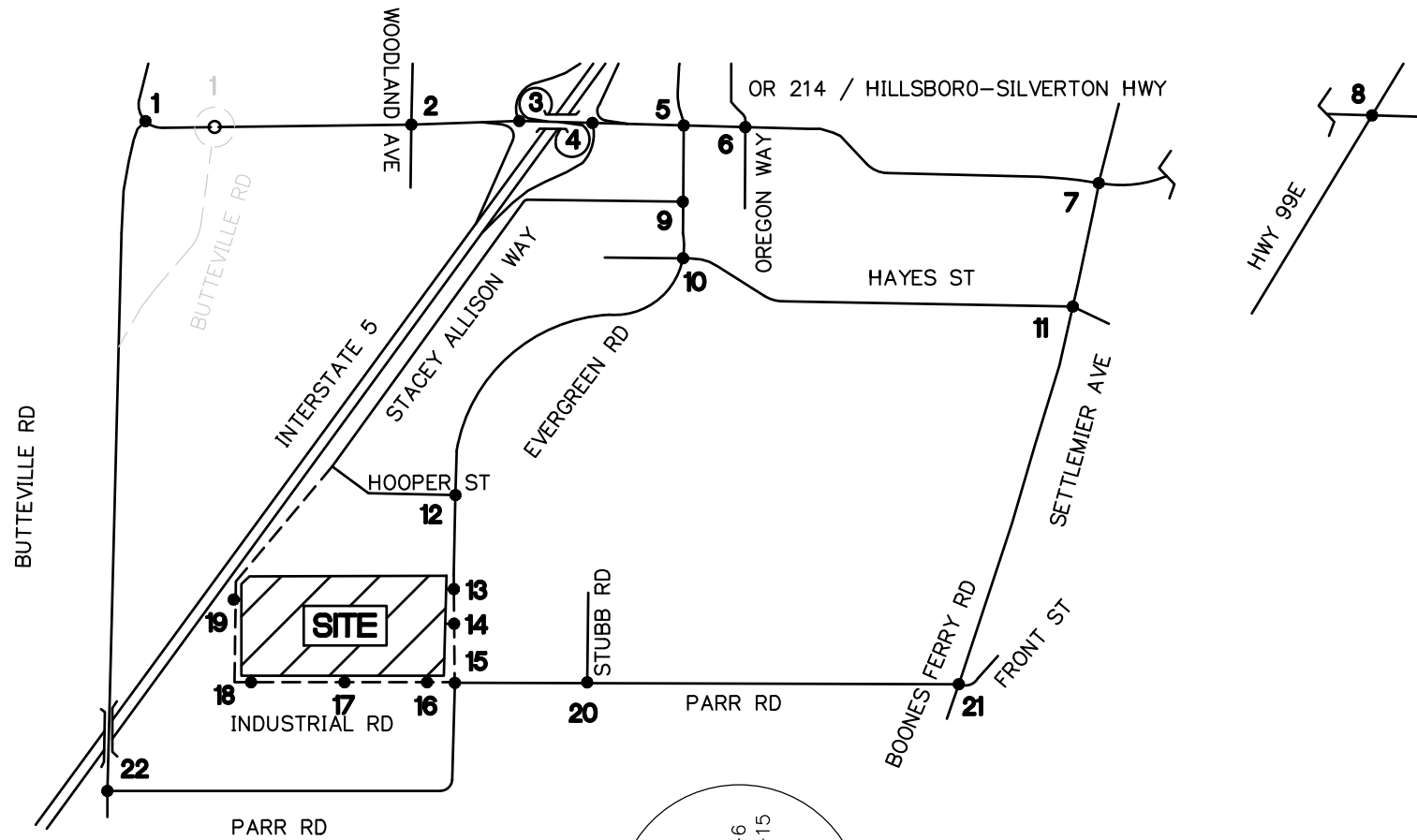
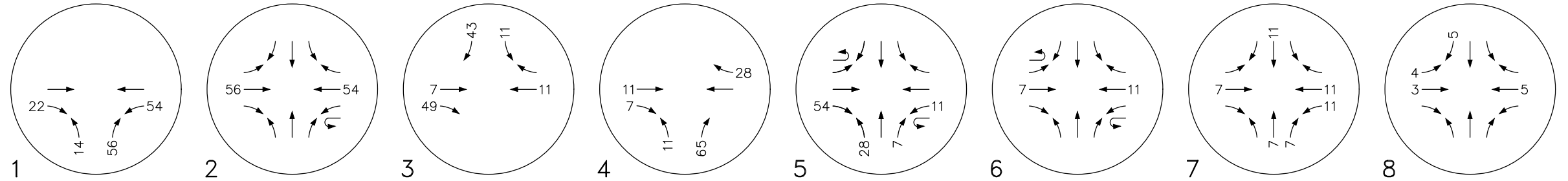
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NOT TO SCALE

PM PEAK HOUR

Enter - 215
Exit - 140
Total - 355



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FIGURE
14D

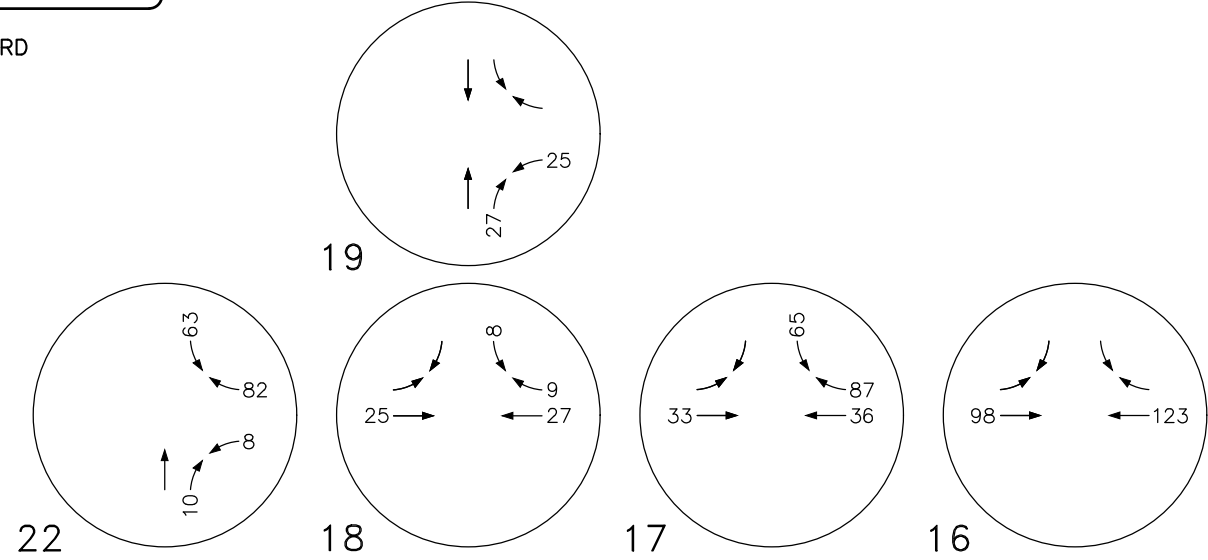
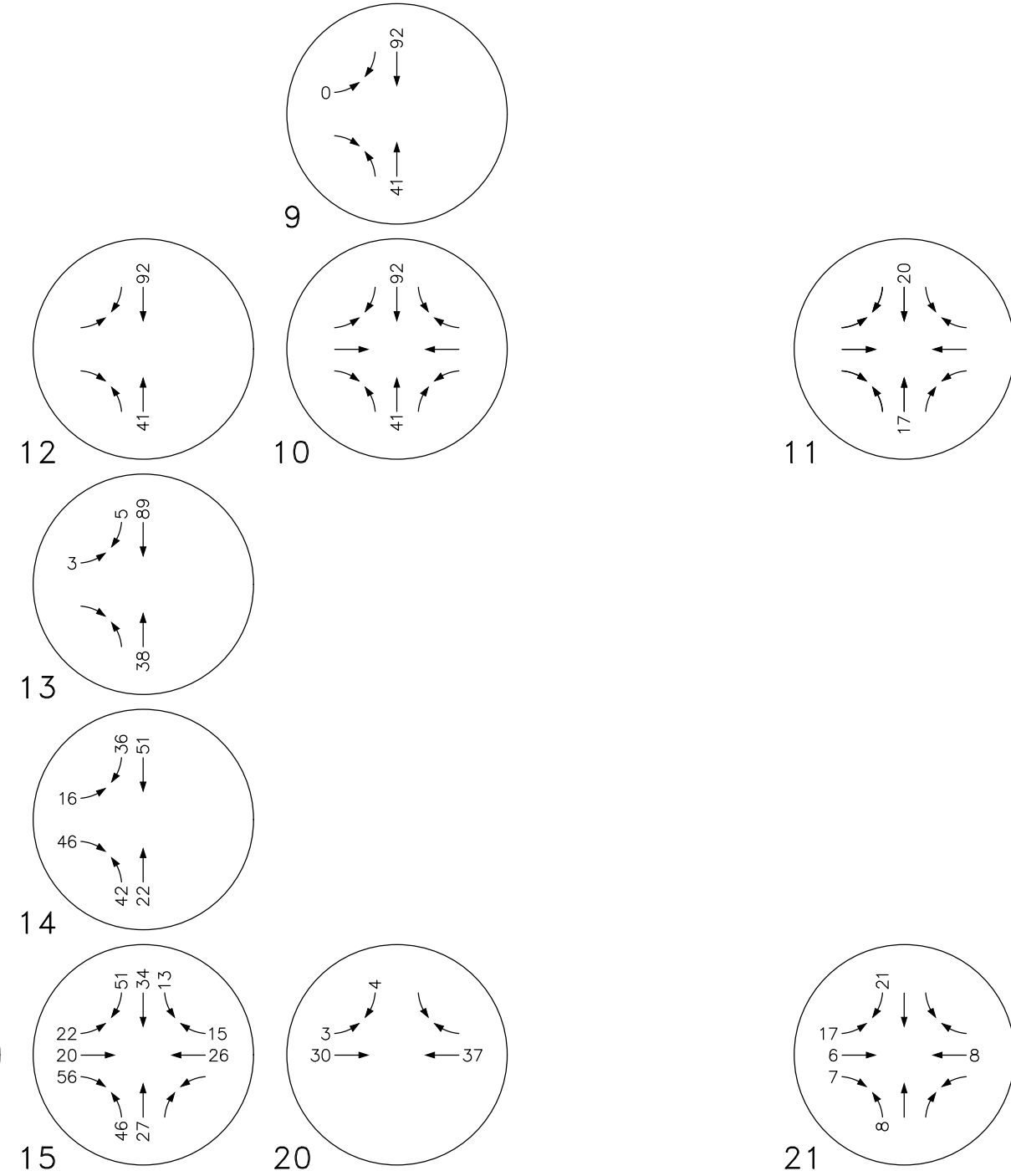
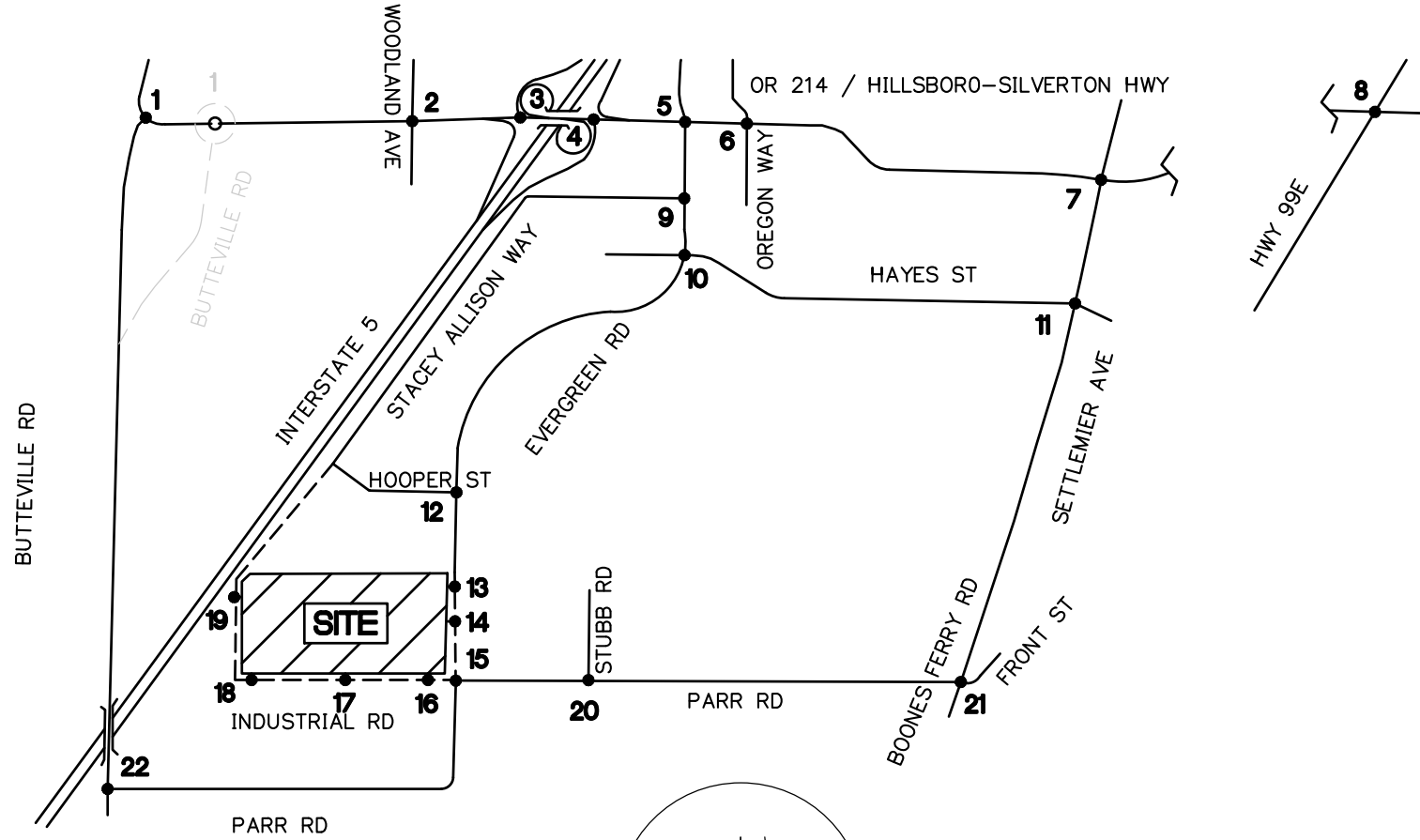
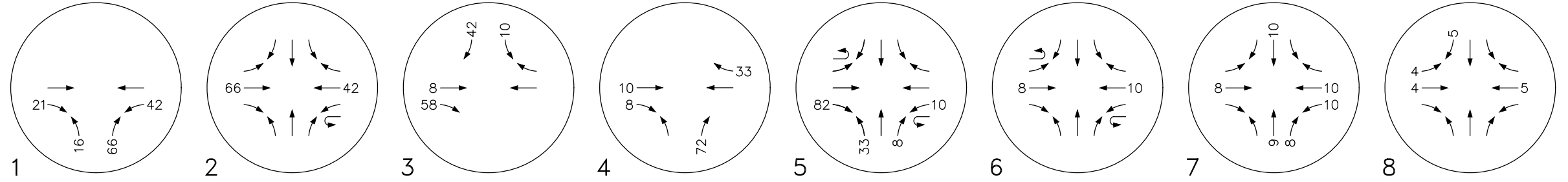
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Exit - 164
Total - 371



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 WOODBURN, OREGON

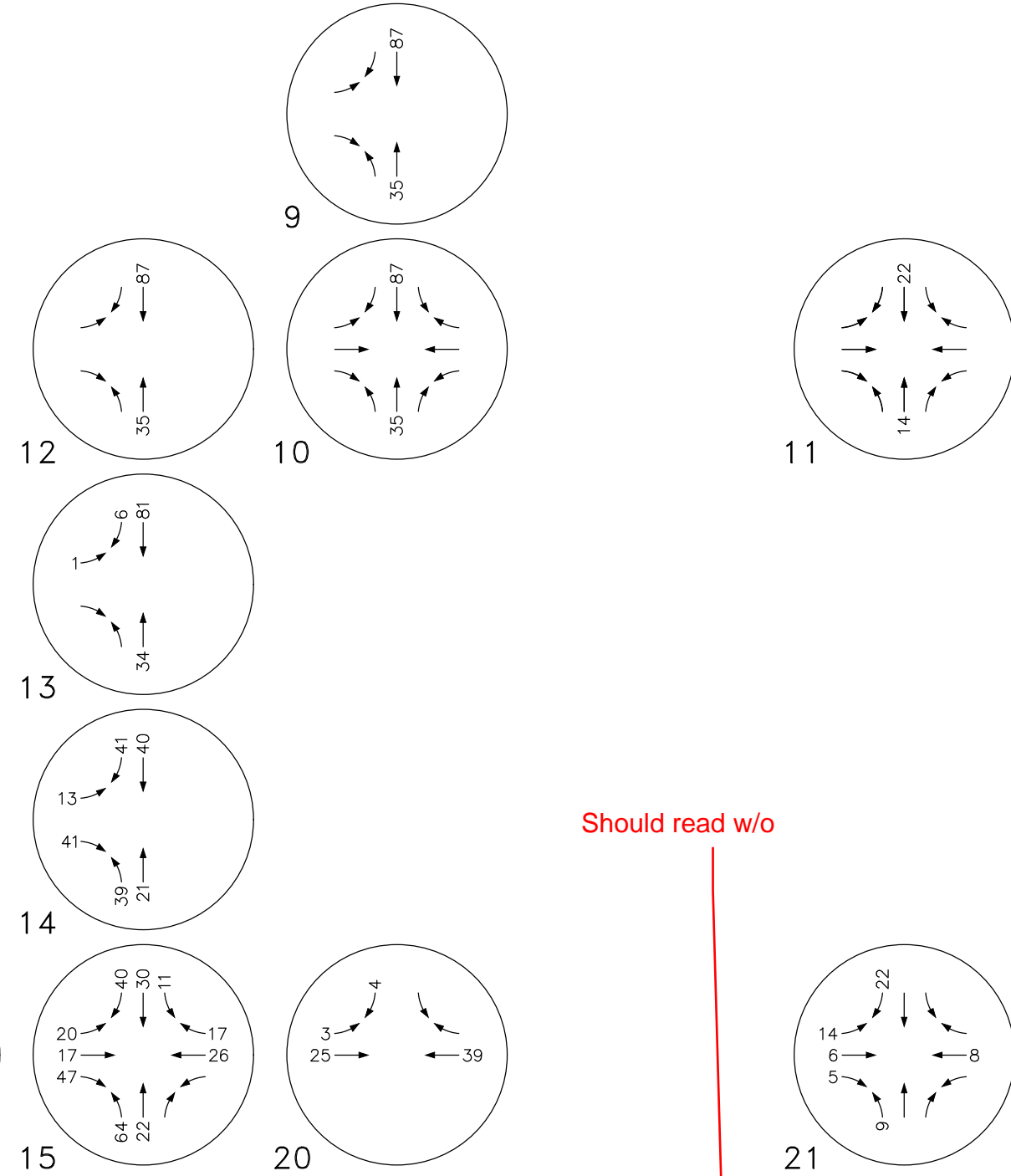
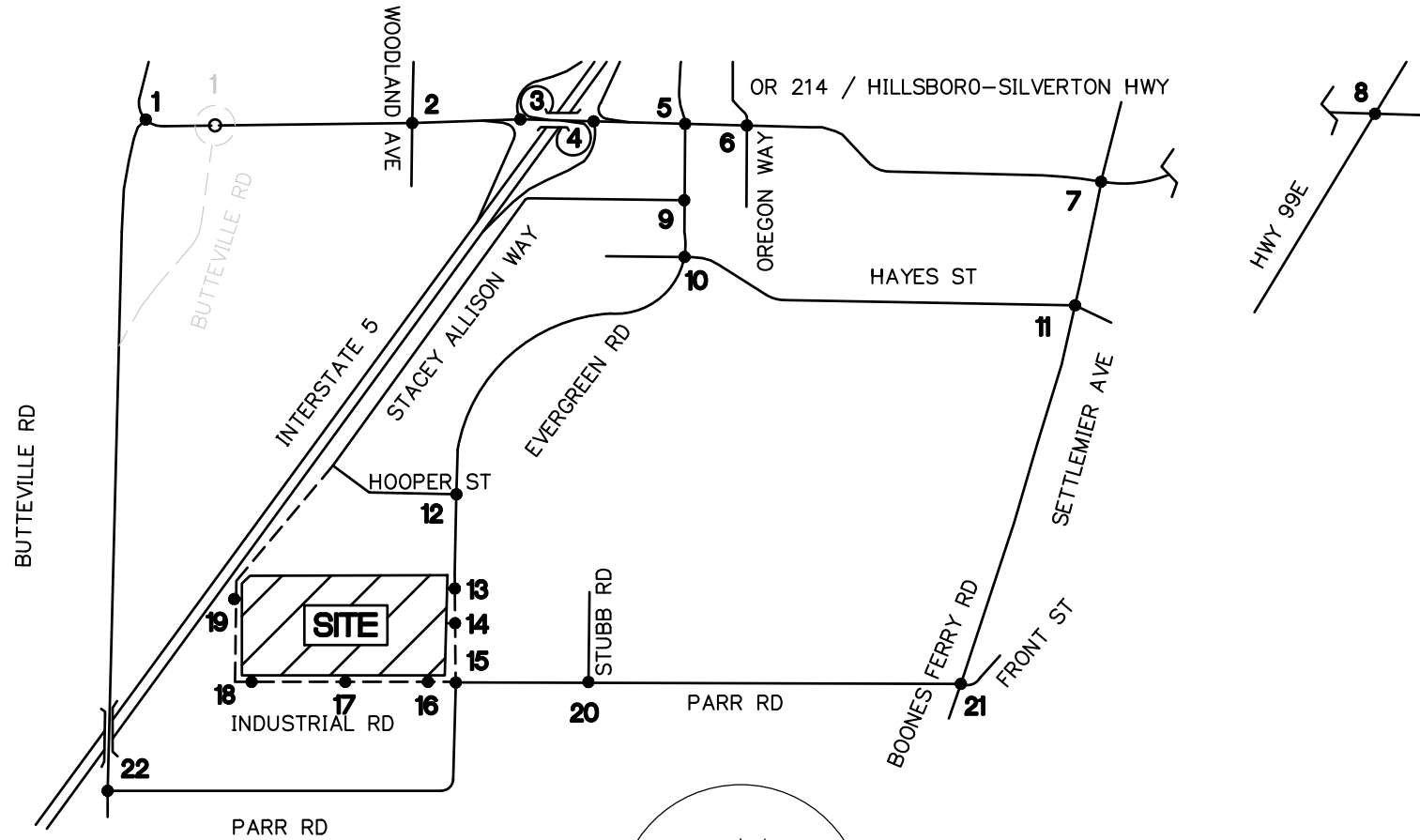
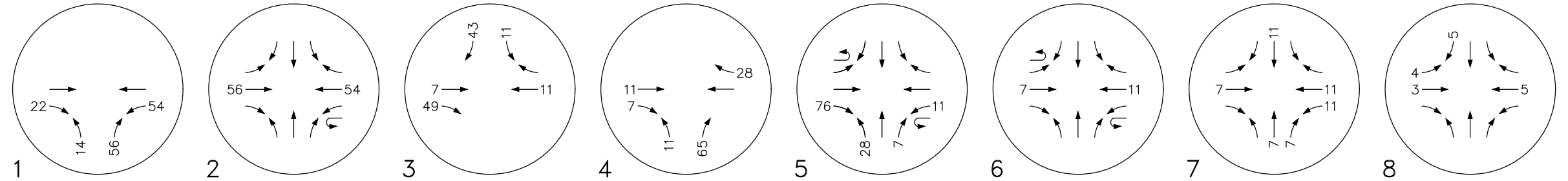
FIGURE
16A



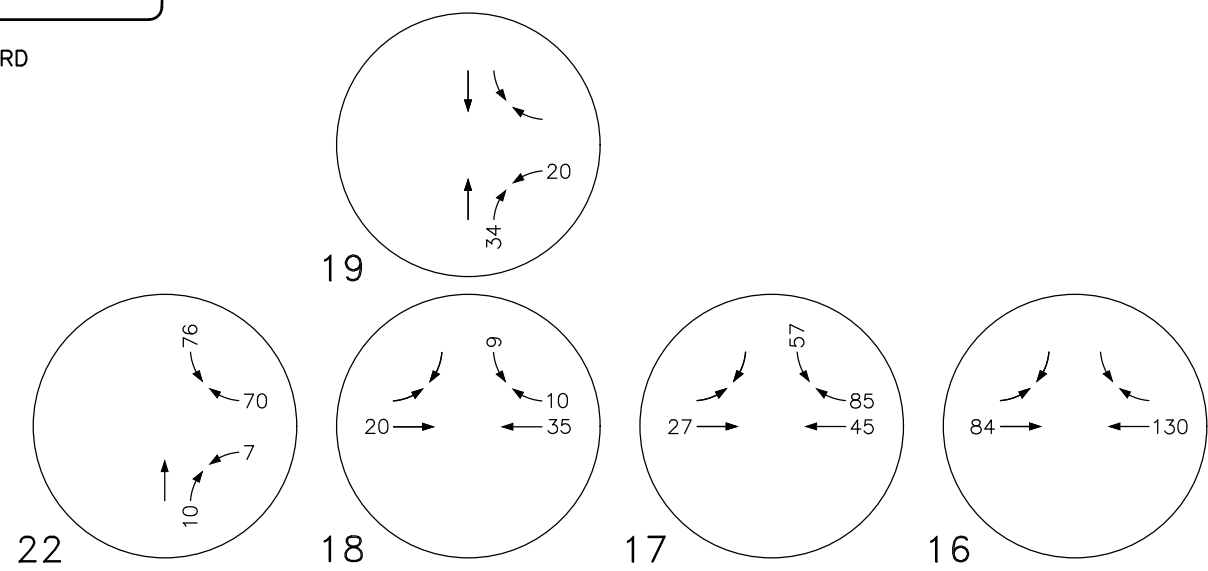
NOT TO SCALE

PM PEAK HOUR

Enter - 215
Exit - 140
Total - 355



Should read w/o



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DATE: 07.19.2022
 DRAWN BY: JHA
 CHECKED BY: BTA
 JOB NO: 222008500

PHASE 1 + 2 AUTO ASSIGNMENT
 W/ STACY ALLISON WAY -
 PM PEAK HOUR
 WEISZ PROPERTY
 WOODBURN, OREGON

FIGURE
16B

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

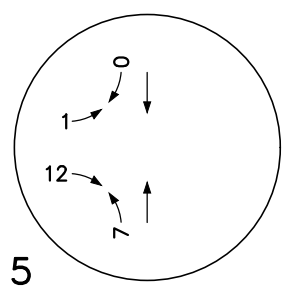
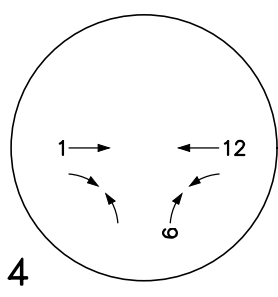
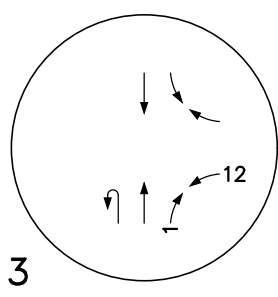
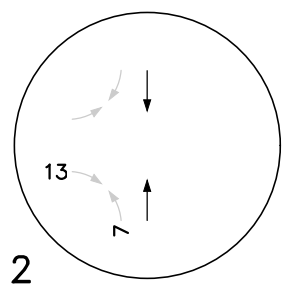
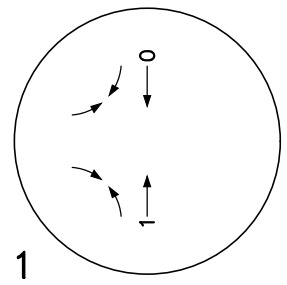
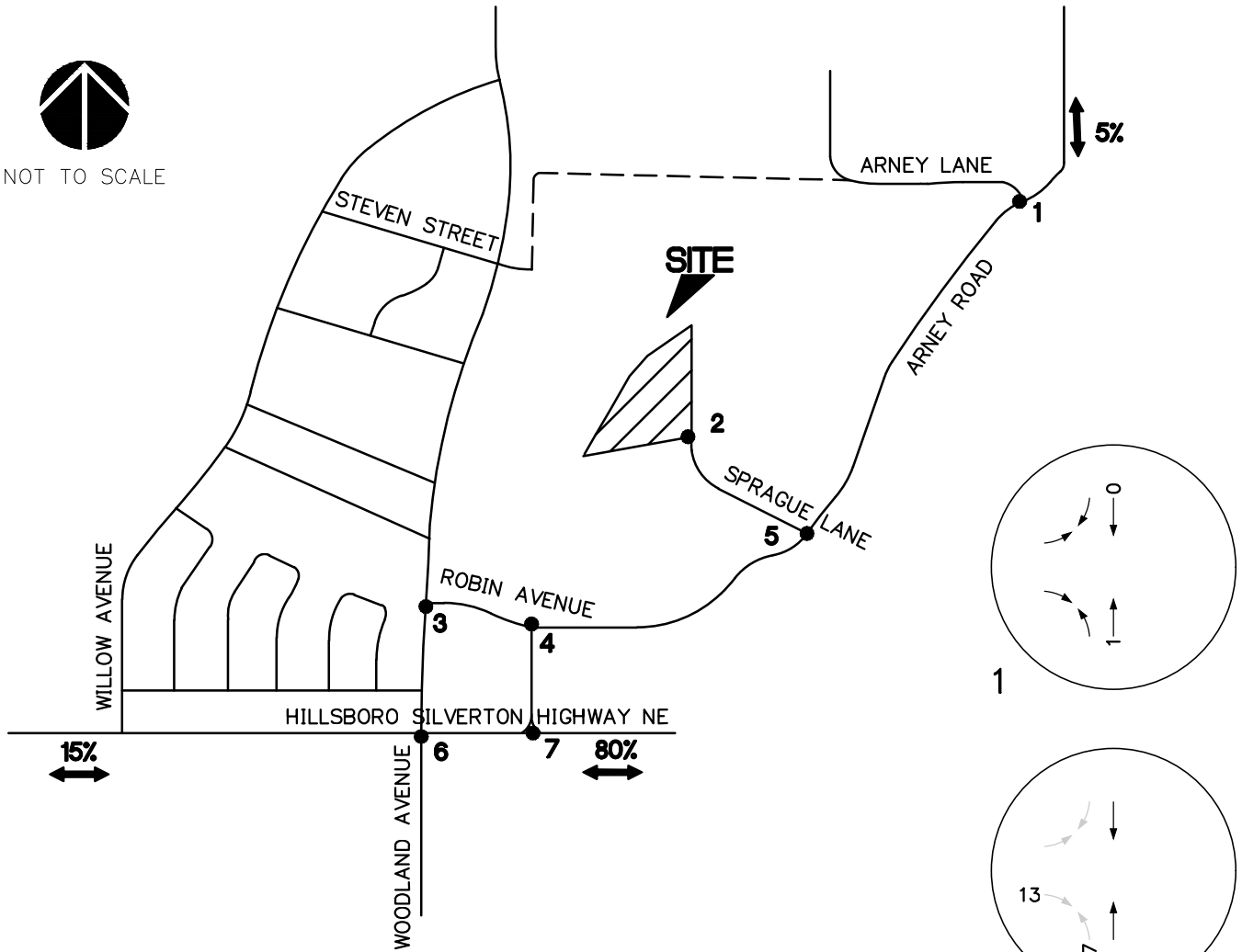
Figure 9 presents the trip distribution and traffic assignment for project trips during the AM and PM peak hours.

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.

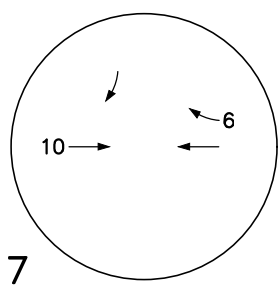
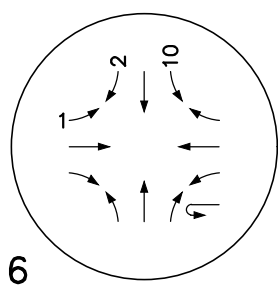


NOT TO SCALE



AM PEAK HOUR

In - 7
 Out - 13
 Total - 20



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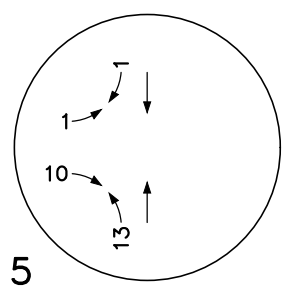
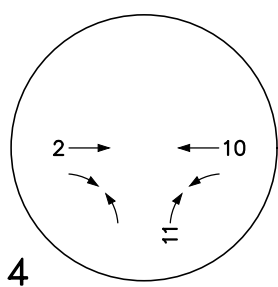
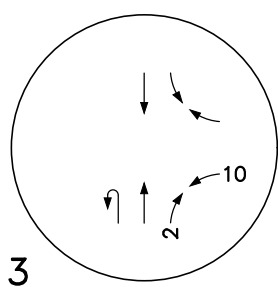
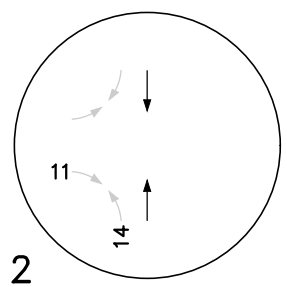
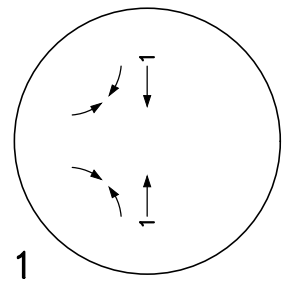
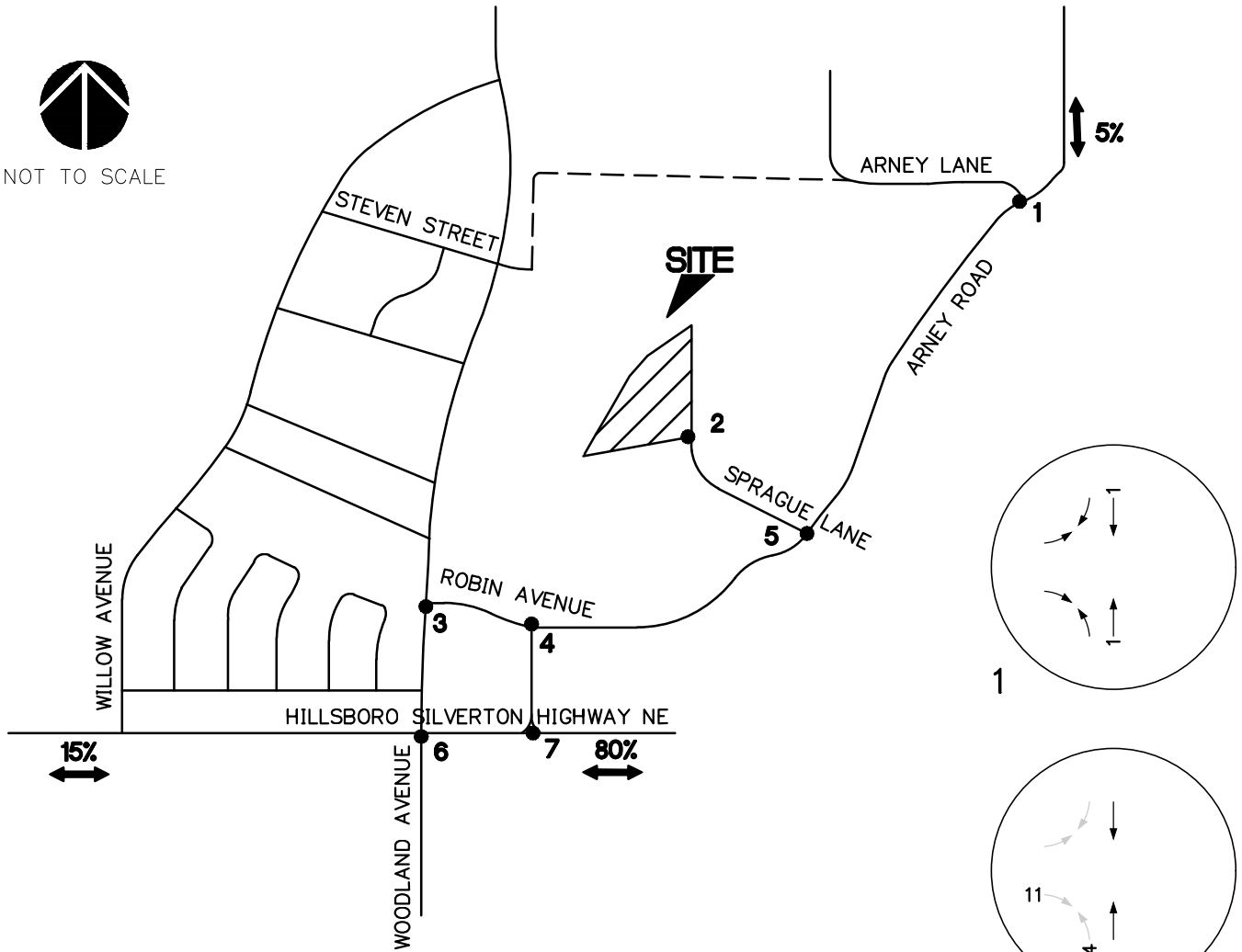
**TRIP DISTRIBUTION +
 TRAFFIC ASSIGNMENT -
 AM PEAK HOUR**
**WOODBURN SENIOR LIVING APARTMENTS
 WOODBURN, OREGON**

**FIGURE
 9A**

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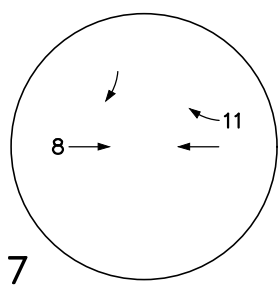
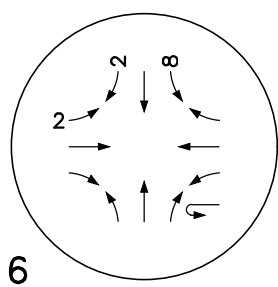


NOT TO SCALE



PM PEAK HOUR

In - 14
 Out - 11
 Total - 25



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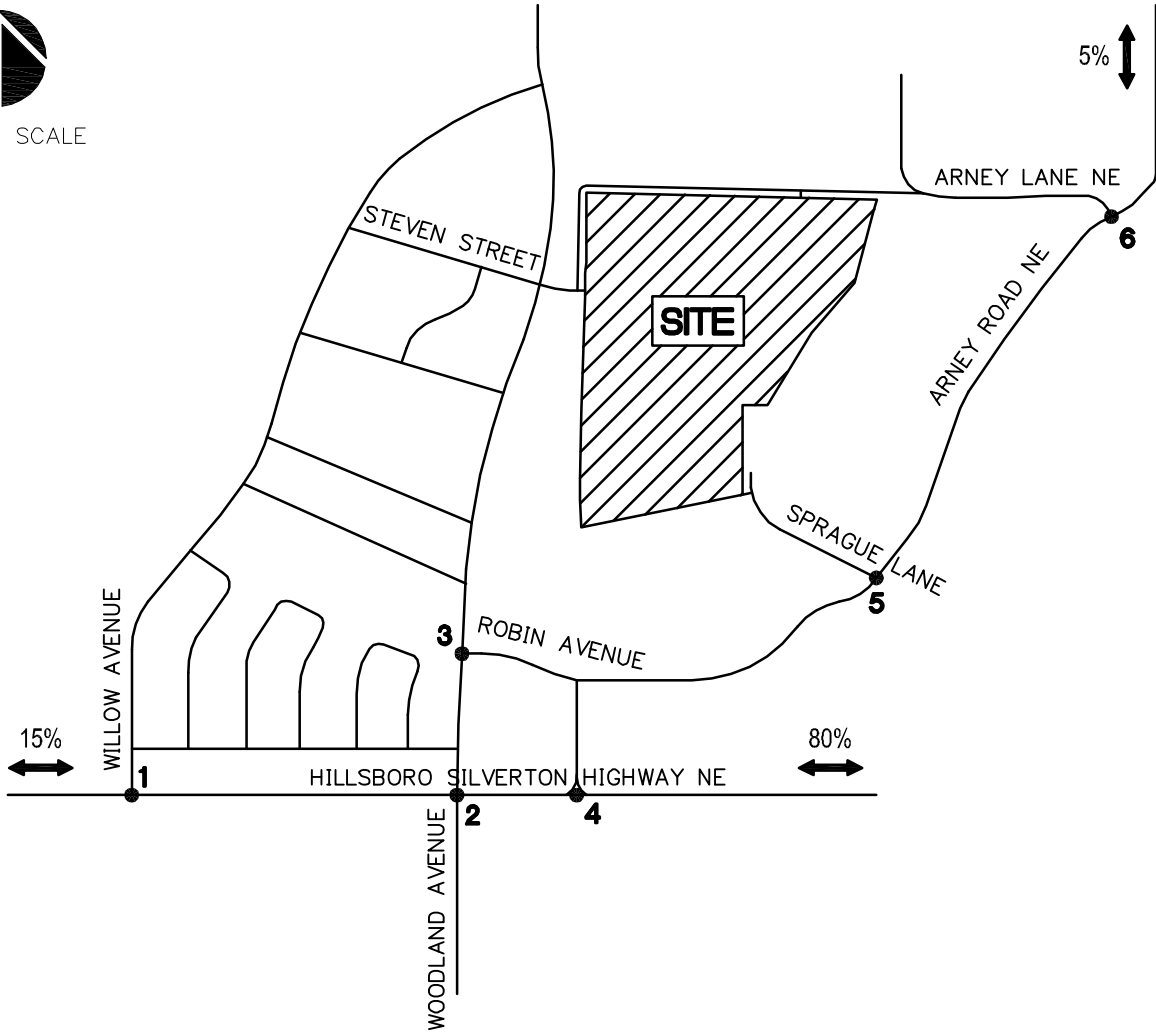
**TRIP DISTRIBUTION +
 TRAFFIC ASSIGNMENT -
 PM PEAK HOUR**
**WOODBURN SENIOR LIVING APARTMENTS
 WOODBURN, OREGON**

**FIGURE
 9B**

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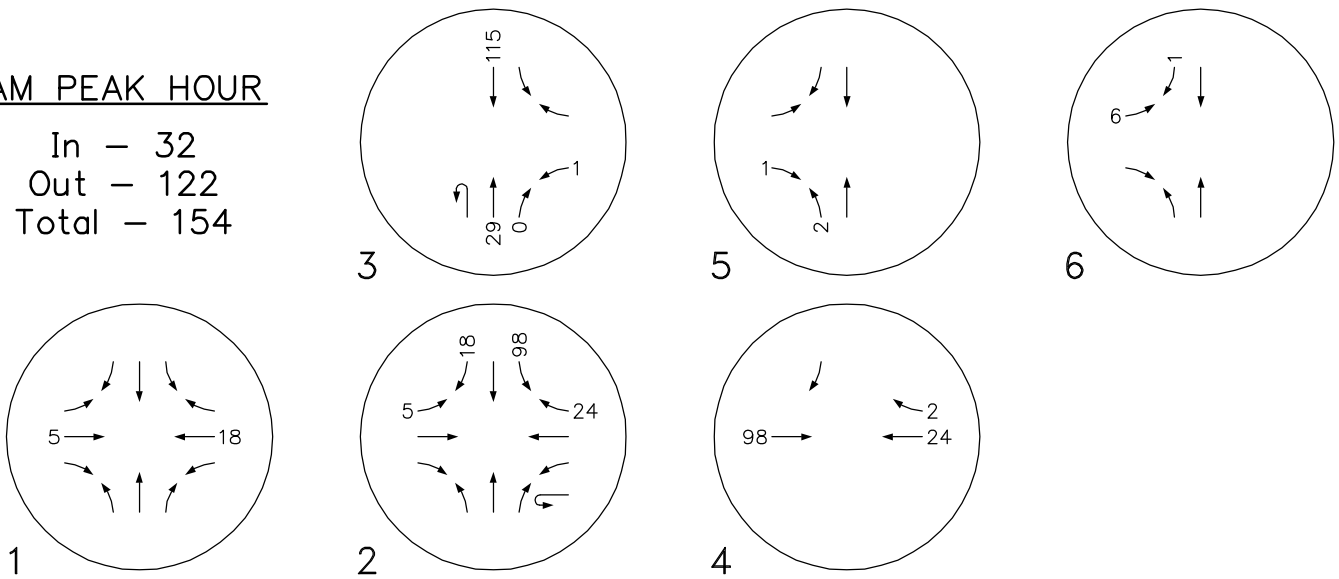


NOT TO SCALE



AM PEAK HOUR

In - 32
 Out - 122
 Total - 154



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DRAWN BY: JTJ

CHECKED BY: JED

JOB NO:
 2150567.00

PROJECT TRIP
 DISTRIBUTION + ASSIGNMENT -
 AM PEAK HOUR

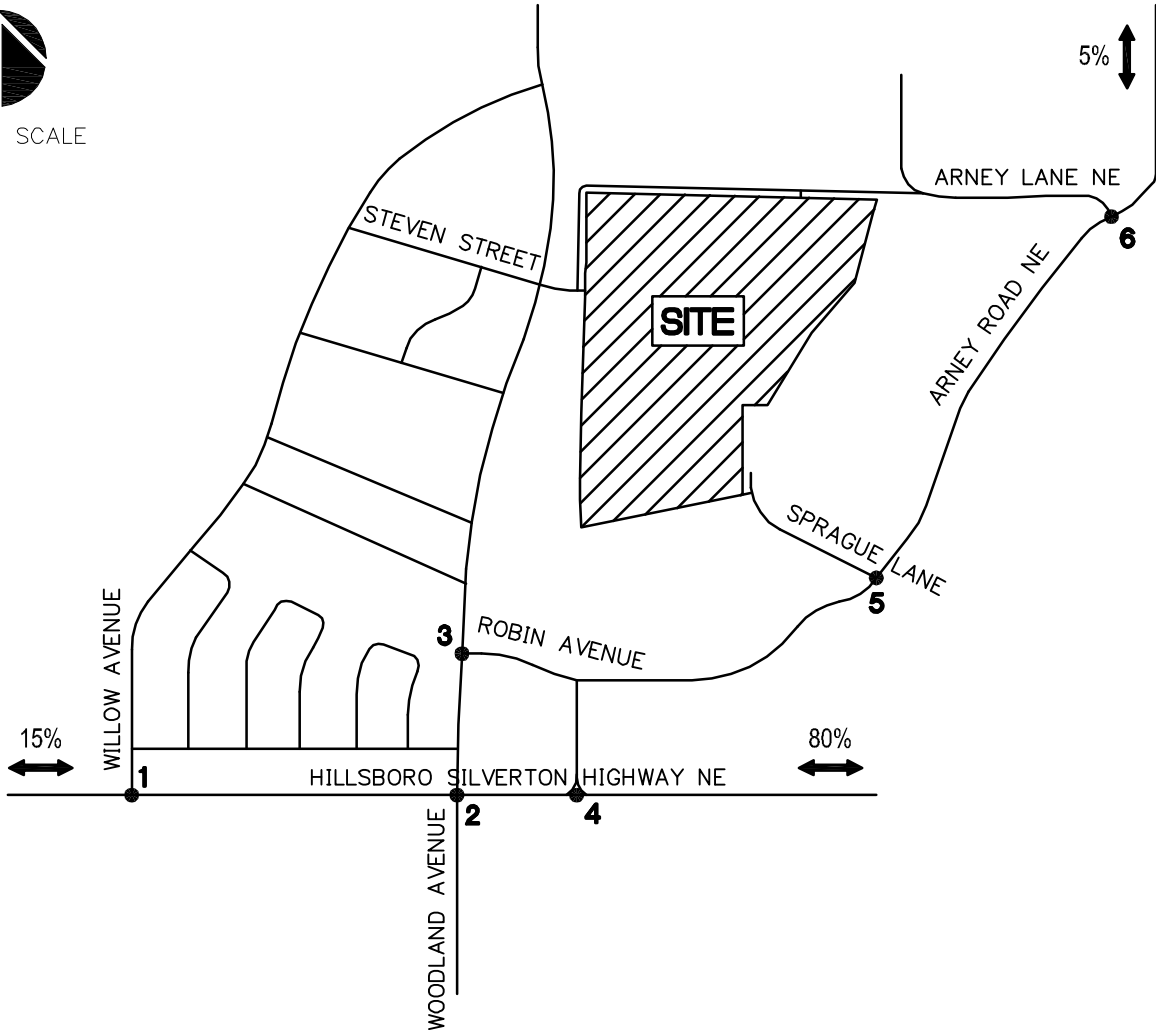
WOODLAND CROSSING
 WOODBURN, OREGON

FIGURE
 9A

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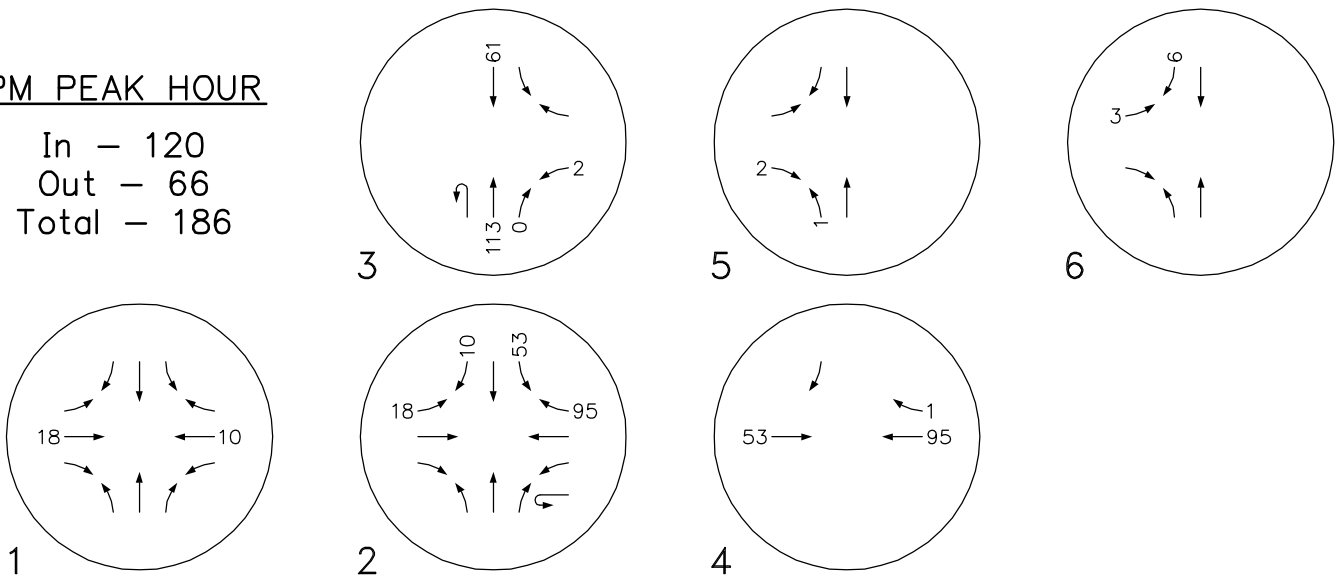


NOT TO SCALE



PM PEAK HOUR

In - 120
 Out - 66
 Total - 186



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DRAWN BY: JTJ

CHECKED BY: JED

JOB NO:
 2150567.00

PROJECT TRIP
 DISTRIBUTION + ASSIGNMENT -
 PM PEAK HOUR

WOODLAND CROSSING
 WOODBURN, OREGON

FIGURE
 9B

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Appendix C - Safety

Crash History Data

Left-Turn Lane Warrant Analysis

Preliminary Signal Warrant Analysis



07/22/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 140 ALL ROAD TYPES, MP 36.01 to 36.03 01/01/2016 to 12/31/2020, Both Add and Non-Add mileage

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2020														
FIXED / OTHER OBJECT	0	1	1	2	0	1	0	0	2	0	2	1	0	2
YEAR 2020 TOTAL	0	1	1	2	0	1	0	0	2	0	2	1	0	2
YEAR: 2019														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
REAR-END	0	1	0	1	0	2	0	1	0	0	1	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2019 TOTAL	0	1	2	3	0	2	0	2	1	0	3	3	0	1
YEAR: 2018														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	1	0	0	0	1
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2018 TOTAL	0	1	1	2	0	1	0	1	1	2	0	1	0	1
YEAR: 2017														
SIDESWIPE - MEETING	0	1	0	1	0	2	0	0	1	0	1	0	0	0
YEAR 2017 TOTAL	0	1	0	1	0	2	0	0	1	0	1	0	0	0
FINAL TOTAL	0	4	4	8	0	6	0	3	5	2	6	5	0	4

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

07/07/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

BUTTEVILLE RD NE, MP 3.18 to 3.20, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2017										
FIXED / OTHER OBJECT	0	0	1	0	0	1	0	0	1	0
2017 TOTAL	0	0	1	0	0	1	0	0	1	0
FINAL TOTAL	0	0	1	0	0	1	0	0	1	0

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

07/22/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY at SB EF HILLS-SILV C1, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2016										
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	2
2016 TOTAL	0	0	0	1	0	1	0	0	0	2
FINAL TOTAL	0	0	0	1	0	1	0	0	0	2

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

07/22/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY at SB EX HILLS-SILV C2, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
REAR-END	0	0	0	2	2	4	0	0	0	3
2020 TOTAL	0	0	0	2	2	4	0	0	0	3
YEAR: 2019										
REAR-END	0	0	0	5	1	6	0	0	0	13
SIDESWIPE - OVERTAKING	0	0	0	1	0	1	0	0	0	3
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2019 TOTAL	0	0	0	6	2	8	0	0	0	16
YEAR: 2018										
REAR-END	0	0	1	6	0	7	0	0	1	9
2018 TOTAL	0	0	1	6	0	7	0	0	1	9
YEAR: 2017										
REAR-END	0	0	2	4	2	8	0	0	2	11
TURNING MOVEMENTS	0	0	1	1	0	2	0	0	1	2
2017 TOTAL	0	0	3	5	2	10	0	0	3	13
YEAR: 2016										
REAR-END	0	0	0	2	0	2	0	0	0	2
TURNING MOVEMENTS	0	1	0	0	1	2	0	1	1	0
2016 TOTAL	0	1	0	2	1	4	0	1	1	2
FINAL TOTAL	0	1	4	21	7	33	0	1	5	43

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

07/05/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY and WB EXTO I-5 SB C4, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2017										
REAR-END	0	0	0	1	0	1	0	0	0	1
2017 TOTAL	0	0	0	1	0	1	0	0	0	1
FINAL TOTAL	0	0	0	1	0	1	0	0	0	1

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY at SB EF HILLS-SILV C1, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 1 of 1 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	A	S							CAUSE									
INVEST	E	A	U	I	C	O	DIST	FIRST STREET		(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	
82225	N	N	N			05/17/2016	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE	0	STRGHT											02
NONE						TU		SB EF HILLS-SILV C1	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W	-E								000		00	
N						2P			03	0		N	DAY	INJ		PSNGR CAR			01	DRVR	NONE	33	M	OR-Y	000	000		00	
N						45 9 3.95	-122 52 56.1	014000100S00															OR<25						
															02	NONE	0	TURN-L									000	00	
																PRVTE	E	-S									000	00	
															01	DRVR	NONE	21	F	OR-Y	028,004	000		000	028,004	000	02		
																PSNGR CAR							OR<25						
															02	NONE	0	TURN-L									000	00	
																PRVTE	E	-S									000	00	
															02	PSNG	INJC	17	M		000	000					000	00	
																PSNGR CAR													
															02	NONE	0	TURN-L									000	00	
																PRVTE	E	-S									000	00	
															03	PSNG	INJC	17	M		000	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.

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY at SB EX HILLS-SILV C2, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 4 of 33 Crash records shown.

SER#	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	A S							
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN) INT-REL	OFFRD WTHR CRASH	TRLR QTY MOVE	G E LICNS PED		ERROR	ACT EVENT	CAUSE	
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	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
03197	N N N 07/25/2017	11	HILLSBORO-SILV HY	INTER	3-LEG	N	N CLR S-1STOP	01 NONE 9	STRGHT				29
NO RPT	TU		SB EX HILLS-SILV C2	N		TRF SIGNAL	N DRY REAR	N/A	N -S			000	00
N	2P			06	1		N DAY PDO	PSNGR CAR		01 DRVR NONE	00	Unk UNK	000 000
N	45 9 3.96	-122 52 55.44	0001YL100S00										
								02 NONE 9	STOP				
								N/A	N -S			011	00
								PSNGR CAR		01 DRVR NONE	00	Unk UNK	000 000
00582	N N N 02/18/2018	11	HILLSBORO-SILV HY	INTER	CROSS	N	N CLR S-1STOP	01 NONE 0	STRGHT				29
NONE	SU		SB EX HILLS-SILV C2	N		TRF SIGNAL	N DRY REAR	PRVTE	N -S			000	00
N	2P			06	1		N DAY INJ	PSNGR CAR		01 DRVR NONE	25	M OTH-Y	026 000
N	45 9 3.96	-122 52 55.44	0001YL100S00										
								02 NONE 0	STOP				
								PRVTE	N -S			011	00
								PSNGR CAR		01 DRVR INJC	57	M OR-Y	000 000
								02 NONE 0	STOP				
								PRVTE	N -S			011	00
								PSNGR CAR		02 PSNG INJC	53	F	000 000
03416	N N N 07/23/2018	11	HILLSBORO-SILV HY	INTER	3-LEG	N	N CLR S-1STOP	01 NONE 0	STRGHT				29
NONE	MO		SB EX HILLS-SILV C2	N		TRF SIGNAL	N DRY REAR	PRVTE	N -S			000	00
N	7P			06	0		N DAY INJ	PSNGR CAR		01 DRVR NONE	00	M UNK	026 000
N	45 9 3.96	-122 52 55.44	0001YL100S00										
								02 NONE 0	STOP				
								PRVTE	N -S			011	00
								PSNGR CAR		01 DRVR INJC	29	F OR-Y	000 000
								02 NONE 0	STOP				
								PRVTE	N -S			011	00
								PSNGR CAR		02 PSNG INJB	13	F	000 000
02952	N N N 08/10/2018	11	HILLSBORO-SILV HY	INTER	3-LEG	N	N CLR S-1STOP	01 NONE 0	STRGHT				29
NONE	FR		SB EX HILLS-SILV C2	N		TRF SIGNAL	N DRY REAR	PRVTE	N -S			000	00
N	4P			06	0		N DAY INJ	PSNGR CAR		01 DRVR NONE	53	F OR-Y	026 000
N	45 9 3.96	-122 52 55.44	0001YL100S00										
								02 NONE 0	STOP				
								PRVTE	N -S			011	00
								PSNGR CAR		01 DRVR NONE	40	F OR-Y	000 000
								02 NONE 0	STOP				
								PRVTE	N -S			011	00
								PSNGR CAR					

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY at SB EX HILLS-SILV C2, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

20 - 22 of 33 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				
03002	N	N	N	N	N	N	08/10/2018	14	HILLSBORO-SILV HY	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE	0	STRGHT														
STATE										FR	SB EX HILLS-SILV C2	E		TRF SIGNAL	N	DRY	REAR	PRVTE	E -W														
N										5P		06	0	N	DAY	INJ	PSNGR CAR		01	DRVR	NONE	19	F	OR-Y		016,026	038	27,29					
N										45 9 3.96	-122 52 55.44	014000100S00																					
																	02	NONE	0	STOP													
																	PRVTE	E -W															
																	PSNGR CAR		01	DRVR	INJC	22	M	OR-Y		000	000	00					
																	02	NONE	0	STOP													
																	PRVTE	E -W															
																	PSNGR CAR		02	PSNG	INJC	30	F			000	000	00					
01526	N	N	N	N	N	N	04/25/2019	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE	0	STRGHT														
CITY										TH	SB EX HILLS-SILV C2	E		TRF SIGNAL	N	DRY	SS-O	PRVTE	E -W														
N										7P		06	0	N	DUSK	INJ	PSNGR CAR		01	DRVR	INJC	36	F	NONE		045	000	13					
N										45 9 3.97	-122 52 55.42	014000100S00																					
																	01	NONE	0	STRGHT													
																	PRVTE	E -W															
																	PSNGR CAR		02	PSNG	INJC	06	F			000	000	00					
																	01	NONE	0	STRGHT													
																	PRVTE	E -W															
																	PSNGR CAR		03	PSNG	INJC	13	F			000	000	00					
																	02	NONE	1	STRGHT													
																	PRVTE	E -W															
																	PSNGR CAR		01	DRVR	NONE	49	M	OR-Y		000	000	00					
01956	N	N	N				05/19/2017	11	HILLSBORO-SILV HY	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE	0	STRGHT														
CITY										FR	SB EX HILLS-SILV C2	NW		R-GRN-SIG	N	DRY	REAR	PRVTE	NW-SE														
N										7A		09	1	N	DAY	INJ	PSNGR CAR		01	DRVR	NONE	49	F	OR-Y		026	000	29					
N										45 9 3.96	-122 52 55.44	0001YL100S00																					
																	02	NONE	0	STOP													
																	PRVTE	NW-SE															
																	PSNGR CAR		01	DRVR	INJB	47	F	OR-Y		000	000	00					
03854	N	N	N				09/16/2017	11	HILLSBORO-SILV HY	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE	0	STRGHT														
CITY										SA	SB EX HILLS-SILV C2	NW		R-GRN-SIG	N	DRY	REAR	PRVTE	NW-SE														
N										12P		09	1	N	DAY	INJ	PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		026	000	29					
N										45 9 3.96	-122 52 55.44	0001YL100S00																					

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

HILLSBORO-SILV HY and WB EXTO I-5 SB C4, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 1 of 1 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	MOVE	AS	INJ	RES	PED	ERROR	ACT	EVENT	CAUSE								
INVEST	E	A	U	I	C	O	DIST	FIRST STREET		(MEDIAN)	INT-REL																	
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM												
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				
03069	Y	N	N	N	N	07/29/2017	14	HILLSBORO-SILV HY	STRGHT		Y	N	CLR	S-1STOP	01	NONE	0	STRGHT								013,093	32,27,01	
CITY					SA			WB EXTO I-5 SB C4	E	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	E -W								000	00		
N					10A				05			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	29	F	OR-Y		052,047,026	038	093	32,27,01
N					45 9 3.88		-122 52	014000100S00		(04)																		
					52.45										02	NONE	0	STOP										
																PRVTE	E -W									011	013	00
																PSNGR CAR		01	DRVR	INJC	21	M	OR-Y		000	022	00	
															03	NONE	0	STOP									011	00
																PRVTE	E -W											
																PSNGR CAR		01	DRVR	NONE	36	F	OR-Y		000	000	00	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.

07/22/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY at NB EX HILLS-SILV C1, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
REAR-END	0	0	0	2	3	5	0	0	0	3
SIDESWIPE - OVERTAKING	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	1	3	4	0	0	0	2
2020 TOTAL	0	0	0	3	7	10	0	0	0	5
YEAR: 2019										
REAR-END	0	0	0	2	0	2	0	0	0	2
TURNING MOVEMENTS	0	0	0	1	2	3	0	0	0	1
2019 TOTAL	0	0	0	3	2	5	0	0	0	3
YEAR: 2018										
REAR-END	0	0	0	1	0	1	0	0	0	1
TURNING MOVEMENTS	0	0	0	3	2	5	0	0	0	3
2018 TOTAL	0	0	0	4	2	6	0	0	0	4
YEAR: 2017										
REAR-END	0	0	0	1	1	2	0	0	0	1
TURNING MOVEMENTS	0	0	0	2	4	6	0	0	0	3
2017 TOTAL	0	0	0	3	5	8	0	0	0	4
YEAR: 2016										
REAR-END	0	0	0	2	1	3	0	0	0	3
TURNING MOVEMENTS	0	0	0	2	1	3	0	0	0	4
2016 TOTAL	0	0	0	4	2	6	0	0	0	7
FINAL TOTAL	0	0	0	17	18	35	0	0	0	23

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07/22/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY at NB EF HILLS-SILV C2, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2017										
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2017 TOTAL	0	0	0	0	1	1	0	0	0	0
YEAR: 2016										
TURNING MOVEMENTS	0	0	1	1	0	2	0	0	1	1
2016 TOTAL	0	0	1	1	0	2	0	0	1	1
FINAL TOTAL	0	0	1	1	1	3	0	0	1	1

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07/06/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY and EB EXTO I-5 NB C3, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
FIXED / OTHER OBJECT	0	0	0	1	0	1	0	0	0	2
2020 TOTAL	0	0	0	1	0	1	0	0	0	2
YEAR: 2018										
FIXED / OTHER OBJECT	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	2
2018 TOTAL	0	0	0	1	2	3	0	0	0	2
YEAR: 2017										
REAR-END	0	0	0	1	0	1	0	0	0	3
SIDESWIPE - OVERTAKING	0	0	0	0	1	1	0	0	0	0
2017 TOTAL	0	0	0	1	1	2	0	0	0	3
FINAL TOTAL	0	0	0	3	3	6	0	0	0	7

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY at NB EX HILLS-SILV C1, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

6 - 9 of 35 Crash records shown.

SER#	INVEST	RD DPT	UNLOC?	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	RD CHAR	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A S	PRTC	INJ	G E LICNS	PED	ERROR	ACT	EVENT	CAUSE							
	E A U I C O DAY	E L G N H R TIME	D C S V L K LAT	DATE	DIST	FIRST STREET	(MEDIAN)	DIRECT	TRAFFIC	RNDBT	SURF	COLL	TRLR QTY	FROM																
				DATE		SECOND STREET	(#LANES)	LOCTN	CONTR	DRVWY	LIGHT	SVRTY	V# TYPE	TO																
01399	N N N		N N N	04/10/2017	11	HILLSBORO-SILV HY	3-LEG	INTER	N	N	CLR	S-1STOP	01 NONE 9	STRGHT																
NONE				MO		NB EX HILLS-SILV C1		S	TRF SIGNAL	N	DRY	REAR	N/A	S -N									000	00						
N				4P			0	06		N	DAY	PDO	PSNGR CAR										000	000	00					
N				45 9 3.79	-122 52 45.74	0001YM100S00																		000	000					
													02 NONE 9	STOP										011	00					
													N/A	S -N											000					
													PSNGR CAR												000	000				
																									000	000				
02120	N N N		N N N	06/14/2018	11	HILLSBORO-SILV HY	3-LEG	INTER	N	N	CLR	S-OTHER	01 NONE 9	TURN-R																
NONE				TH		NB EX HILLS-SILV C1		S	TRF SIGNAL	N	DRY	TURN	N/A	S -E										000	00					
N				5P			0	06		N	DAY	PDO	PSNGR CAR											000	000	00				
N				45 9 3.79	-122 52 45.74	0001YM100S00																			000	000				
													02 NONE 9	TURN-R											000	00				
													N/A	S -E												000				
													PSNGR CAR													000	000			
02745	N N Y		N N Y	09/10/2020	11	HILLSBORO-SILV HY	3-LEG	INTER	N	N	SMOK	S-1STOP	01 NONE 9	STRGHT																
CITY				TH		NB EX HILLS-SILV C1		S	TRF SIGNAL	N	DRY	REAR	N/A	S -N											000	00				
N				4A			0	06		N	DLIT	PDO	PSNGR CAR												000	000	00			
N				45 9 3.78	-122 52 45.76	0001YM100S00																				000	000			
													02 NONE 9	STOP												011	00			
													N/A	S -N													000			
													PSNGR CAR													000	000			
01720	N N N		N N N	04/23/2016	11	HILLSBORO-SILV HY	CROSS	INTER	N	N	CLR	S-1STOP	01 NONE 0	STRGHT																
NONE				SA		NB EX HILLS-SILV C1		SW	TRF SIGNAL	N	DRY	REAR	PRVTE	SW-NE											000	00				
N				11A			1	06		N	DAY	INJ	PSNGR CAR												026	000	29			
N				45 9 3.79	-122 52 45.31	0001PZ100S00																					OR>25			
													02 NONE 0	STOP													011	00		
													PRVTE	SW-NE														000		
													PSNGR CAR															000	000	
02713	N N N	N N	N N	06/29/2016	11	HILLSBORO-SILV HY	CROSS	INTER	N	N	CLR	S-1STOP	01 NONE 0	STRGHT																
CITY				WE		NB EX HILLS-SILV C1		SW	TRF SIGNAL	N	DRY	REAR	PRVTE	SW-NE											000	00				
N				1P			1	06		N	DAY	INJ	PSNGR CAR												043,026	000	07			
N				45 9 3.79	-122 52 45.31	0001PZ100S00																						OR<25		
													02 NONE 0	STOP														011	00	
													PRVTE	SW-NE															000	
													PSNGR CAR																000	000

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URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY at NB EX HILLS-SILV C1, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

19 - 22 of 35 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				
01974	N N N	05/21/2017	14	HILLSBORO-SILV HY	INTER	3-LEG	N	CLR	S-OTHER	01 NONE 0	TURN-R												
NONE		SU		NB EX HILLS-SILV C1	CN			TRF SIGNAL	N	DRY	TURN			PRVTE	SW-E				000	00			
N		5P			04	0		N	DAY	INJ				PSNGR CAR		01 DRVR	NONE	69 F	OR-Y	000	000	00	
N		45 9 3.79	-122 52 45.74	014000100S00															OR>25				
										02 NONE 0	TURN-R			PRVTE	SW-E					000	000	00	
										PSNGR CAR						01 DRVR	INJC	20 M	OR-Y	000	000	00	
																			OR<25				
										02 NONE 0	TURN-R			PRVTE	SW-E					000	000	00	
										PSNGR CAR						02 PSNG	INJC	25 F		000	000	00	
04046	N N N	N N 09/27/2017	11	HILLSBORO-SILV HY	INTER	CROSS	N	CLR	ANGL-OTH	01 NONE 0	STRGHT											40,04	
CITY		WE		NB EX HILLS-SILV C1	CN			TRF SIGNAL	N	DRY	TURN			PRVTE	W -E							000	00
N		8A			04	1		N	DAY	INJ				PSNGR CAR		01 DRVR	NONE	43 M	OR-Y	040	026	40,04	
N		45 9 3.79	-122 52 45.74	014000100S00															OR<25				
										02 NONE 0	TURN-L			PRVTE	SW-W					000	000	00	
										PSNGR CAR						01 DRVR	INJC	39 F	OR-Y	000	000	00	
																			OR<25				
00017	N N N	01/02/2017	11	HILLSBORO-SILV HY	INTER	3-LEG	N	SNOW	ANGL-OTH	01 NONE 9	TURN-L											04	
NONE		MO		NB EX HILLS-SILV C1	CN			SNO	TURN	N/A	SW-W											000	00
N		6P			02	1		N	DLIT	PDO				PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
N		45 9 3.79	-122 52 45.74	014000100S00																		UNK	
										02 NONE 9	STRGHT			N/A	E -W							000	00
										PSNGR CAR						01 DRVR	NONE	00	Unk UNK	000	000	00	
																						UNK	
03623	N N N	N N 09/03/2017	11	HILLSBORO-SILV HY	INTER	3-LEG	N	CLR	S-OTHER	01 NONE 9	TURN-L											08	
CITY		SU		NB EX HILLS-SILV C1	CN			L-GRN-SIG	N	DRY	TURN			N/A	S -W							000	00
N		9A			01	0		N	DAY	PDO				SEMI TOW		01 DRVR	NONE	00	Unk UNK	000	000	00	
N		45 9 3.79	-122 52 45.74	014000100S00																		UNK	
										02 NONE 9	TURN-L			N/A	S -W							000	00
										PSNGR CAR						01 DRVR	NONE	00	Unk UNK	000	000	00	
																						UNK	
05500	N N N	N N 12/20/2017	11	HILLSBORO-SILV HY	INTER	3-LEG	N	CLR	ANGL-OTH	01 NONE 9	TURN-L											04,40	
STATE		WE		NB EX HILLS-SILV C1	CN			TRF SIGNAL	N	DRY	TURN			N/A	S -W							000	00
N		4P			02	0		N	DAY	PDO				PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
N		45 9 3.79	-122 52 45.74	014000100S00																		UNK	

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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

HILLSBORO-SILV HY at NB EX HILLS-SILV Cl, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

33 - 35 of 35 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY	STREET	RD	CHAR	INT-TYPE	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	TRLR	QTY	MOVE	A	S	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							
																02	NONE	9	STRGHT																	
																N/A		W -E												000	000	00				
																	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK			000	000	00	00					
00297	N	N	N			01/25/2020	11		HILLSBORO-SILV HY	INTER	3-LEG	N			N	RAIN	ANGL-OTH	01	NONE	9	TURN-L										04,27					
CITY						SA			NB EX HILLS-SILV Cl	CN		TRF SIGNAL	N			WET	TURN		N/A		SW-W										000	00				
N						8P				02	0		N			DLIT	PDO		PSNGR	CAR											000	000	00			
N						45 9 3.77	-122 52 45.75		014000100S00																											
																02	NONE	9	STRGHT																	
																N/A		E -W													000	000	00			
																	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK			000	000	00	00					
03084	N	N	N	N	N	10/12/2020	11		HILLSBORO-SILV HY	INTER	3-LEG	N			N	CLR	ANGL-OTH	01	NONE	9	STRGHT											04,27				
CITY						MO			NB EX HILLS-SILV Cl	CN		TRF SIGNAL	N			DRY	TURN		N/A		W -E											000	00			
N						12P				04	0		N			DAY	PDO		PSNGR	CAR												000	000	00		
N						45 9 3.79	-122 52 45.74		014000100S00																											
																02	NONE	9	TURN-L																	
																N/A		SW-W															000	000	00	
																	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK			000	000	00	00					

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CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY at NB EF HILLS-SILV C2, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 3 of 3 Crash records shown.

SER#	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	TRLR QTY	MOVE	A S	PRTC	INJ	G E LICNS	PED	ERROR	ACT	EVENT	CAUSE		
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	A S	PRTC	INJ	G E LICNS	PED		
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	ERROR		
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		
02268	N N N 06/01/2016	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	CLR	O-1 L-TURN	01 NONE 0	STRGHT					02		
NONE	WE		NB EF HILLS-SILV C2	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	E -W					000	00	
N	5A			02	1		N	DAWN	INJ	PSNGR CAR		01 DRVR	INJB	46 M	OR-Y	000	000	00
N	45 9 3.79	-122 52 45.31	014000100S00															
										02 NONE 0	TURN-L							
										PRVTE	W -NW						000	00
										PSNGR CAR		01 DRVR	NONE	31 F	OR-Y	028,004	000	02
04679	N N N 10/23/2016	14	HILLSBORO-SILV HY	INTER	CROSS	N	N	RAIN	ANGL-OTH	01 NONE 0	TURN-R							04
CITY	SU		NB EF HILLS-SILV C2	CN		TRF SIGNAL	N	WET	TURN	PRVTE	SE-E						000	00
N	5A			04	1		N	DLIT	INJ	PSNGR CAR		01 DRVR	INJC	27 M	OR-Y	097	000	00
N	45 9 3.79	-122 52 45.31	014000100S00															
										02 NONE 0	STRGHT							
										PRVTE	W -E						000	00
										PSNGR CAR		01 DRVR	NONE	61 F	OR-Y	097	000	00
00709	N N N N N 02/23/2017	14	HILLSBORO-SILV HY	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01 NONE 9	TURN-L							08,02
CITY	TH		NB EF HILLS-SILV C2	CN		TRF SIGNAL	N	WET	TURN	N/A	W -N						000	00
N	9P			02	0		N	DLIT	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00
N	45 9 3.74	-122 52 43.5	014000100S00															
										02 NONE 9	STRGHT							
										N/A	E -W						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.

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and EB EXTO I-5 NB C3, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 3 of 6 Crash records shown.

SER#	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	ACT	EVENT	CAUSE										
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
01972	NNN 05/21/2017	14	HILLSBORO-SILV HY	STRGHT														
			EB EXTO I-5 NB C3	W	(NONE)	UNKNOWN	DRY	REAR	PRVTE	W -E						000		00
N	8P			03			DAY	INJ	PSNGR CAR		01	DRVR	NONE	40 M	OR-Y	026	000	29
N	45 9 3.81	-122 52 49.47	014000100S00		(04)								OR<25					
									02 NONE 0	STOP								
									PRVTE	W -E							011	00
									PSNGR CAR		01	DRVR	INJC	22 F	OR-Y	000	000	00
													OR<25					
									02 NONE 0	STOP								
									PRVTE	W -E								011
									PSNGR CAR		02	PSNG	INJC	42 F		000	000	00
									02 NONE 0	STOP								
									PRVTE	W -E								011
									PSNGR CAR		03	PSNG	INJC	18 F		000	000	00
00800	NNN N N 03/01/2017	14	HILLSBORO-SILV HY	STRGHT		N	CLR	S-STRGHT	01 NONE 9	STRGHT								13
			EB EXTO I-5 NB C3	W	(NONE)	R-GRN-SIG	DRY	SS-O	N/A	W -E								000
N	4A			03			DLIT	PDO	PSNGR CAR		01	DRVR	NONE	00 Unk	UNK	000	000	00
N	45 9 3.81	-122 52 48.72	014000100S00		(06)													
									02 NONE 9	STRGHT								
									N/A	W -E								000
									SEMI TOW		01	DRVR	NONE	00 Unk	UNK	000	000	00
01825	NNN 05/27/2018	14	HILLSBORO-SILV HY	STRGHT		N	CLR	S-1TURN	01 NONE 0	TURN-L								08
			EB EXTO I-5 NB C3	W	(NONE)	UNKNOWN	DRY	TURN	PRVTE	E -S								000
N	12P			05			DAY	INJ	PSNGR CAR		01	DRVR	NONE	37 M	OTH-Y	008,006	000	08
N	45 9 3.81	-122 52 49.48	014000100S00		(04)										N-RES			
									02 NONE 0	STRGHT								
									PRVTE	E -W								000
									PSNGR CAR		01	DRVR	INJC	24 M	OR-Y	000	000	00
															OR<25			
									02 NONE 0	STRGHT								
									PRVTE	E -W								000
									PSNGR CAR		02	PSNG	INJC	22 F		000	000	00
00160	YN N N N 01/11/2020	11	EB EXTO I-5 NB C3	CURVE		N	CLD	FIX OBJ	01 NONE 0	STRGHT								050
			HILLSBORO-SILV HY	S	(NONE)	ONE-WAY	DRY	FIX	PRVTE	N -S								000 050
Y	2P			05			DAY	INJ	PSNGR CAR		01	DRVR	INJC	23 M	OR-Y	047,079,081	000	01
N	45 9 3.26	-122 52 45.85	0140AG100S00		(01)										OR<25			

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07/06/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
ANGLE	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	2	0	2	0	0	0	3
TURNING MOVEMENTS	0	0	4	5	1	10	0	0	5	17
2020 TOTAL	0	0	4	7	2	13	0	0	5	20
YEAR: 2019										
ANGLE	0	0	0	2	0	2	0	0	0	3
REAR-END	0	0	0	2	2	4	0	0	0	5
SIDESWIPE - OVERTAKING	0	0	0	3	0	3	0	0	0	5
TURNING MOVEMENTS	0	0	1	3	3	7	0	0	4	6
2019 TOTAL	0	0	1	10	5	16	0	0	4	19
YEAR: 2018										
ANGLE	0	1	0	0	1	2	0	3	0	1
FIXED / OTHER OBJECT	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	4	0	4	0	0	0	5
SIDESWIPE - OVERTAKING	0	0	0	1	1	2	0	0	0	1
TURNING MOVEMENTS	0	0	0	3	4	7	0	0	0	5
2018 TOTAL	0	1	0	8	7	16	0	3	0	12
YEAR: 2017										
ANGLE	0	0	0	1	0	1	0	0	0	5
FIXED / OTHER OBJECT	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	0	2	2	0	0	0	0
TURNING MOVEMENTS	0	0	1	5	5	11	0	0	1	7
2017 TOTAL	0	0	1	6	8	15	0	0	1	12
YEAR: 2016										
ANGLE	0	0	0	0	1	1	0	0	0	0
FIXED / OTHER OBJECT	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	2	1	3	0	0	0	2

07/06/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
TURNING MOVEMENTS	0	0	2	4	2	8	0	0	5	6
2016 TOTAL	0	0	2	6	5	13	0	0	5	8
FINAL TOTAL	0	1	8	37	27	73	0	3	15	71

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URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 4 of 73 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY	STREET	INT-TYPE	SPCL USE	MOVE	A	S																
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE		
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	TYPE	TO	PH#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	PH#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
05295	N	N	N	N	N	12/31/2019	14		EVERGREEN RD	INTER	CROSS	N	N	RAIN	ANGL-STP	01	NONE	0		STRGHT							092	26		
CITY						TU			HILLSBORO-SILV HY	N		TRF SIGNAL	N	WET	ANGL		PRVTE		E	-W							007	092	26	
N						5P				06	3		N	DLIT	INJ		PSNGR	CAR		01	DRVR	NONE	49	F	OR-Y	026	000	092	26	
N						45 9 3.52	-122 52 32.55		014000100S00															OR>25						
																	02	NONE	0		STOP									
																	PRVTE		N	-S							011		00	
																	PSNGR	CAR		01	DRVR	INJC	51	M	OR-Y	000	000		00	00
																								OR<25						
03633	N	N	N	N	N	09/04/2017	14		EVERGREEN RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	9		STRGHT									02	
CITY						MO			HILLSBORO-SILV HY	E		TRF SIGNAL	N	DRY	TURN		N/A		W	-E							000		00	
N						12P				04	3		N	DAY	PDO		PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00	00
N						45 9 3.52	-122 52 32.54		014000100S00															UNK						
																	02	NONE	9		TURN-R									
																	N/A		S	-E								000		00
																	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00	00
																								UNK						
02333	N	N	N	N	N	06/29/2018	14		EVERGREEN RD	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE	0		STRGHT										13
NONE						FR			HILLSBORO-SILV HY	E		TRF SIGNAL	N	DRY	SS-O		PRVTE		E	-W								000		00
N						6P				06	3		N	DAY	INJ		PSNGR	CAR		01	DRVR	INJC	25	M	OR-Y	045	000		13	
N						45 9 3.52	-122 52 32.54		014000100S00															OR<25						
																	02	NONE	0		STRGHT									
																	PRVTE		E	-W								000		00
																	PSNGR	CAR		01	DRVR	NONE	19	F	OR-Y	000	000		00	00
																								OR<25						
04800	N	N	N	N	N	12/01/2019	14		EVERGREEN RD	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE	0		STRGHT										07
CITY						SU			HILLSBORO-SILV HY	E		TRF SIGNAL	N	WET	REAR		PRVTE		E	-W								000		00
N						7P				06	0		N	DLIT	INJ		PSNGR	CAR		01	DRVR	NONE	32	M	OR-Y	043,026	000		07	
N						45 9 3.52	-122 52 32.54		014000100S00															OR<25						
																	02	NONE	0		STOP									
																	PRVTE		E	-W								011		00
																	PSNGR	CAR		01	DRVR	INJC	24	M	OR-Y	000	000		00	00
																								OR<25						
																	02	NONE	0		STOP									
																	PRVTE		E	-W								011		00
																	PSNGR	CAR		02	PSNG	INJC	23	F		000	000		00	00
02699	N	N	N	N	N	09/05/2020	14		EVERGREEN RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	0		STRGHT								013	29,40	
CITY						SA			HILLSBORO-SILV HY	E		TRF SIGNAL	N	DRY	REAR		PRVTE		E	-W								000		00
N						6P				06	3		N	DAY	INJ		PSNGR	CAR		01	DRVR	NONE	39	M	SUSP	026	026		29,40	
N						45 9 3.53	-122 52 32.54		014000100S00															OR<25						

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

9 - 13 of 73 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	LDNCS	PED	ERROR	ACT	EVENT	CAUSE
INVEST	E A U I C O	DAY	DIST	FIRST STREET	DIRECT	(MEDIAN)	TRAF-	RNDBT	SURF	COLL	TRLR QTY	FROM	PRTC	INJ	G E	RES	LOC		
RD DPT	E L G N H R	TIME	FROM	SECOND STREET	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V# TYPE	TO	P# TYPE	SVRTY	E X	RES	LOC		
UNLOC?	D C S V L K	LAT	LONG	LRS															
											02 NONE 0	STOP							
											PRVTE	SW-NE					011		00
											PSNGR CAR		01	DRVR	INJC	60 M	OR-Y		000
											02 NONE 0	STOP							
											PRVTE	SW-NE					011		00
											PSNGR CAR		02	PSNG	INJC	47 F	OR<25		000
											02 NONE 0	STOP							
											PRVTE	SW-NE					011		00
											PSNGR CAR		03	PSNG	INJC	15 F	OR<25		000
01903	N N N	N N	06/30/2020	17	EVERGREEN RD	INTER	CROSS	N	N	CLR	S-1STOP	01 NONE 0	STRGHT						29
CITY			TU	0	HILLSBORO-SILV HY	SW					STOP SIGN	N	DRY	REAR				000	00
N			2P			09	3			N	DAY	INJ	PSNGR CAR		01	DRVR	NONE	27 F	OR-Y
N			45 9 3.5	-122 52														026	000
				32.56															29
											02 NONE 0	STOP							
											PRVTE	SW-NE					011		00
											PSNGR CAR		01	DRVR	INJC	66 F	OR-Y		000
																			00
																			00
01019	N N N	N N	03/11/2016	14	EVERGREEN RD	INTER	CROSS	N	N	CLR	S-1STOP	01 NONE 0	STRGHT						27,29
NO RPT			FR		HILLSBORO-SILV HY	W					TRF SIGNAL	N	DRY	REAR				000	00
N			5A			06	3			N	DLIT	INJ	PSNGR CAR		01	DRVR	NONE	27 M	OR-Y
N			45 9 3.52	-122 52	014000100S00													016,026	038
				32.54															27,29
											02 NONE 0	STOP							
											PRVTE	W -E					011		00
											PSNGR CAR		01	DRVR	INJC	43 M	OR-Y		000
																			00
																			00
00267	N N N	N N	01/24/2018	14	EVERGREEN RD	INTER	CROSS	N	Y	RAIN	FIX OBJ	01 NONE 9	TURN-L						050,055
CITY			WE		HILLSBORO-SILV HY	W					TRF SIGNAL	N	WET	FIX				000	00
N			5A			05	3			N	DLIT	PDO	PSNGR CAR		01	DRVR	NONE	00	Unk UNK
N			45 9 3.52	-122 52	014000100S00													000	000
				32.54															00
02760	N N N	N N	07/21/2019	14	EVERGREEN RD	INTER	CROSS	N	N	CLR	S-1STOP	01 NONE 9	STRGHT						29
NONE			SU		HILLSBORO-SILV HY	W					TRF SIGNAL	N	DRY	REAR				000	00
N			9A			06	3			N	DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	Unk UNK
N			45 9 3.56	-122 52	014000100S00													000	000
				32.62															00
											02 NONE 9	STOP							
											N/A	W -E					011		00
											PSNGR CAR		01	DRVR	NONE	00	Unk UNK		000
																			000
																			00
																			00

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CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

14 - 17 of 73 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						
01283	N N N	N N 03/28/2016	14	EVERGREEN RD	INTER CROSS N	N CLR O-1 L-TURN 01 NONE 0		U-TURN													
CITY		MO		HILLSBORO-SILV HY	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	W -W		000	00						
N		10P			02	3		N	DLIT	INJ	PSNGR CAR		01	DRVR	INJC	22 F	OR-Y	028	000	02	
N		45 9 3.52	-122 52 32.54	014000100S00													OR<25				
								02	NONE	0	STRGHT								000	00	
									PRVTE		E -W								000	00	
									PSNGR CAR				01	DRVR	NONE	28 F	OR-Y	000	000	00	
																	OR<25			00	
01323	N N N	03/30/2016	14	EVERGREEN RD	INTER CROSS N	N CLR O-1 L-TURN 01 NONE 0		U-TURN							082	02					
CITY		WE		HILLSBORO-SILV HY	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	W -W		000	00						
N		6P			02	3		N	DUSK	INJ	PSNGR CAR		01	DRVR	INJC	65 M	OR-Y	028,004	000	082	02
N		45 9 3.52	-122 52 32.54	014000100S00																	
								02	NONE	0	STRGHT								000	00	
									PRVTE		E -W								000	00	
									PSNGR CAR				01	DRVR	INJC	24 M	OR-Y	000	000	00	
																	OR<25			00	
02837	N N N	N N 07/07/2016	14	EVERGREEN RD	INTER CROSS N	N RAIN O-1 L-TURN 01 NONE 0		STRGHT								02					
CITY		TH		HILLSBORO-SILV HY	CN		TRF SIGNAL	N	WET	TURN	PRVTE	E -W		000	00						
N		1P			02	0		N	DAY	INJ	PSNGR CAR		01	DRVR	NONE	40 F	SUSP	000	000	00	
N		45 9 3.52	-122 52 32.54	014000100S00													OR>25				
								01	NONE	0	STRGHT								000	00	
									PRVTE		E -W								000	00	
									PSNGR CAR				02	PSNG	INJC	18 F			000	000	00
								02	NONE	0	TURN-L								000	00	
									PRVTE		W -N								000	00	
									PSNGR CAR				01	DRVR	NONE	32 M	OR-Y	028,004	000	02	
																	OR>25				
02930	N N N	Y 07/14/2016	14	EVERGREEN RD	INTER CROSS N	N CLR O-1 L-TURN 01 NONE 0		STRGHT							013	02					
CITY		TH		HILLSBORO-SILV HY	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	W -E		000	00						
N		12P			03	0		N	DAY	INJ	PSNGR CAR		01	DRVR	INJB	34 F	OR-Y	000	000	00	
N		45 9 3.52	-122 52 32.54	014000100S00													OR<25				
								02	NONE	0	TURN-L								000	013	00
									PRVTE		E -S								000	00	
									PSNGR CAR				01	DRVR	INJB	24 M	OR-Y	028,004	000	02	
																	OR<25				
								03	NONE	0	STOP								012	00	
									PRVTE		S -N								000	000	00
									PSNGR CAR				01	DRVR	INJC	24 M	OTH-Y	000	000	00	
																	N-RES				

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

24 - 27 of 73 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	TRLR	QTY	MOVE	A	S	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE		
INVEST	E	A	U	I	C	O	DIST	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	P#	TYPE	SVRTY	E	X	RES	LOC					
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	TO													
UNLOC?	D	C	S	V	L	K	LONG	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE												
															02 NONE	0		TURN-L										
															PRVTE			E -S						000		00		
															PSNGR	CAR			01	DRVR	NONE	73	M		000	000	OTH-Y N-RES	
03299	N	N	N	N	N	08/15/2017	14	EVERGREEN RD	INTER	CROSS	N	N	CLR	O-1	L-TURN	01	NONE	0		TURN-L							04	
CITY						TU		HILLSBORO-SILV HY	CN		TRF SIGNAL	N	DRY	TURN		PRVTE								000		00		
N						3P			03	3		N	DAY	INJ		PSNGR	CAR		01	DRVR	NONE	17	M		097	000	00	
N						45 9 3.52	-122 52 32.54	014000100S00																				
															02 NONE	0		STRGHT										
															PRVTE			W -E						000		00		
															PSNGR	CAR			01	DRVR	INJC	51	M		097	000	00	
03425	N	N	N			08/22/2017	14	EVERGREEN RD	INTER	CROSS	N	N	CLR	O-1	L-TURN	01	NONE	0		STRGHT							02	
CITY						TU		HILLSBORO-SILV HY	CN		TRF SIGNAL	N	DRY	TURN		PRVTE								000		00		
N						6A			03	3		N	DAWN	INJ		PSNGR	CAR		01	DRVR	INJC	53	M		000	000	00	
N						45 9 3.52	-122 52 32.54	014000100S00																				
															02 NONE	0		TURN-L										
															PRVTE			E -S						000		00		
															PSNGR	CAR			01	DRVR	NONE	46	M		028,004	000	02	
03973	N	N	N			09/23/2017	14	EVERGREEN RD	INTER	CROSS	N	N	CLR	O-1	L-TURN	01	NONE	0		TURN-L							02	
CITY						SA		HILLSBORO-SILV HY	CN		TRF SIGNAL	N	DRY	TURN		PRVTE								000		00		
N						1P			03	3		N	DAY	INJ		PSNGR	CAR		01	DRVR	NONE	27	F		028,004	000	02	
N						45 9 3.52	-122 52 32.54	014000100S00																				
															01 NONE	0		TURN-L										
															PRVTE			E -S						000		00		
															PSNGR	CAR			02	PSNG	NO<5	01	F		000	000	00	
															01 NONE	0		TURN-L										
															PRVTE			E -S						000		00		
															PSNGR	CAR			03	PSNG	NO<5	03	F		000	000	00	
															02 NONE	0		STRGHT										
															PRVTE			W -E						000		00		
															PSNGR	CAR			01	DRVR	NONE	52	F		000	000	00	
															02 NONE	0		STRGHT										
															PRVTE			W -E						000		00		
															PSNGR	CAR			02	PSNG	INJB	12	F		000	000	00	

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

46 - 50 of 73 Crash records shown.

SER#	SDM	PRJSWDATE	CLASS	CITY STREET	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	TRLR QTY	MOVE	A S	INJ	G E LICNS	PED	ERROR	ACT	EVENT	CAUSE			
INVEST	EAUICODAY		DIST	FIRST STREET	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH														
RD DPT	ELGNHRTIME		FROM	SECOND STREET	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM												
UNLOC?	DCSVLKLAT		LONG	LRS	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V# TYPE	TO			P# TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE		
										02 NONE	0	STRGHT											
										PRVTE	W -E								000	000	00		
										PSNGR CAR				01 DRVR	INJC	53 M	OR-Y		000	000	00		
																					OR>25		
01667	NNN	05/05/2019	14	EVERGREEN RD	CROSS	N	N	CLR	O-1 L-TURN	01 NONE	9	STRGHT									02		
CITY		SU		HILLSBORO-SILV HY	CN			FLASHBCN-A	N	DRY	TURN	N/A	W -E								000	00	
N		3P			03	3		DAY	PDO	PSNGR CAR				01 DRVR	NONE	00	Unk UNK		000	000	00	00	
N		45 9 3.53	-122 52	014000100S00																		UNK	
										02 NONE	9	TURN-L										00	
										N/A	E -S										000	00	
										PSNGR CAR				01 DRVR	NONE	00	Unk UNK		000	000	00	00	
																						UNK	
01890	NNN	05/20/2019	14	EVERGREEN RD	CROSS	N	N	UNK	O-1 L-TURN	01 NONE	9	TURN-L										02	
NONE		MO		HILLSBORO-SILV HY	CN			TRF SIGNAL	N	UNK	TURN	N/A	UN-UN									000	00
N		UNK			01	3		UNK	PDO	PSNGR CAR				01 DRVR	NONE	00	Unk UNK		000	000	00	00	
N		45 9 3.52	-122 52	014000100S00																		UNK	
										02 NONE	9	STRGHT										000	
										N/A	UN-UN											000	
										PSNGR CAR				01 DRVR	NONE	00	Unk UNK		000	000	00	00	
																						UNK	
00512	NNN	02/05/2020	14	EVERGREEN RD	CROSS	N	N	CLD	O-1 L-TURN	01 NONE	0	TURN-L										02	
CITY		WE		HILLSBORO-SILV HY	CN			TRF SIGNAL	N	DRY	TURN	PRVTE	E -S									000	00
N		9P			03	0		DARK	INJ	PSNGR CAR				01 DRVR	INJC	48 F	OR-Y		028,004	000	00	02	
N		45 9 3.52	-122 52	014000100S00																		OR<25	
										02 NONE	0	STRGHT										000	
										PRVTE	W -E											000	
										PSNGR CAR				01 DRVR	INJC	30 F	OR-Y		000	000	00	00	
																						OR>25	
00759	NNN	02/23/2020	14	EVERGREEN RD	CROSS	N	N	CLD	O-1 L-TURN	01 NONE	0	TURN-L										02	
CITY		SU		HILLSBORO-SILV HY	CN			WET	TURN	PRVTE	E -S											000	00
N		3P			03	3		DAY	INJ	PSNGR CAR				01 DRVR	NONE	40 F	OR-Y		028,004	000	00	02	
N		45 9 3.51	-122 52	014000100S00																		OR<25	
										02 NONE	0	STRGHT										000	
										PRVTE	W -E											000	
										PSNGR CAR				01 DRVR	INJC	53 M	OR-Y		000	000	00	00	
																						OR>25	
										02 NONE	0	STRGHT										000	
										PRVTE	W -E											000	
										PSNGR CAR				02 PSNG	INJB	50 F			000	000	00	00	

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

51 - 54 of 73 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				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		
01425	N N N N N 05/14/2020	14	EVERGREEN RD	INTER	CROSS N	N	RAIN	O-1 L-TURN	01 NONE 0	STRGHT											02		
CITY			HILLSBORO-SILV HY	CN		TRF SIGNAL	N	WET	TURN	PRVTE	W -E								000		00		
N		9P		03	3		N	DLIT	INJ	PSNGR CAR			01 DRVR	INJB	19 M	OR-Y		000		000	00		
N	45 9 3.5	-122 52 32.53	014000100S00													OR<25					00		
									01 NONE 0	STRGHT											00		
									PRVTE	W -E											000	00	
									PSNGR CAR				02 PSNG	INJC	31 F			000			000	00	
									02 NONE 0	TURN-L											000	00	
									PRVTE	E -S											000	00	
									PSNGR CAR				01 DRVR	INJC	42 M	OR-Y		028,004		000	000	02	
																OR<25							
02049	N N N N N 07/14/2020	14	EVERGREEN RD	INTER	CROSS N	N	CLR	ANGL-OTH	01 NONE 0	TURN-L											04		
CITY			HILLSBORO-SILV HY	CN		TRF SIGNAL	N	DRY	TURN	RENTL	E -S										000	00	
N		9A		02	3		N	DAY	INJ	PSNGR CAR			01 DRVR	NONE	56 F	OR-Y		020		000	04		
N	45 9 3.52	-122 52 32.54	014000100S00													OR<25							
									02 NONE 0	TURN-L											000	00	
									PRVTE	S -W											000	00	
									PSNGR CAR				01 DRVR	INJC	47 F	OR-Y		000		000	000	00	
																OR<25							
02120	N N N N N 07/21/2020	14	EVERGREEN RD	INTER	CROSS N	N	CLR	O-1 L-TURN	01 NONE 0	STRGHT											082	02	
CITY			HILLSBORO-SILV HY	CN		FLASHBCN-A	N	DRY	TURN	PRVTE	W -E										000	00	
N		11A		03	3		N	DAY	INJ	PSNGR CAR			01 DRVR	INJC	53 M	OR-Y		000		000	00		
N	45 9 3.53	-122 52 32.54	014000100S00													OR<25							
									01 NONE 0	STRGHT												000	00
									PRVTE	W -E												000	00
									PSNGR CAR				02 PSNG	INJC	47 F			000			000	00	
									02 NONE 0	TURN-L											000	00	
									PRVTE	E -S											000	00	
									PSNGR CAR				01 DRVR	INJC	49 M	OR-Y		028,004		000	082	000	02
																OR<25							
03013	N N N N N 10/05/2020	14	EVERGREEN RD	INTER	CROSS N	N	CLR	O-1 L-TURN	01 NONE 0	STRGHT												02	
CITY			HILLSBORO-SILV HY	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	E -W										000	00	
N		5P		02	3		N	DAY	INJ	PSNGR CAR			01 DRVR	INJB	26 M	OR-Y		000		000	00		
N	45 9 3.54	-122 52 32.53	014000100S00													OR<25							
									02 NONE 0	TURN-L												000	00
									PRVTE	W -N												000	00
									PSNGR CAR				01 DRVR	INJC	31 M	OTH-Y		028,004		000		000	02
																N-RES							

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and EVERGREEN RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

72 - 73 of 73 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	A	S	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE						
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST	STREET	DIRECT	(MEDIAN)	TRAFFIC	RNDBT	SURF	COLL	OWNER	FROM	TRC	INJ	INJ	PRT	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE						
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND	STREET	DIRECT	LEGS	TRAFFIC	RNDBT	SURF	COLL	OWNER	FROM	TRC	INJ	INJ	PRT	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							
																	02	NONE	0	STRGHT																	
																			PRVTE		W	-E										000	000	00			
																			PSNGR	CAR		01	DRVR	INJC	35	F	OR-Y						000	000	00		
01928	N	N	N	N	N	05/23/2019	14	HILLSBORO-SILV HY	STRGHT			N		N	CLR	S-1STOP	01	NONE	9	STRGHT														07			
									TH	EVERGREEN RD	W	(NONE)	UNKNOWN	N	DRY	REAR	N/A																	000	00		
						4P					00			N	DAY	PDO	PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK								000	000	00	
						45 9 3.57	-122 52 35.34	014000100S00				(04)																									

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07/06/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY and SETTLEMIER AVE, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
REAR-END	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
2020 TOTAL	0	0	0	1	1	2	0	0	0	1
YEAR: 2019										
REAR-END	0	0	1	1	1	3	0	0	1	2
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2019 TOTAL	0	0	1	1	2	4	0	0	1	2
YEAR: 2018										
PEDESTRIAN	0	0	1	0	0	1	0	0	1	0
REAR-END	0	0	0	1	1	2	0	0	0	1
SIDESWIPE - OVERTAKING	0	0	0	1	0	1	0	0	0	1
2018 TOTAL	0	0	1	2	1	4	0	0	1	2
YEAR: 2017										
REAR-END	0	0	0	0	2	2	0	0	0	0
2017 TOTAL	0	0	0	0	2	2	0	0	0	0
YEAR: 2016										
REAR-END	0	0	0	2	3	5	0	0	0	3
2016 TOTAL	0	0	0	2	3	5	0	0	0	3
FINAL TOTAL	0	0	2	6	9	17	0	0	2	8

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07/22/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

HILLSBORO-SILV HY at BOONES FERRY RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2017										
REAR-END	0	0	0	2	0	2	0	0	0	3
2017 TOTAL	0	0	0	2	0	2	0	0	0	3
YEAR: 2016										
REAR-END	0	0	1	0	0	1	0	0	1	1
2016 TOTAL	0	0	1	0	0	1	0	0	1	1
FINAL TOTAL	0	0	1	2	0	3	0	0	1	4

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CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and SETTLEMIER AVE, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 4 of 17 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	RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	(#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 LAT	LONG	LRS	LOCTN																							
04005	N N N	10/22/2018	14	HILLSBORO-SILV HY	INTER	CROSS	N		N	FOG	PED	01 NONE 0	TURN-R														40,02
																											00
																											00
																											00
00353	N N N	01/25/2016	16	HILLSBORO-SILV HY	INTER	CROSS	N		N	CLR	S-1STOP	01 NONE 0	STRGHT														29
																											00
																											00
																											00
02475	N N N	06/22/2017	16	HILLSBORO-SILV HY	INTER	CROSS	N		N	CLR	S-1STOP	01 NONE 9	STRGHT														29
																											00
																											00
																											00
02575	N N N	07/16/2018	16	HILLSBORO-SILV HY	INTER	CROSS	N		N	CLR	S-1STOP	01 NONE 0	STRGHT												013	17	
																											00
																											00
																											00
00630	N N N	02/18/2019	14	HILLSBORO-SILV HY	INTER	CROSS	N		N	CLR	O-1 L-TURN	01 NONE 9	STRGHT														02
																											00
																											00
																											00

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF WOODBURN, MARION COUNTY

HILLSBORO-SILV HY and SETTLEMIER AVE, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

15 - 17 of 17 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	TRLR QTY	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE				
INVEST	E	A	U	I	C	O	DIST	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE		
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	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
01537	N	N	N			04/26/2019	14	HILLSBORO-SILV HY	STRGHT		N	N	CLR	S-1STOP	01	NONE	0	STRGHT								013	29	
NONE						FR		SETTLEMIER AVE	W	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE		W	-E						000	00		
N						11A			03			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	27	M	OR-Y		026	000	29	
N						45 8 58.21	-122 51 36.8	014000100S00		(02)																		
															02	NONE	0	STOP										
																PRVTE		W	-E						011	013	00	
																PSNGR CAR		01	DRVR	INJB	21	F	OR-Y		000	022	00	
															02	NONE	0	STOP								011	013	00
																PRVTE		W	-E						000	000	00	
																PSNGR CAR		02	PSNG	INJC	21	F	OR-Y		000	000	00	
															03	NONE	0	STOP								011	00	
																PRVTE		W	-E						000	000	00	
																PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000	00	
01970	N	N	N			05/27/2019	14	HILLSBORO-SILV HY	STRGHT		Y	N	CLR	S-1STOP	01	NONE	9	STRGHT									27,29	
NONE						MO		SETTLEMIER AVE	W	(NONE)	UNKNOWN	N	DRY	REAR		N/A		W	-E						000	00		
N						1P			03			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	
N						45 8 58.25	-122 51 37.5	014000100S00		(02)																		
															02	NONE	9	STOP								011	00	
																N/A		W	-E						000	000	00	
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	
03263	N	N	N			10/15/2020	14	HILLSBORO-SILV HY	STRGHT		Y	N	CLR	S-1STOP	01	NONE	9	STRGHT									29	
NONE						TH		SETTLEMIER AVE	W	(NONE)	UNKNOWN	N	DRY	REAR		N/A		W	-E						000	00		
N						4P			03			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	
N						45 8 58.2	-122 51 36.81	014000100S00		(02)																		
															02	NONE	9	STOP								011	00	
																N/A		W	-E						000	000	00	
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	

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07/05/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

EVERGREEN RD and STACY ALLISON WAY, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
REAR-END	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	0	2	2	0	0	0	0
2020 TOTAL	0	0	0	0	3	3	0	0	0	0
YEAR: 2019										
REAR-END	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	1	1	0	2	0	0	1	1
2019 TOTAL	0	0	1	1	1	3	0	0	1	1
YEAR: 2018										
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2018 TOTAL	0	0	0	0	1	1	0	0	0	0
YEAR: 2017										
PEDESTRIAN	0	0	0	1	0	1	0	0	0	1
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
2017 TOTAL	0	0	0	2	0	2	0	0	0	2
YEAR: 2016										
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2016 TOTAL	0	0	0	0	1	1	0	0	0	0
FINAL TOTAL	0	0	1	3	6	10	0	0	1	3

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07/05/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

EVERGREEN RD and HAYES ST, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2018										
FIXED / OTHER OBJECT	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2018 TOTAL	0	0	0	0	2	2	0	0	0	0
YEAR: 2017										
ANGLE	0	0	0	1	0	1	0	0	0	1
2017 TOTAL	0	0	0	1	0	1	0	0	0	1
YEAR: 2016										
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2016 TOTAL	0	0	0	0	1	1	0	0	0	0
FINAL TOTAL	0	0	0	1	3	4	0	0	0	1

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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

EVERGREEN RD and HAYES ST, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 4 of 4 Crash records shown.

SER#	S	D	M	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	ACT	EVENT	CAUSE													
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
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
00403	N	N	N				02/04/2018	17	EVERGREEN RD	ALLEY		N	N	CLR	O-1 L-TURN	01	NONE	9	TURN-L										02
NONE							SU	118	HAYES ST	S	(NONE)	UNKNOWN	N	DRY	TURN		N/A		S -W								019	00	
N							3P			07			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	
N							45 8 49.37	-122 52 32.94				(02)																	
																	02	NONE	9	STRGHT									
																	N/A		N -S								000	000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	
04865	N	N	N				11/03/2016	17	EVERGREEN RD	ALLEY		N	N	CLR	ANGL-OTH	01	NONE	9	TURN-L										02
NONE							TH	129	HAYES ST	S	(NONE)	UNKNOWN	N	DRY	TURN		N/A		W -N								018	00	
N							11P			08			N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	
N							45 8 49.23	-122 52 32.98				(02)																	
																	02	NONE	9	STRGHT									
																	N/A		S -N								000	000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	

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07/05/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

SETTLEMIER AVE and HAYES ST, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
REAR-END	0	0	0	0	1	1	0	0	0	0
2020 TOTAL	0	0	0	0	1	1	0	0	0	0
YEAR: 2019										
FIXED / OTHER OBJECT	0	0	1	0	0	1	0	0	1	0
PEDESTRIAN	0	0	0	1	0	1	0	0	0	1
REAR-END	0	0	0	1	0	1	0	0	0	1
SIDESWIPE - OVERTAKING	0	0	0	1	0	1	0	0	0	1
2019 TOTAL	0	0	1	3	0	4	0	0	1	3
YEAR: 2018										
REAR-END	0	0	0	0	1	1	0	0	0	0
2018 TOTAL	0	0	0	0	1	1	0	0	0	0
YEAR: 2017										
PARKING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	0	1	1	0	0	0	0
2017 TOTAL	0	0	0	0	2	2	0	0	0	0
FINAL TOTAL	0	0	1	3	4	8	0	0	1	3

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

CITY OF WOODBURN, MARION COUNTY

SETTLEMIER AVE and HAYES ST, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

6 - 8 of 8 Crash records shown.

SER#	S D M	P R J S W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	TRLR QTY	MOVE	A S	G E LICNS	PED	ERROR	ACT	EVENT	CAUSE									
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	E X RES	LOC										
RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E X RES	LOC	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				
04174	N N N Y	10/24/2019	16	SETTLEMIER AVE	STRGHT	N	N	CLR	BIKE											110		02,18			
		TH	60	HAYES ST	NE	(NONE)	UNKNOWN	N	DRY	SS-O															
		7A			07			N	DAWN	INJ												02,18			
		45 8 46.54	-122 51			(02)																			
		38.39																							
										01 NONE 0															
										STRGHT															
										PRVTE												00			
										PSNGR CAR												00			
												01 DRVR	NONE	34	F	OR-Y						00			
																OR<25						00			
03647	N N N	09/21/2019	16	SETTLEMIER AVE	STRGHT	Y	N	CLR	S-1STOP	01 UNKN 0												013	29		
	NONE	SA	38	HAYES ST	SW	(NONE)	UNKNOWN	N	DRY	REAR													000	00	
	N	11A			06			N	DAY	INJ													026	000	29
	N	45 8 45.27	-122 51			(02)																			
		38.81																							
										02 NONE 0															
										STOP															
										SW-NE													012	013	00
										PSNGR CAR													000	022	00
										03 NONE 0															
										STOP															
										SW-NE														012	00
										PSNGR CAR														000	000
												01 DRVR	NONE	27	M	OR-Y							000	000	00
																OR<25									
00351	N N N	01/30/2018	16	SETTLEMIER AVE	STRGHT	N	N	CLD	S-1STOP	01 NONE 9														29	
	NONE	TU	67	HAYES ST	SW	(NONE)	UNKNOWN	N	WET	REAR														000	00
	N	4P			07			N	DAY	PDO															000
	N	45 8 43.87	-122 51			(02)																			000
		39.24																							000
										02 NONE 9															
										STRGHT															
										N/A														000	
										PSNGR CAR															000
																								000	
																								000	
																								000	
												01 DRVR	NONE	00	Unk	UNK									
																								000	
																								000	
																								000	
																								000	
																								000	
																								000	

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07/06/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

EVERGREEN RD and HARVARD DR, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
ANGLE	0	0	0	1	0	1	0	0	0	1
2020 TOTAL	0	0	0	1	0	1	0	0	0	1
YEAR: 2019										
ANGLE	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2019 TOTAL	0	0	0	0	2	2	0	0	0	0
YEAR: 2018										
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
2018 TOTAL	0	0	0	1	0	1	0	0	0	1
YEAR: 2016										
FIXED / OTHER OBJECT	0	0	1	0	0	1	0	0	1	0
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
2016 TOTAL	0	0	1	1	0	2	0	0	1	1
FINAL TOTAL	0	0	1	3	2	6	0	0	1	3

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CITY OF WOODBURN, MARION COUNTY

EVERGREEN RD and HARVARD DR, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

1 - 5 of 6 Crash records shown.

SER#	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						P	I	N	J	G	E	L	I	C	N	S	P
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			
01932	N	N	N	N	N	05/09/2016	19		EVERGREEN RD	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE	0	TURN-L															
CITY						MO	0		HARVARD DR	S									PRVTE		E	-	S									000		00
N						8A				06	0			DAY	INJ				PSNGR CAR		01	DRVR	NONE	38	M	OR-Y		002,026	000		08			
N						45 8 45.16	-122 52	44.46																										
																02	NONE	0	STOP															
																			PRVTE		S	-	N									011		00
																			PSNGR CAR		01	DRVR	INJC	51	F	OR-Y		000	000		00			
04785	N	N	N	N	N	12/13/2018	17		EVERGREEN RD	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE	0	TURN-L															
CITY						TH	0		HARVARD DR	CN									PRVTE		W	-	N									000		00
N						9P				02	0			DLIT	INJ				PSNGR CAR		01	DRVR	INJC	20	F	OR-Y		028,004	000		02			
N						45 8 45.16	-122 52	44.46																										
																02	NONE	0	STRGHT															
																			PRVTE		E	-	W									000	087	00
																			PSNGR CAR		01	DRVR	NONE	29	F	OR-Y		000	000		00			
03226	N	N	N	N	N	08/24/2019	17		EVERGREEN RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	9	STRGHT															
CITY						SA	0		HARVARD DR	CN									N/A		E	-	W									000		00
N						2P				02	0			DAY	PDO				PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00			
N						45 8 45.18	-122 52	44.46																										
																02	NONE	9	U-TURN															
																			N/A		S	-	S									000		00
																			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00			
05124	N	N	N	N	N	12/19/2019	17		EVERGREEN RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE	9	STRGHT															
CITY						TH	0		HARVARD DR	CN									N/A		S	-	N									000		00
N						6A				02	0			DAWN	PDO				PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00			
N						45 8 45.15	-122 52	44.49																										
																02	NONE	9	STRGHT															
																			N/A		E	-	W									000		00
																			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00			
03597	N	N	N	N	N	11/25/2020	17		EVERGREEN RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE	0	STRGHT															
CITY						WE	0		HARVARD DR	CN									TRF SIGNAL		W	-	E									000		00
N						6P				03	0			DLIT	INJ				PSNGR CAR		01	DRVR	NONE	26	M	NONE		097	000		00			
N						45 8 45.16	-122 52	44.48																										
																02	NONE	0	STRGHT															
																			PRVTE		N	-	S									000		00
																			PSNGR CAR		01	DRVR	INJC	70	F	OR-Y		097	000		00			

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07/06/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PARR RD NE, MP 0 to 0.01, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2018										
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	3
2018 TOTAL	0	0	0	1	0	1	0	0	0	3
FINAL TOTAL	0	0	0	1	0	1	0	0	0	3

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

07/22/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

BUTTEVILLE RD NE A, MP 2.82 to 2.88, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2020 TOTAL	0	0	0	0	1	1	0	0	0	0
YEAR: 2019										
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
2019 TOTAL	0	0	0	1	0	1	0	0	0	1
YEAR: 2018										
FIXED / OTHER OBJECT	0	1	0	1	0	2	0	1	0	1
REAR-END	0	0	0	1	0	1	0	0	0	1
2018 TOTAL	0	1	0	2	0	3	0	1	0	2
YEAR: 2017										
REAR-END	0	0	0	1	0	1	0	0	0	2
2017 TOTAL	0	0	0	1	0	1	0	0	0	2
YEAR: 2016										
FIXED / OTHER OBJECT	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	2	0	0	2	0	0	3	0
2016 TOTAL	0	0	2	0	1	3	0	0	3	0
FINAL TOTAL	0	1	2	4	2	9	0	1	3	5

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

MARION COUNTY

COUNTY ROAD CRASH LISTING
PARR RD NE, MP 0 to 0.01, 01/01/2016 to 12/31/2020

1 - 1 of 1 Crash records shown.

SER#	P	R	J	S	W	DATE	MILEPNT	COUNTY ROADS	INT-TYPE	SPCL USE	A S																														
INVEST	E	A	U	I	C	O	DAY	DIST FROM	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	G E LICNS PED																							
RD DPT	E	L	G	N	H	R	TIME	INTERSECT	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																
00142	N	N	N			01/10/2018	0.00	PARR RD NE	INTER	3-LEG	N	N	N	CLR	ANGL-STP	01	NONE	0	TURN-L																		08				
NONE						WE			E			STOP SIGN	N	DRY	TURN	PRVTE	N	-E																		00					
N						6P			06		0		N	DARK	INJ	PSNGR	CAR		01	DRVR	NONE	30	F	OR-Y		002,026			000							08					
N						45 7 59.2	-122 53																	OR<25																	
							50.77																																		
																02	NONE	0	STOP																						
																PRVTE		E	-W																				00		
																PSNGR	CAR			01	DRVR	INJC	56	M	OR-Y		000											00			
																02	NONE	0	STOP																						
																PRVTE		E	-W																					00	
																PSNGR	CAR			02	PSNG	INJC	53	F			000												00		
																02	NONE	0	STOP																						
																PRVTE		E	-W																						00
																PSNGR	CAR			03	PSNG	INJC	15	M			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.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
COUNTY ROAD CRASH LISTING

MARION COUNTY

BUTTEVILLE RD NE A, MP 2.82 to 2.88, 01/01/2016 to 12/31/2020

1 - 5 of 9 Crash records shown.

SER#	S P	D R J S W	DATE	MILEPNT	COUNTY ROADS	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	TRLR QTY	OWNER	FROM	PRTC	INJ	G E	LICNS	PED	ERROR	ACT	EVENT	CAUSE	
INVEST	E A	U I C O	DAY	DIST FROM	FIRST STREET	(MEDIAN)	INT-REL	RNDBT	SURF	COLL	TRLR QTY	MOVE	TRLR QTY	OWNER	FROM	P#	TYPE	SVRTY	E X	RES	LOC	ERROR	ACT	EVENT	CAUSE
RD DPT	E L G N H R	TIME	INTERSECT	SECOND STREET	DIRECT	(#LANES)	TRAF-	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E X	RES	LOC	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		
03013	N N N		07/19/2016	2.86	BUTTEVILLE RD NE A	INTER	3-LEG	N	Y	CLR	FIX OBJ	01 NONE	9	TURN-R									034	08	
NONE		TU				N	STOP SIGN	N	DRY	FIX	N/A	E -N										007		00	
N		4P				05	0	N	DAY	PDO	PSNGR CAR			01	DRVR	NONE	00	Unk	UNK		000	000		00	
N		45 7 59.2	-122 53	50.77																					
04172	N N N	N N	11/02/2018	2.86	BUTTEVILLE RD NE A	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	0	STRGHT										27,29	
COUNTY		FR				N	STOP SIGN	N	DRY	REAR	PRVTE	N -S										000		00	
N		7P				06	0	N	DARK	INJ	PSNGR CAR			01	DRVR	NONE	19	M	OR-Y		016,026	038		27,29	
N		45 7 59.2	-122 53	50.77																					
											02 NONE	0	STOP											00	
											PRVTE	N -S										012		00	
											PSNGR CAR			01	DRVR	NONE	22	F	OR-Y		000	000		00	
											02 NONE	0	STOP											00	
											PRVTE	N -S										012		00	
											PSNGR CAR			02	PSNG	INJC	17	F			000	000		00	
02628	Y N N	N N	07/19/2018	2.86	BUTTEVILLE RD NE A	INTER	3-LEG	N	Y	CLR	FIX OBJ	01 NONE	0	STRGHT									079,092	01,26	
COUNTY		TH				S	STOP SIGN	N	DRY	FIX	PRVTE	N -S										007	079,092	26	
N		3A				05	0	N	DARK	INJ	PSNGR CAR			01	DRVR	INJA	22	M	OR-Y		047,081	000	092	01,26	
N		45 7 59.2	-122 53	50.77																					
01193	Y N N	N N	04/08/2018	2.86	BUTTEVILLE RD NE A	INTER	3-LEG	N	Y	CLR	FIX OBJ	01 NONE	0	TURN-R									043,079	01,03	
COUNTY		SU				W	STOP SIGN	N	DRY	FIX	PRVTE	E -N										000	043,079	00	
N		9P				05	0	N	DARK	INJ	PSNGR CAR			01	DRVR	INJC	22	M	OR-Y		047,021	000		01,03	
N		45 7 59.2	-122 53	50.77																					
00010	N N N		01/01/2016	2.86	BUTTEVILLE RD NE A	INTER	3-LEG	N	N	CLR	ANGL-OTH	01 NONE	0	STRGHT										02	
NONE		FR				CN	UNKNOWN	N	DRY	TURN	PRVTE	N -S										000		00	
N		1A				01	0	N	DLIT	INJ	PSNGR CAR			01	DRVR	INJB	22	F	OR-Y		000	000		00	
N		45 7 59.2	-122 53	50.77																					
											01 NONE	0	STRGHT											00	
											PRVTE	N -S										000		00	
											PSNGR CAR			02	PSNG	INJB	23	M			000	000		00	
											02 NONE	0	TURN-L										000		00
											PRVTE	E -S										000		00	
											PSNGR CAR			01	DRVR	NONE	33	M	OR-Y		028	000		02	
03078	N N N		08/13/2019	2.86	BUTTEVILLE RD NE A	INTER	3-LEG	N	N	CLR	ANGL-STP	01 NONE	0	TURN-L										02	
NONE		TU				CN	STOP SIGN	N	DRY	TURN	PRVTE	E -S										000		00	
N		5P				01	0	N	DAY	INJ	PSNGR CAR			01	DRVR	NONE	45	M	OR-Y		028	000		02	
N		45 7 59.21	-122 53	50.78																					

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PARR RD NE, MP 1.06 to 1.08, 01/01/2016 to 12/31/2020

	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
COLLISION TYPE	CRASHES	INJURY	INJURY	INJURY	DAMAGE	CRASHES	KILLED	INJURIES	INJURIES	INJURIES
FINAL TOTAL										

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
COUNTY ROAD CRASH LISTING
PARR RD NE, MP 1.06 to 1.08, 01/01/2016 to 12/31/2020

MARION COUNTY

SER#	S	D	M	P	R	J	S	W	DATE	MILEPNT	COUNTY ROADS	INT-TYPE	SPCL USE	INVEST	E	A	U	I	C	O	DAY	DIST FROM	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	A	S	RD DPT	E	L	G	N	H	R	TIME	INTERSECT	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
------	---	---	---	---	---	---	---	---	------	---------	--------------	----------	----------	--------	---	---	---	---	---	---	-----	-----------	--------------	---------	----------	---------	-------	------	-------	----------	------	---	---	--------	---	---	---	---	---	---	------	-----------	---------------	--------	------	-------	-------	------	------	-------	------	------	-----	---	---	-------	-----	--------	---	---	---	---	---	---	-----	------	-----	-------	----------	-------	-------	-------	-------	----	------	----	----	------	-------	---	---	-----	-----	-------	-----	-------	-------

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MARION COUNTY

07/06/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PARR ST and SETTLEMIER AVE, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2018										
REAR-END	0	0	0	1	0	1	0	0	0	1
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	4
2018 TOTAL	0	0	0	2	0	2	0	0	0	5
YEAR: 2016										
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2016 TOTAL	0	0	0	0	1	1	0	0	0	0
FINAL TOTAL	0	0	0	2	1	3	0	0	0	5

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

07/22/2022

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PARR ST at BOONES FERRY RD, City of Woodburn, Marion County, 01/01/2016 to 12/31/2020

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
YEAR: 2020										
FIXED / OTHER OBJECT	0	0	0	0	1	1	0	0	0	0
2020 TOTAL	0	0	0	0	1	1	0	0	0	0
YEAR: 2019										
ANGLE	0	0	0	1	0	1	0	0	0	1
2019 TOTAL	0	0	0	1	0	1	0	0	0	1
YEAR: 2018										
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
2018 TOTAL	0	0	0	0	1	1	0	0	0	0
FINAL TOTAL	0	0	0	1	2	3	0	0	0	1

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 requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Left-Turn Lane Warrant Analysis



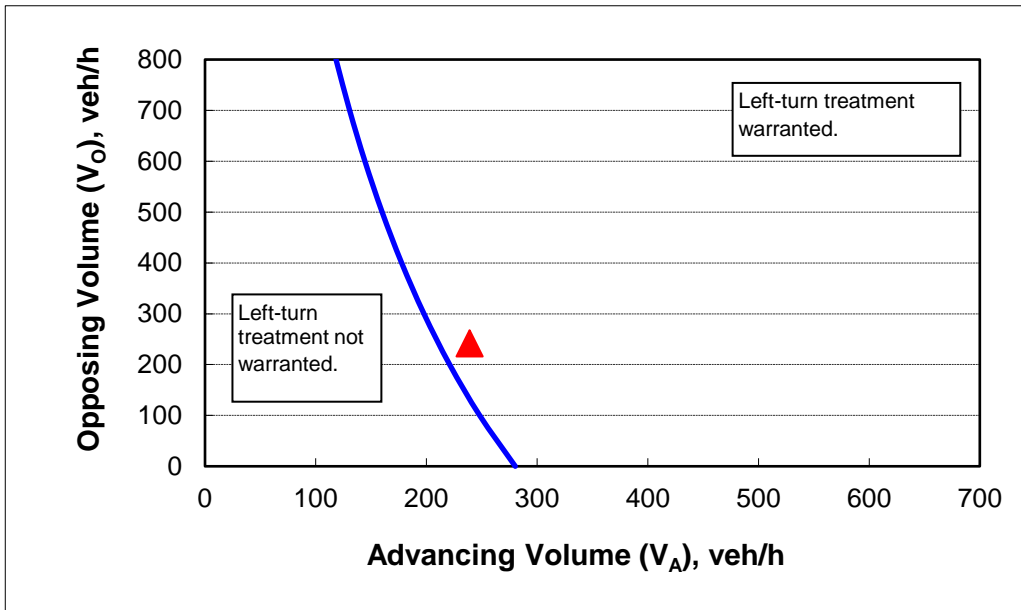
Project: 22082 - Kalugin - Parr Road
 Intersection: Parr Road & Butteville Road
 Date: 8/10/2022
 Scenario: Background AM

2-lane roadway (English) INPUT

Variable	Value
85 th percentile speed, mph:	55
Left-turns in advancing volume (V_A), veh/hr:	142
Advancing volume (V_A), veh/h:	239
Opposing volume (V_O), veh/h:	242

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	211
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis



Project: 22082 - Kalugin - Parr Road
 Intersection: Parr Road & Butteville Road
 Date: 8/10/2022
 Scenario: Background AM

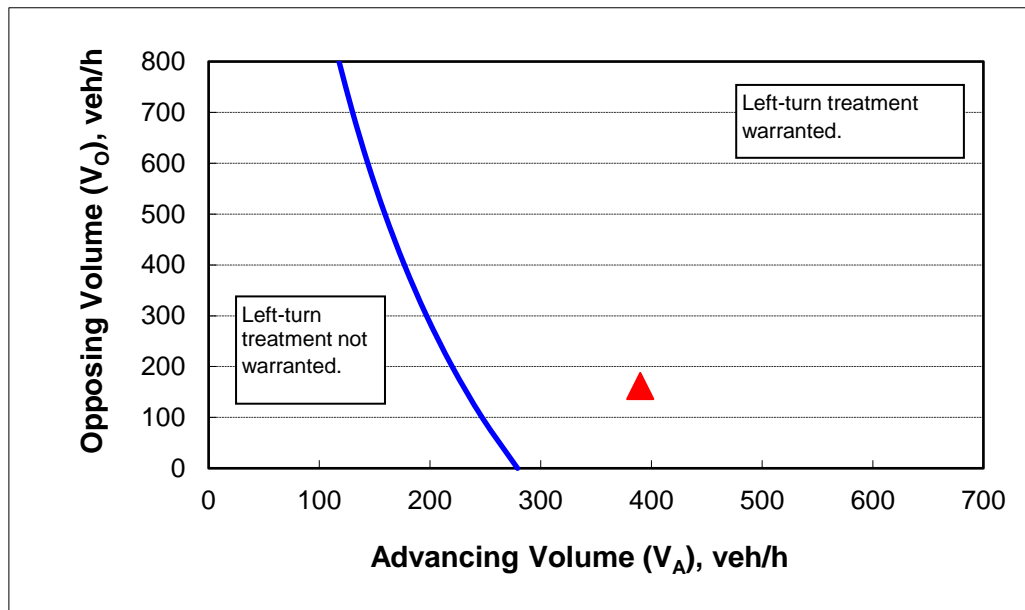
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	55
Left-turns in advancing volume (V_A), veh/hr:	163
Advancing volume (V_A), veh/h:	390
Opposing volume (V_O), veh/h:	162

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	230
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis



Project: 22082 - Kalugin - Parr Road
 Intersection: Parr Road & Butteville Road
 Date: 8/10/2022
 Scenario: Background AM

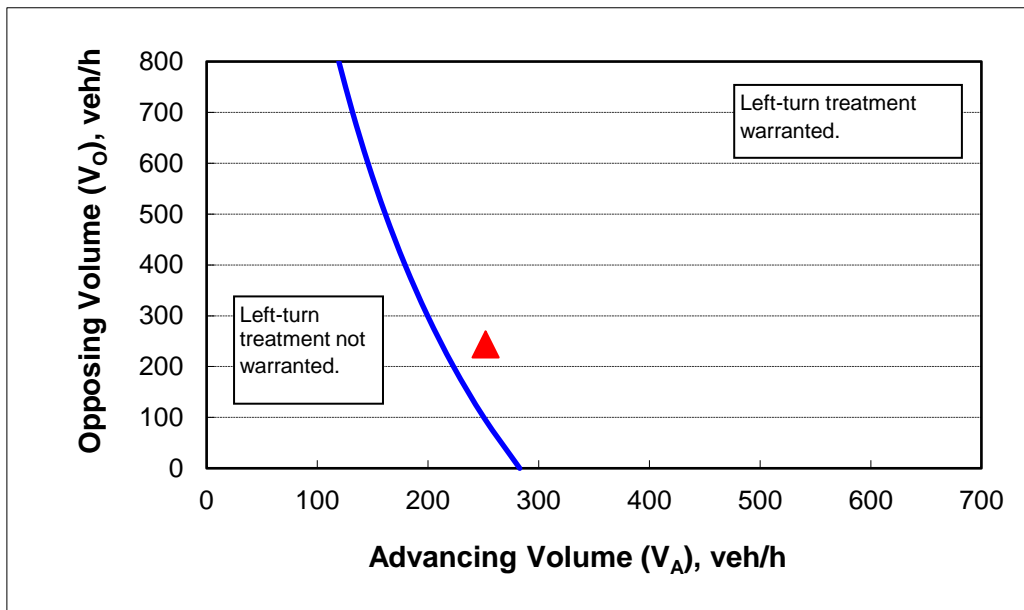
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	55
Left-turns in advancing volume (V_A), veh/hr:	155
Advancing volume (V_A), veh/h:	252
Opposing volume (V_O), veh/h:	244

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	212
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis



Project: 22082 - Kalugin - Parr Road
 Intersection: Parr Road & Butteville Road
 Date: 8/10/2022
 Scenario: Background AM

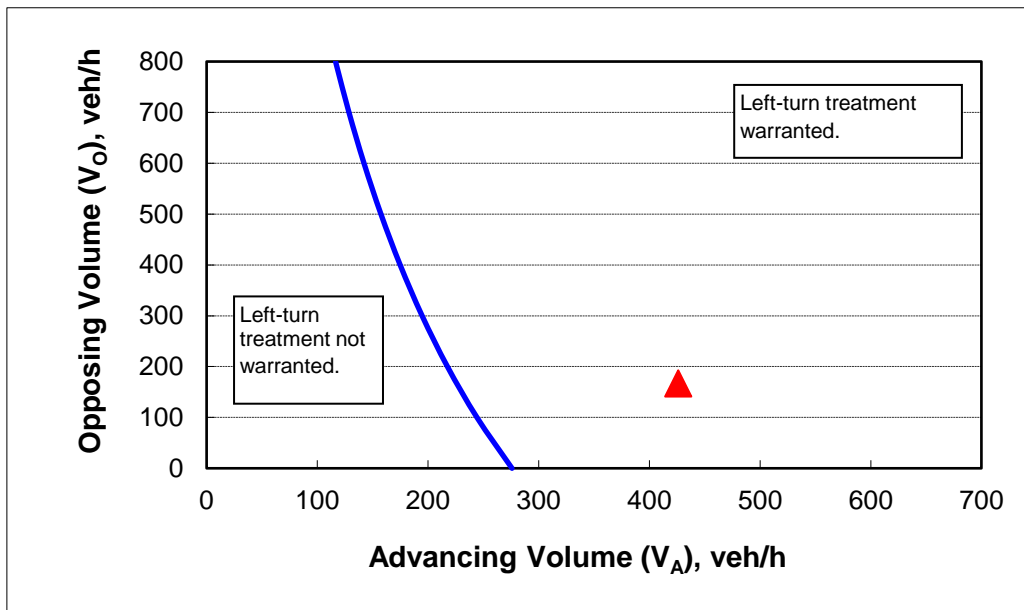
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	55
Left-turns in advancing volume (V_A), veh/hr:	199
Advancing volume (V_A), veh/h:	426
Opposing volume (V_O), veh/h:	167

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	226
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Preliminary Traffic Signal Warrant Summary



Intersection		Warrant Met?			
		2028 Background Condition		2028 Buildout Condition	
		Based on AM	Based on PM	Based on AM	Based on PM
6	Stacy Allision Way at Evergreen Road	No	Yes	No	Yes
7	Hayes Street at Evergreen Road	No	Yes	No	Yes
8&9	Hayes Street at Settlemier Avenue	No	No	No	No
10	Harvard Drive at Evergreen Road	No	No	No	No
11	Parr Road at Butteville Road	No	No	No	No
15	Stubb Road at Parr Road	No	No	No	No
16	Parr Road at Settlemier Avenue	No	No	No	No



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - AM

Major Street:	Evergreen Road	Minor Street:	Stacy Allision Way	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	1	AM Peak Hour Volumes:	173	Total Rights
			21	RT Discount
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	10	8,850	
Minor Street*	1,630	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	10	13,300	
Minor Street*	1,630	1,350	No
<i>Combination Warrant</i>			
Major Street	10	10,640	
Minor Street*	1,630	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - PM

Major Street:	Evergreen Road	Minor Street:	Hayes Street	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1369	PM Peak Hour Volumes:	274	Total Rights
			62	RT Discount
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>WARRANT 1, CONDITION A</u>		100%	70%	100%	70%
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	13,690	8,850	
Minor Street*	2,430	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	13,690	13,300	
Minor Street*	2,430	1,350	Yes
<i>Combination Warrant</i>			
Major Street	13,690	10,640	
Minor Street*	2,430	2,120	Yes

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - AM

Major Street:	Evergreen Road	Minor Street:	Hayes Street	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	868	AM Peak Hour Volumes:	265	Total Rights RT Discount
			130	
			50%	

Warrant Used:

- X 100 percent of standard warrants used
- 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	8,680	8,850	
Minor Street*	2,000	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,680	13,300	
Minor Street*	2,000	1,350	No
<i>Combination Warrant</i>			
Major Street	8,680	10,640	
Minor Street*	2,000	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - PM

Major Street:	Evergreen Road	Minor Street:	Stacy Allision Way	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1236	PM Peak Hour Volumes:	380	Total Rights RT Discount
			120	
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	12,360	8,850	
Minor Street*	3,200	2,650	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	12,360	13,300	
Minor Street*	3,200	1,350	No
<i>Combination Warrant</i>			
Major Street	12,360	10,640	
Minor Street*	3,200	2,120	Yes

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - AM

Major Street:	Settlemier Avenue	Minor Street:	Hayes Street	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	874	AM Peak Hour Volumes:	70	Total Rights RT Discount
			39	
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	8,740	8,850	
Minor Street*	510	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,740	13,300	
Minor Street*	510	1,350	No
<i>Combination Warrant</i>			
Major Street	8,740	10,640	
Minor Street*	510	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - PM

Major Street:	Settlemier Avenue	Minor Street:	Hayes Street	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1241	PM Peak Hour Volumes:	258	Total Rights RT Discount
			176	
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	12,410	8,850	
Minor Street*	1,700	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	12,410	13,300	
Minor Street*	1,700	1,350	No
<i>Combination Warrant</i>			
Major Street	12,410	10,640	
Minor Street*	1,700	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - AM

Major Street:	Evergreen Road	Minor Street:	Harvard Drive	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	682	AM Peak Hour Volumes:	312	Total Rights RT Discount
			233	
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	6,820	8,850	
Minor Street*	1,960	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	6,820	13,300	
Minor Street*	1,960	1,350	No
<i>Combination Warrant</i>			
Major Street	6,820	10,640	
Minor Street*	1,960	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - PM

Major Street:	Evergreen Road	Minor Street:	Harvard Drive	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	898	PM Peak Hour Volumes:	201	Total Rights RT Discount
			41	
			50%	

Warrant Used:

- X 100 percent of standard warrants used
- 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	8,980	8,850	
Minor Street*	1,810	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,980	13,300	
Minor Street*	1,810	1,350	No
<i>Combination Warrant</i>			
Major Street	8,980	10,640	
Minor Street*	1,810	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - AM

Major Street:	Butteville Road	Minor Street:	Parr Road	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	496	AM Peak Hour Volumes:	267	Total Rights
			220	RT Discount
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	4,960	8,850	
Minor Street*	1,570	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	4,960	13,300	
Minor Street*	1,570	1,350	No
<i>Combination Warrant</i>			
Major Street	4,960	10,640	
Minor Street*	1,570	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - PM

Major Street:	Butteville Road	Minor Street:	Parr Road	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	593	PM Peak Hour Volumes:	198	Total Rights RT Discount
			150	
			50%	

Warrant Used:

- X 100 percent of standard warrants used
- 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	5,930	8,850	
Minor Street*	1,230	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	5,930	13,300	
Minor Street*	1,230	1,350	No
<i>Combination Warrant</i>			
Major Street	5,930	10,640	
Minor Street*	1,230	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - AM

Major Street:	Parr Road	Minor Street:	Stubb Road	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	324	AM Peak Hour Volumes:	36	Total Rights
			7	RT Discount
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,240	8,850	
Minor Street*	330	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,240	13,300	
Minor Street*	330	1,350	No
<i>Combination Warrant</i>			
Major Street	3,240	10,640	
Minor Street*	330	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - PM

Major Street:	Parr Road	Minor Street:	Stubb Road	
Number of Lanes:	1	Number of Lanes:	1	
				Total
PM Peak		PM Peak	39	Rights
Hour Volumes:	307	Hour Volumes:	10	RT Discount
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess
 of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,070	8,850	
Minor Street*	340	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,070	13,300	
Minor Street*	340	1,350	No
<i>Combination Warrant</i>			
Major Street	3,070	10,640	
Minor Street*	340	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - AM

Major Street:	Settlemier Avenue	Minor Street:	Parr Road	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	371	AM Peak Hour Volumes:	187	Total Rights
			17	RT Discount
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,710	8,850	
Minor Street*	1,790	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,710	13,300	
Minor Street*	1,790	1,350	No
<i>Combination Warrant</i>			
Major Street	3,710	10,640	
Minor Street*	1,790	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Buildout - PM

Major Street:	Settlemier Avenue	Minor Street:	Parr Road	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	408	PM Peak Hour Volumes:	261	Total Rights
			105	RT Discount
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	4,080	8,850	
Minor Street*	2,090	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	4,080	13,300	
Minor Street*	2,090	1,350	No
<i>Combination Warrant</i>			
Major Street	4,080	10,640	
Minor Street*	2,090	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - AM

Major Street:	Evergreen Road	Minor Street:	Stacy Allision Way	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	1006	AM Peak Hour Volumes:	172	Total Rights
			20	RT Discount
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	10,060	8,850	
Minor Street*	1,620	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	10,060	13,300	
Minor Street*	1,620	1,350	No
<i>Combination Warrant</i>			
Major Street	10,060	10,640	
Minor Street*	1,620	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - PM

Major Street:	Evergreen Road	Minor Street:	Hayes Street	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1306	PM Peak Hour Volumes:	268	Total Rights RT Discount
			56	
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	13,060	8,850	
Minor Street*	2,400	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	13,060	13,300	
Minor Street*	2,400	1,350	No
<i>Combination Warrant</i>			
Major Street	13,060	10,640	
Minor Street*	2,400	2,120	Yes

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - AM

Major Street:	Evergreen Road	Minor Street:	Stacy Allision Way
Number of Lanes:	1	Number of Lanes:	1
AM Peak Hour Volumes:	817	AM Peak Hour Volumes:	265
			130
			50%
		Total Rights RT Discount	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	8,170	8,850	
Minor Street*	2,000	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,170	13,300	
Minor Street*	2,000	1,350	No
<i>Combination Warrant</i>			
Major Street	8,170	10,640	
Minor Street*	2,000	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - PM

Major Street:	Evergreen Road	Minor Street:	Stacy Allision Way	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1167	PM Peak Hour Volumes:	380	Total Rights RT Discount
			120	
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	11,670	8,850	
Minor Street*	3,200	2,650	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	11,670	13,300	
Minor Street*	3,200	1,350	No
<i>Combination Warrant</i>			
Major Street	11,670	10,640	
Minor Street*	3,200	2,120	Yes

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - AM

Major Street:	Settlemier Avenue	Minor Street:	Hayes Street	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	867	AM Peak Hour Volumes:	70	Total Rights RT Discount
			39	
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	8,670	8,850	
Minor Street*	510	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,670	13,300	
Minor Street*	510	1,350	No
<i>Combination Warrant</i>			
Major Street	8,670	10,640	
Minor Street*	510	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - PM

Major Street:	Settlemier Avenue	Minor Street:	Hayes Street	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	1233	PM Peak Hour Volumes:	258	Total Rights
			176	RT Discount
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	12,330	8,850	
Minor Street*	1,700	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	12,330	13,300	
Minor Street*	1,700	1,350	No
<i>Combination Warrant</i>			
Major Street	12,330	10,640	
Minor Street*	1,700	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - AM

Major Street:	Evergreen Road	Minor Street:	Harvard Drive	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	636	AM Peak Hour Volumes:	307	Total Rights RT Discount
			228	
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	6,360	8,850	
Minor Street*	1,930	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	6,360	13,300	
Minor Street*	1,930	1,350	No
<i>Combination Warrant</i>			
Major Street	6,360	10,640	
Minor Street*	1,930	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - PM

Major Street:	Evergreen Road	Minor Street:	Harvard Drive	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	832	PM Peak Hour Volumes:	201	Total Rights
			134	RT Discount
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	8,320	8,850	
Minor Street*	1,340	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,320	13,300	
Minor Street*	1,340	1,350	No
<i>Combination Warrant</i>			
Major Street	8,320	10,640	
Minor Street*	1,340	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - AM

Major Street:	Butteville Road	Minor Street:	Parr Road	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	481	AM Peak Hour Volumes:	228	Total Rights
			186	RT Discount
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	4,810	8,850	
Minor Street*	1,350	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	4,810	13,300	
Minor Street*	1,350	1,350	No
<i>Combination Warrant</i>			
Major Street	4,810	10,640	
Minor Street*	1,350	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - PM

Major Street:	Butteville Road	Minor Street:	Parr Road	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	552	PM Peak Hour Volumes:	172	Total Rights RT Discount
			127	
			50%	

Warrant Used:
X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	5,520	8,850	
Minor Street*	1,090	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	5,520	13,300	
Minor Street*	1,090	1,350	No
<i>Combination Warrant</i>			
Major Street	5,520	10,640	
Minor Street*	1,090	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - AM

Major Street:	Parr Road	Minor Street:	Stubb Road	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	292	AM Peak Hour Volumes:	36	Total Rights
			7	RT Discount
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	2,920	8,850	
Minor Street*	330	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	2,920	13,300	
Minor Street*	330	1,350	No
<i>Combination Warrant</i>			
Major Street	2,920	10,640	
Minor Street*	330	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - PM

Major Street:	Parr Road	Minor Street:	Stubb Road	
Number of Lanes:	1	Number of Lanes:	1	
				Total
PM Peak		PM Peak	34	Rights
Hour Volumes:	271	Hour Volumes:	5	RT Discount
			50%	

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess
 of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	2,710	8,850	
Minor Street*	320	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	2,710	13,300	
Minor Street*	320	1,350	No
<i>Combination Warrant</i>			
Major Street	2,710	10,640	
Minor Street*	320	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - AM

Major Street:	Settlemier Avenue	Minor Street:	Parr Road	
Number of Lanes:	1	Number of Lanes:	1	
AM Peak Hour Volumes:	346	AM Peak Hour Volumes:	187	Total Rights
			17	RT Discount
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,460	8,850	
Minor Street*	1,790	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,460	13,300	
Minor Street*	1,790	1,350	No
<i>Combination Warrant</i>			
Major Street	3,460	10,640	
Minor Street*	1,790	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.



Preliminary Traffic Signal Warrant Analysis

Project: Kalugin - Parr Road
 Date: 8/10/2022
 Scenario: Year 2028 Background - PM

Major Street:	Settlemier Avenue	Minor Street:	Parr Road	
Number of Lanes:	1	Number of Lanes:	1	
PM Peak Hour Volumes:	380	PM Peak Hour Volumes:	256	Total Rights RT Discount
			100	
			50%	

Warrant Used:

X 100 percent of standard warrants used
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,800	8,850	
Minor Street*	2,060	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,800	13,300	
Minor Street*	2,060	1,350	No
<i>Combination Warrant</i>			
Major Street	3,800	10,640	
Minor Street*	2,060	2,120	No

* Minor street right-turning traffic volumes reduced by 50%.

Appendix D - Operations

Definitions

Synchro Reports

Queuing Reports





Level of Service Definitions

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

- *Level of service A:* Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.
- *Level of service B:* Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.
- *Level of service C:* Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.
- *Level of service D:* Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.
- *Level of service E:* Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.
- *Level of service F:* Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



Level of Service Criteria
For Signalized Intersections

Level of Service (LOS)	Control Delay per Vehicle (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

Level of Service Criteria
For Unsignalized Intersections

Level of Service (LOS)	Control Delay per Vehicle (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

Intersection						
Int Delay, s/veh	5.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	138	50	92	221	82	143
Future Vol, veh/h	138	50	92	221	82	143
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	90	90	90	90	90	90
Heavy Vehicles, %	9	10	4	3	6	2
Mvmt Flow	153	56	102	246	91	159

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	209	0	631 181
Stage 1	-	-	-	-	181 -
Stage 2	-	-	-	-	450 -
Critical Hdwy	-	-	4.14	-	6.46 6.22
Critical Hdwy Stg 1	-	-	-	-	5.46 -
Critical Hdwy Stg 2	-	-	-	-	5.46 -
Follow-up Hdwy	-	-	2.236	-	3.554 3.318
Pot Cap-1 Maneuver	-	-	1350	-	439 862
Stage 1	-	-	-	-	841 -
Stage 2	-	-	-	-	634 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1350	-	401 862
Mov Cap-2 Maneuver	-	-	-	-	401 -
Stage 1	-	-	-	-	841 -
Stage 2	-	-	-	-	579 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	607	-	-	1350	-
HCM Lane V/C Ratio	0.412	-	-	0.076	-
HCM Control Delay (s)	15	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.2	-

HCM Signalized Intersection Capacity Analysis

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗	
Traffic Volume (vph)	0	421	140	0	392	393	0	0	0	212	0	134	
Future Volume (vph)	0	421	140	0	392	393	0	0	0	212	0	134	
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)		3167	1316		3107	1324				2880		1390	
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (perm)		3167	1316		3107	1324				2880		1390	
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)	0	439	146	0	408	409	0	0	0	221	0	140	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	120	
Lane Group Flow (vph)	0	439	146	0	408	409	0	0	0	221	0	20	
Confl. Peds. (#/hr)	2					2							
Heavy Vehicles (%)	0%	5%	13%	0%	7%	10%	0%	0%	0%	12%	0%	7%	
Turn Type		NA	Free		NA	Free				Prot		Prot	
Protected Phases		2			6					4		4	
Permitted Phases			Free			Free							
Actuated Green, G (s)		77.1	100.0		77.1	100.0				13.9		13.9	
Effective Green, g (s)		77.6	100.0		77.6	100.0				14.4		14.4	
Actuated g/C Ratio		0.78	1.00		0.78	1.00				0.14		0.14	
Clearance Time (s)		4.5			4.5					4.5		4.5	
Vehicle Extension (s)		6.0			4.0					2.5		2.5	
Lane Grp Cap (vph)		2457	1316		2411	1324				414		200	
v/s Ratio Prot		0.14			0.13					c0.08		0.01	
v/s Ratio Perm			0.11			c0.31							
v/c Ratio		0.18	0.11		0.17	0.31				0.53		0.10	
Uniform Delay, d1		2.9	0.0		2.9	0.0				39.7		37.2	
Progression Factor		1.00	1.00		0.88	1.00				1.00		1.00	
Incremental Delay, d2		0.2	0.2		0.1	0.6				1.0		0.2	
Delay (s)		3.1	0.2		2.7	0.6				40.7		37.3	
Level of Service		A	A		A	A				D		D	
Approach Delay (s)		2.3			1.6			0.0			39.4		
Approach LOS		A			A			A			D		
Intersection Summary													
HCM 2000 Control Delay			9.6									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.36										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			28.2%									ICU Level of Service	A
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (veh/h)	0	421	140	0	392	393	0	0	0	212	0	134
Future Volume (veh/h)	0	421	140	0	392	393	0	0	0	212	0	134
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	1682	1573	0	1654	1614				1586	0	1654
Adj Flow Rate, veh/h	0	439	0	0	408	0				221	0	62
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	5	13	0	7	10				12	0	7
Cap, veh/h	0	2564		0	2522					345	0	165
Arrive On Green	0.00	0.80	0.00	0.00	0.26	0.00				0.12	0.00	0.12
Sat Flow, veh/h	0	3279	1333	0	3226	1367				2931	0	1402
Grp Volume(v), veh/h	0	439	0	0	408	0				221	0	62
Grp Sat Flow(s),veh/h/ln	0	1598	1333	0	1572	1367				1465	0	1402
Q Serve(g_s), s	0.0	3.1	0.0	0.0	10.0	0.0				7.2	0.0	4.1
Cycle Q Clear(g_c), s	0.0	3.1	0.0	0.0	10.0	0.0				7.2	0.0	4.1
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2564		0	2522					345	0	165
V/C Ratio(X)	0.00	0.17		0.00	0.16					0.64	0.00	0.38
Avail Cap(c_a), veh/h	0	2564		0	2522					1055	0	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.95	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	2.3	0.0	0.0	10.9	0.0				42.1	0.0	40.7
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0				1.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.0	0.0	3.9	0.0				2.7	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.4	0.0	0.0	11.1	0.0				43.6	0.0	41.8
LnGrp LOS	A	A		A	B					D	A	D
Approach Vol, veh/h		439	A		408	A					283	
Approach Delay, s/veh		2.4			11.1						43.2	
Approach LOS		A			B						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		84.2		15.8		84.2						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		55.5		35.5		55.5						
Max Q Clear Time (g_c+I1), s		5.1		9.2		12.0						
Green Ext Time (p_c), s		12.4		2.1		7.2						

Intersection Summary

HCM 6th Ctrl Delay	15.7
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

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↘	↕	↗			
Traffic Volume (vph)	0	445	188	0	614	534	171	0	583	0	0	0
Future Volume (vph)	0	445	188	0	614	534	171	0	583	0	0	0
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			
Lane Util. Factor		0.95	1.00		0.95	1.00	0.95	0.91	0.95			
Frbp, ped/bikes		1.00	1.00		1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00			
Frt		1.00	0.85		1.00	0.85	1.00	0.86	0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)		3107	1417		3079	1442	1423	1283	1333			
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)		3107	1417		3079	1442	1423	1283	1333			
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)	0	468	198	0	646	562	180	0	614	0	0	0
RTOR Reduction (vph)	0	0	56	0	0	159	0	240	249	0	0	0
Lane Group Flow (vph)	0	468	142	0	646	403	162	79	64	0	0	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	0%	7%	5%	0%	8%	1%	11%	0%	6%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm	Split	NA	Prot			
Protected Phases		2			6		8	8	8			
Permitted Phases			2			6						
Actuated Green, G (s)		71.2	71.2		71.2	71.2	18.9	18.9	18.9			
Effective Green, g (s)		71.7	71.7		71.7	71.7	20.3	20.3	20.3			
Actuated g/C Ratio		0.72	0.72		0.72	0.72	0.20	0.20	0.20			
Clearance Time (s)		4.5	4.5		4.5	4.5	5.4	5.4	5.4			
Vehicle Extension (s)		4.0	4.0		6.0	6.0	2.5	2.5	2.5			
Lane Grp Cap (vph)		2227	1015		2207	1033	288	260	270			
v/s Ratio Prot		0.15			0.21		c0.11	0.06	0.05			
v/s Ratio Perm			0.10			c0.28						
v/c Ratio		0.21	0.14		0.29	0.39	0.56	0.30	0.24			
Uniform Delay, d1		4.7	4.5		5.1	5.6	35.9	33.9	33.4			
Progression Factor		0.83	0.95		1.11	3.31	1.00	1.00	1.00			
Incremental Delay, d2		0.2	0.3		0.3	1.0	2.0	0.5	0.3			
Delay (s)		4.1	4.5		5.9	19.4	37.9	34.3	33.7			
Level of Service		A	A		A	B	D	C	C			
Approach Delay (s)		4.3			12.2			34.8			0.0	
Approach LOS		A			B			C			A	
Intersection Summary												
HCM 2000 Control Delay			16.9				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		8.0			
Intersection Capacity Utilization			54.3%				ICU Level of Service		A			
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↖	↕	↗			
Traffic Volume (veh/h)	0	445	188	0	614	534	171	0	583	0	0	0
Future Volume (veh/h)	0	445	188	0	614	534	171	0	583	0	0	0
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	1654	1682	0	1641	1736	1600	1750	1668			
Adj Flow Rate, veh/h	0	468	0	0	646	0	120	0	468			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	7	5	0	8	1	11	0	6			
Cap, veh/h	0	2171		0	2153		350	0	649			
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.23	0.00	0.23			
Sat Flow, veh/h	0	3226	1425	0	3200	1471	1524	0	2827			
Grp Volume(v), veh/h	0	468	0	0	646	0	120	0	468			
Grp Sat Flow(s),veh/h/ln	0	1572	1425	0	1559	1471	1524	0	1414			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	15.3			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	15.3			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2171		0	2153		350	0	649			
V/C Ratio(X)	0.00	0.22		0.00	0.30		0.34	0.00	0.72			
Avail Cap(c_a), veh/h	0	2171		0	2153		549	0	1018			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.96	0.00	0.00	0.83	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	32.2	0.0	35.6			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.3	0.0	0.4	0.0	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0	2.5	0.0	5.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.2	0.0	0.0	0.3	0.0	32.7	0.0	36.7			
LnGrp LOS	A	A		A	A		C	A	D			
Approach Vol, veh/h		468	A		646	A		588				
Approach Delay, s/veh		0.2			0.3			35.9				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		73.1			73.1			26.9				
Change Period (Y+Rc), s		4.5			4.5			5.4				
Max Green Setting (Gmax), s		55.5			55.5			34.6				
Max Q Clear Time (g_c+I1), s		2.0			2.0			17.3				
Green Ext Time (p_c), s		8.8			20.2			4.3				

Intersection Summary

HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

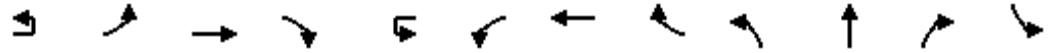
Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↗	↘	↙
Traffic Volume (vph)	45	52	725	52	5	104	702	13	368	20	126	11
Future Volume (vph)	45	52	725	52	5	104	702	13	368	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
Frpb, 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	0.96	1.00	0.95
Satd. Flow (prot)		1645	3023	1261		1558	2992		1490	1495	1377	1662
Flt Permitted		0.29	1.00	1.00		0.28	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		507	3023	1261		458	2992		1490	1495	1377	1662
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)	48	56	780	56	5	112	755	14	396	22	135	12
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	0	0	0
Lane Group Flow (vph)	0	104	780	56	0	117	768	0	210	208	135	12
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	2%	10%	18%	0%	7%	11%	0%	6%	10%	8%	0%
Turn Type	pm+pt	pm+pt	NA	Free	custom	pm+pt	NA		Split	NA	Free	Split
Protected Phases	5	5	2			1	6		4	4		8
Permitted Phases	2	2		Free	1	6					Free	
Actuated Green, G (s)		58.1	50.5	100.0		59.3	51.1		17.5	17.5	100.0	6.3
Effective Green, g (s)		58.1	51.0	100.0		59.3	51.6		18.0	18.0	100.0	6.8
Actuated g/C Ratio		0.58	0.51	1.00		0.59	0.52		0.18	0.18	1.00	0.07
Clearance Time (s)		4.0	4.5			4.0	4.5		4.5	4.5		4.5
Vehicle Extension (s)		2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)		381	1541	1261		361	1543		268	269	1377	113
v/s Ratio Prot		0.02	c0.26			c0.03	0.26		c0.14	0.14		0.01
v/s Ratio Perm		0.14		0.04		0.17					c0.10	
v/c Ratio		0.27	0.51	0.04		0.32	0.50		0.78	0.77	0.10	0.11
Uniform Delay, d1		9.9	16.2	0.0		9.7	15.8		39.1	39.1	0.0	43.7
Progression Factor		0.73	0.76	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		0.3	1.1	0.1		0.4	1.2		13.4	12.4	0.1	0.3
Delay (s)		7.5	13.4	0.1		10.1	16.9		52.6	51.5	0.1	44.0
Level of Service		A	B	A		B	B		D	D	A	D
Approach Delay (s)			11.9				16.0			39.4		
Approach LOS			B				B			D		
Intersection Summary												
HCM 2000 Control Delay			19.8				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			56.6%				ICU Level of Service		B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	16	33
Future Volume (vph)	16	33
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)	1651	1271
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1651	1271
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	17	35
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	17	35
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	6%	17%
Turn Type	NA	Free
Protected Phases	8	
Permitted Phases		Free
Actuated Green, G (s)	6.3	100.0
Effective Green, g (s)	6.8	100.0
Actuated g/C Ratio	0.07	1.00
Clearance Time (s)	4.5	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	112	1271
v/s Ratio Prot	0.01	
v/s Ratio Perm		0.03
v/c Ratio	0.15	0.03
Uniform Delay, d1	43.9	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.5	0.0
Delay (s)	44.3	0.0
Level of Service	D	A
Approach Delay (s)	20.1	
Approach LOS	C	
Intersection Summary		

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (veh/h)	45	52	725	52	5	104	702	13	368	20	126	11
Future Volume (veh/h)	45	52	725	52	5	104	702	13	368	20	126	11
Initial Q (Qb), veh		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		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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1723	1614	1504		1654	1600	1750	1668	1614	1641	1750
Adj Flow Rate, veh/h		56	780	0		112	755	14	412	0	0	12
Peak Hour Factor		0.93	0.93	0.93		0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %		2	10	18		7	11	0	6	10	8	0
Cap, veh/h		489	1782			474	1802	33	511	0		82
Arrive On Green		0.08	0.77	0.00		0.05	0.79	0.59	0.16	0.00	0.00	0.05
Sat Flow, veh/h		1641	3066	1275		1576	3052	57	3177	0	1391	1667
Grp Volume(v), veh/h		56	780	0		112	376	393	412	0	0	12
Grp Sat Flow(s),veh/h/ln		1641	1533	1275		1576	1520	1588	1589	0	1391	1667
Q Serve(g_s), s		1.3	8.7	0.0		2.9	7.9	8.1	12.5	0.0	0.0	0.7
Cycle Q Clear(g_c), s		1.3	8.7	0.0		2.9	7.9	8.1	12.5	0.0	0.0	0.7
Prop In Lane		1.00		1.00		1.00		0.04	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		489	1782			474	897	938	511	0		82
V/C Ratio(X)		0.11	0.44			0.24	0.42	0.42	0.81	0.00		0.15
Avail Cap(c_a), veh/h		654	1782			618	897	938	667	0		267
HCM Platoon Ratio		2.00	1.33	2.00		1.00	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.94	0.94	0.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		7.6	5.7	0.0		8.0	5.2	5.4	40.5	0.0	0.0	45.5
Incr Delay (d2), s/veh		0.1	0.7	0.0		0.2	1.4	1.4	5.0	0.0	0.0	0.6
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
%ile BackOfQ(50%),veh/ln		0.4	2.3	0.0		0.9	2.3	2.4	5.2	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		7.7	6.5	0.0		8.2	6.7	6.8	45.4	0.0	0.0	46.1
LnGrp LOS		A	A			A	A	A	D	A		D
Approach Vol, veh/h			836	A			881			412	A	
Approach Delay, s/veh			6.6				6.9			45.4		
Approach LOS			A				A			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	62.1		20.1	7.9	63.1		8.9				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	14.0	32.5		20.5	14.0	32.5		15.5				
Max Q Clear Time (g_c+I1), s	4.9	10.7		14.5	3.3	10.1		3.0				
Green Ext Time (p_c), s	0.2	15.4		1.1	0.1	15.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (veh/h)	16	33
Future Volume (veh/h)	16	33
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1668	1518
Adj Flow Rate, veh/h	17	0
Peak Hour Factor	0.93	0.93
Percent Heavy Veh, %	6	17
Cap, veh/h	82	
Arrive On Green	0.05	0.00
Sat Flow, veh/h	1668	1286
Grp Volume(v), veh/h	17	0
Grp Sat Flow(s),veh/h/ln	1668	1286
Q Serve(g_s), s	1.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	82	
V/C Ratio(X)	0.21	
Avail Cap(c_a), veh/h	267	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(l)	1.00	0.00
Uniform Delay (d), s/veh	45.7	0.0
Incr Delay (d2), s/veh	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	46.6	0.0
LnGrp LOS	D	
Approach Vol, veh/h	29	A
Approach Delay, s/veh	46.4	
Approach LOS	D	

Timer - Assigned Phs

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	109	483	219	39	344	48	351	143	56	43	82	79
Future Volume (vph)	109	483	219	39	344	48	351	143	56	43	82	79
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	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	1606	1438	1630	1549	1488	1662	1733	1488	1630	1750	1471
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	1606	1438	1630	1549	1488	1662	1733	1488	1630	1750	1471
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)	115	508	231	41	362	51	369	151	59	45	86	83
RTOR Reduction (vph)	0	0	78	0	0	32	0	0	34	0	0	63
Lane Group Flow (vph)	115	508	153	41	362	19	369	151	25	45	86	20
Confl. Peds. (#/hr)			2	2			8					
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	4%	9%	2%	2%	13%	0%	0%	1%	0%	2%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	13.5	42.6	74.5	6.8	35.9	41.5	31.9	39.9	46.7	5.6	13.6	27.1
Effective Green, g (s)	14.0	43.6	75.5	7.3	36.9	42.5	32.4	40.9	47.7	6.1	14.6	28.1
Actuated g/C Ratio	0.12	0.38	0.66	0.06	0.32	0.37	0.28	0.36	0.42	0.05	0.13	0.25
Clearance Time (s)	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5
Vehicle Extension (s)	2.5	4.8	2.5	2.5	4.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	196	614	953	104	501	555	472	622	623	87	224	362
v/s Ratio Prot	c0.07	c0.32	0.05	0.03	0.23	0.00	c0.22	0.09	0.00	0.03	c0.05	0.01
v/s Ratio Perm			0.06			0.01			0.01			0.01
v/c Ratio	0.59	0.83	0.16	0.39	0.72	0.03	0.78	0.24	0.04	0.52	0.38	0.06
Uniform Delay, d1	47.2	31.8	7.2	51.2	34.0	22.7	37.5	25.6	19.6	52.5	45.5	32.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	9.9	0.1	1.8	6.1	0.0	7.9	0.1	0.0	3.8	0.8	0.0
Delay (s)	50.9	41.7	7.3	53.0	40.0	22.7	45.4	25.8	19.6	56.3	46.3	32.8
Level of Service	D	D	A	D	D	C	D	C	B	E	D	C
Approach Delay (s)		33.6			39.3			37.7			43.2	
Approach LOS		C			D			D			D	

Intersection Summary

HCM 2000 Control Delay	36.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	113.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
 5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	109	483	219	39	344	48	351	143	56	43	82	79
Future Volume (veh/h)	109	483	219	39	344	48	351	143	56	43	82	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
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	1627	1723	1723	1573	1750	1750	1736	1750	1723	1750	1750
Adj Flow Rate, veh/h	115	508	231	41	362	51	369	151	59	45	86	83
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, %	4	9	2	2	13	0	0	1	0	2	0	0
Cap, veh/h	150	737	1000	63	626	642	413	541	506	66	182	282
Arrive On Green	0.09	0.45	0.45	0.04	0.40	0.39	0.25	0.31	0.31	0.04	0.10	0.10
Sat Flow, veh/h	1615	1627	1426	1641	1573	1479	1667	1736	1464	1641	1750	1448
Grp Volume(v), veh/h	115	508	231	41	362	51	369	151	59	45	86	83
Grp Sat Flow(s),veh/h/ln	1615	1627	1426	1641	1573	1479	1667	1736	1464	1641	1750	1448
Q Serve(g_s), s	7.1	25.3	6.0	2.5	18.4	2.1	21.8	6.7	2.8	2.8	4.7	5.0
Cycle Q Clear(g_c), s	7.1	25.3	6.0	2.5	18.4	2.1	21.8	6.7	2.8	2.8	4.7	5.0
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	150	737	1000	63	626	642	413	541	506	66	182	282
V/C Ratio(X)	0.76	0.69	0.23	0.65	0.58	0.08	0.89	0.28	0.12	0.68	0.47	0.29
Avail Cap(c_a), veh/h	332	1133	1347	338	1095	1082	507	541	506	499	532	571
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	45.2	22.2	5.6	48.3	24.0	16.9	37.1	26.5	22.8	48.3	43.0	35.3
Incr Delay (d2), s/veh	5.9	2.2	0.2	8.0	1.6	0.1	15.2	0.2	0.1	8.8	1.4	0.4
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	3.1	9.8	1.7	1.2	6.9	0.7	10.6	2.8	1.0	1.3	2.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	24.4	5.9	56.3	25.6	17.0	52.3	26.7	22.9	57.1	44.5	35.7
LnGrp LOS	D	C	A	E	C	B	D	C	C	E	D	D
Approach Vol, veh/h		854			454			579			214	
Approach Delay, s/veh		23.0			27.4			42.6			43.7	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	50.2	29.3	14.6	13.5	44.6	8.1	35.8				
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	20.5	70.0	30.5	30.0	20.5	70.0	30.5	30.0				
Max Q Clear Time (g_c+I1), s	4.5	27.3	23.8	7.0	9.1	20.4	4.8	8.7				
Green Ext Time (p_c), s	0.1	17.9	0.9	0.6	0.3	9.8	0.1	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			31.5									
HCM 6th LOS			C									

HCM 6th TWSC
6: Evergreen Rd/Evergreen Road & Stacy Allison Way

08/10/2022

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↕		↶	↷		↶	↷	
Traffic Vol, veh/h	115	1	19	2	0	1	24	240	0	3	77	92
Future Vol, veh/h	115	1	19	2	0	1	24	240	0	3	77	92
Conflicting Peds, #/hr	3	0	1	1	0	3	3	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	100	-	-	-	-	-	50	-	-	25	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	14	0	5	0	0	0	4	4	0	33	3	7
Mvmt Flow	135	1	22	2	0	1	28	282	0	4	91	108

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	498	494	149	504	548	285	202	0	0	282	0	0
Stage 1	156	156	-	338	338	-	-	-	-	-	-	-
Stage 2	342	338	-	166	210	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.5	6.25	7.1	6.5	6.2	4.14	-	-	4.43	-	-
Critical Hdwy Stg 1	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4	3.345	3.5	4	3.3	2.236	-	-	2.497	-	-
Pot Cap-1 Maneuver	464	479	890	482	447	759	1358	-	-	1122	-	-
Stage 1	819	772	-	681	644	-	-	-	-	-	-	-
Stage 2	649	644	-	841	732	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	452	466	887	460	434	757	1354	-	-	1122	-	-
Mov Cap-2 Maneuver	520	521	-	460	434	-	-	-	-	-	-	-
Stage 1	800	767	-	667	630	-	-	-	-	-	-	-
Stage 2	633	630	-	815	727	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.6		11.9		0.7		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1354	-	-	520	857	529	1122	-	-
HCM Lane V/C Ratio	0.021	-	-	0.26	0.027	0.007	0.003	-	-
HCM Control Delay (s)	7.7	-	-	14.3	9.3	11.9	8.2	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0.1	0	0	-	-

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	6	19	2	69	56	113	0	147	81	44	38	4
Future Vol, veh/h	6	19	2	69	56	113	0	147	81	44	38	4
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	33	15	0	5	0	0	0	8	4	4	5	25
Mvmt Flow	7	23	2	82	67	135	0	175	96	52	45	5
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	9.3	10.8	11.6	9.3
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	22%	29%	100%	0%
Vol Thru, %	100%	64%	70%	24%	0%	90%
Vol Right, %	0%	36%	7%	47%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	228	27	238	44	42
LT Vol	0	0	6	69	44	0
Through Vol	0	147	19	56	0	38
RT Vol	0	81	2	113	0	4
Lane Flow Rate	0	271	32	283	52	50
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0	0.399	0.052	0.378	0.09	0.078
Departure Headway (Hd)	5.402	5.288	5.846	4.798	6.156	5.6
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	676	606	745	577	633
Service Time	3.183	3.069	3.945	2.859	3.951	3.395
HCM Lane V/C Ratio	0	0.401	0.053	0.38	0.09	0.079
HCM Control Delay	8.2	11.6	9.3	10.8	9.6	8.9
HCM Lane LOS	N	B	A	B	A	A
HCM 95th-tile Q	0	1.9	0.2	1.8	0.3	0.3

HCM 6th TWSC
8: Settlemier Ave & Hayes St N

08/10/2022

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↵			↵	↵	
Traffic Vol, veh/h	19	0	64	374	211	20
Future Vol, veh/h	19	0	64	374	211	20
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	0	3	0	2	5
Mvmt Flow	23	0	78	456	257	24

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	882	- 282	0	-	0
Stage 1	270	- -	-	-	-
Stage 2	612	- -	-	-	-
Critical Hdwy	6.45	- 4.13	-	-	-
Critical Hdwy Stg 1	5.45	- -	-	-	-
Critical Hdwy Stg 2	5.45	- -	-	-	-
Follow-up Hdwy	3.545	- 2.227	-	-	-
Pot Cap-1 Maneuver	313	0 1275	-	-	-
Stage 1	768	0 -	-	-	-
Stage 2	535	0 -	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	287	- 1274	-	-	-
Mov Cap-2 Maneuver	287	- -	-	-	-
Stage 1	704	- -	-	-	-
Stage 2	534	- -	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.6	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1274	-	287	-	-
HCM Lane V/C Ratio	0.061	-	0.081	-	-
HCM Control Delay (s)	8	0	18.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔				↔		↔		↔		
Traffic Vol, veh/h	0	7	29	0	0	21	0	417	1	7	204	0
Future Vol, veh/h	0	7	29	0	0	21	0	417	1	7	204	0
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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	0	0	0	0	0	3	0	0	28	2	5
Mvmt Flow	0	9	35	0	0	26	0	509	1	9	249	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	778	249	-	-	511	-	0	0	511	0	0
Stage 1	-	267	-	-	-	-	-	-	-	-	-	-
Stage 2	-	511	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	6.2	-	-	6.2	-	-	-	4.38	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.3	-	-	3.3	-	-	-	2.452	-	-
Pot Cap-1 Maneuver	0	330	795	0	0	567	0	-	-	934	-	0
Stage 1	0	692	-	0	0	-	0	-	-	-	-	0
Stage 2	0	540	-	0	0	-	0	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	326	795	-	-	566	-	-	-	933	-	-
Mov Cap-2 Maneuver	-	326	-	-	-	-	-	-	-	-	-	-
Stage 1	-	684	-	-	-	-	-	-	-	-	-	-
Stage 2	-	539	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.2		11.7		0		0.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	621	566	933	-
HCM Lane V/C Ratio	-	-	0.071	0.045	0.009	-
HCM Control Delay (s)	-	-	11.2	11.7	8.9	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0	-

HCM 6th TWSC
10: Harvard Dr & Evergreen Rd

08/10/2022

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	19	155	14	34	58	2	5	29	95	2	45	16
Future Vol, veh/h	19	155	14	34	58	2	5	29	95	2	45	16
Conflicting Peds, #/hr	1	0	14	14	0	1	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	5	5	7	8	3	0	20	0	2	50	2	12
Mvmt Flow	22	180	16	40	67	2	6	34	110	2	52	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	70	0	0	210	0	0	431	396	203	454	403	70
Stage 1	-	-	-	-	-	-	246	246	-	149	149	-
Stage 2	-	-	-	-	-	-	185	150	-	305	254	-
Critical Hdwy	4.15	-	-	4.18	-	-	7.3	6.5	6.22	7.6	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.5	-	6.6	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.5	-	6.6	5.52	-
Follow-up Hdwy	2.245	-	-	2.272	-	-	3.68	4	3.318	3.95	4.018	3.408
Pot Cap-1 Maneuver	1512	-	-	1326	-	-	505	544	838	444	536	965
Stage 1	-	-	-	-	-	-	719	706	-	752	774	-
Stage 2	-	-	-	-	-	-	777	777	-	613	697	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1511	-	-	1308	-	-	434	512	826	354	504	963
Mov Cap-2 Maneuver	-	-	-	-	-	-	509	556	-	354	504	-
Stage 1	-	-	-	-	-	-	699	686	-	741	749	-
Stage 2	-	-	-	-	-	-	686	752	-	497	677	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			2.8			11.2			12.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	729	1511	-	-	1308	-	-	565
HCM Lane V/C Ratio	0.206	0.015	-	-	0.03	-	-	0.13
HCM Control Delay (s)	11.2	7.4	-	-	7.8	-	-	12.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0.4

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	43	151	40	51	81
Future Vol, veh/h	32	43	151	40	51	81
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	79	79	79	79	79	79
Heavy Vehicles, %	3	0	0	0	13	2
Mvmt Flow	41	54	191	51	65	103

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	450	217	0	0	242
Stage 1	217	-	-	-	-
Stage 2	233	-	-	-	-
Critical Hdwy	6.43	6.2	-	-	4.23
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.527	3.3	-	-	2.317
Pot Cap-1 Maneuver	565	828	-	-	1263
Stage 1	817	-	-	-	-
Stage 2	803	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	534	828	-	-	1263
Mov Cap-2 Maneuver	534	-	-	-	-
Stage 1	817	-	-	-	-
Stage 2	759	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	3.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	670	1263
HCM Lane V/C Ratio	-	-	0.142	0.051
HCM Control Delay (s)	-	-	11.3	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑		↕	
Traffic Vol, veh/h	0	91	73	4	7	2
Future Vol, veh/h	0	91	73	4	7	2
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	59	59	59	59	59	59
Heavy Vehicles, %	0	0	2	0	0	50
Mvmt Flow	0	154	124	7	12	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	131	0	-	0	282
Stage 1	-	-	-	-	128
Stage 2	-	-	-	-	154
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1467	-	-	-	712
Stage 1	-	-	-	-	903
Stage 2	-	-	-	-	879
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1467	-	-	-	712
Mov Cap-2 Maneuver	-	-	-	-	712
Stage 1	-	-	-	-	903
Stage 2	-	-	-	-	879

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1467	-	-	-	731
HCM Lane V/C Ratio	-	-	-	-	0.021
HCM Control Delay (s)	0	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th AWSC
 16: S Settlemier Ave & Parr Rd NE/S Front S

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Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↶	↷		↶	↷
Traffic Vol, veh/h	48	67	52	31	27	3	40	106	16	1	82	41
Future Vol, veh/h	48	67	52	31	27	3	40	106	16	1	82	41
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, %	4	0	0	0	0	0	2	2	6	0	6	9
Mvmt Flow	56	78	60	36	31	3	47	123	19	1	95	48
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	9.3	9	9.9	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	27%	0%	100%	0%	100%	0%	1%	0%
Vol Thru, %	73%	0%	0%	56%	0%	90%	99%	0%
Vol Right, %	0%	100%	0%	44%	0%	10%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	16	48	119	31	30	83	41
LT Vol	40	0	48	0	31	0	1	0
Through Vol	106	0	0	67	0	27	82	0
RT Vol	0	16	0	52	0	3	0	41
Lane Flow Rate	170	19	56	138	36	35	97	48
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.26	0.024	0.093	0.197	0.061	0.053	0.145	0.064
Departure Headway (Hd)	5.518	4.676	6.009	5.129	6.084	5.509	5.41	4.802
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	649	761	594	696	585	646	659	741
Service Time	3.276	2.433	3.769	2.889	3.857	3.281	3.17	2.562
HCM Lane V/C Ratio	0.262	0.025	0.094	0.198	0.062	0.054	0.147	0.065
HCM Control Delay	10.2	7.5	9.4	9.2	9.3	8.6	9.1	7.9
HCM Lane LOS	B	A	A	A	A	A	A	A
HCM 95th-tile Q	1	0.1	0.3	0.7	0.2	0.2	0.5	0.2

Intersection						
Int Delay, s/veh	12.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	380	135	176	187	54	194
Future Vol, veh/h	380	135	176	187	54	194
Conflicting Peds, #/hr	0	0	0	0	1	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	84	84	84	84	84	84
Heavy Vehicles, %	2	1	1	1	7	0
Mvmt Flow	452	161	210	223	64	231

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	613	0	1177
Stage 1	-	-	-	-	533
Stage 2	-	-	-	-	644
Critical Hdwy	-	-	4.11	-	6.47
Critical Hdwy Stg 1	-	-	-	-	5.47
Critical Hdwy Stg 2	-	-	-	-	5.47
Follow-up Hdwy	-	-	2.209	-	3.563
Pot Cap-1 Maneuver	-	-	971	-	206
Stage 1	-	-	-	-	578
Stage 2	-	-	-	-	514
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	971	-	155
Mov Cap-2 Maneuver	-	-	-	-	155
Stage 1	-	-	-	-	578
Stage 2	-	-	-	-	387

Approach	EB	WB	NB
HCM Control Delay, s	0	4.7	50
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	354	-	-	971	-
HCM Lane V/C Ratio	0.834	-	-	0.216	-
HCM Control Delay (s)	50	-	-	9.7	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	7.5	-	-	0.8	-

HCM Signalized Intersection Capacity Analysis

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (vph)	0	727	386	0	641	650	0	0	0	469	0	261
Future Volume (vph)	0	727	386	0	641	650	0	0	0	469	0	261
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)		3292	1458		3260	1411				3193		1473
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3292	1458		3260	1411				3193		1473
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)	0	799	424	0	704	714	0	0	0	515	0	287
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	156
Lane Group Flow (vph)	0	799	424	0	704	714	0	0	0	515	0	131
Confl. Peds. (#/hr)	6					6	4					
Heavy Vehicles (%)	0%	1%	2%	0%	2%	3%	0%	0%	0%	1%	0%	1%
Turn Type		NA	Free		NA	Free				Prot		Prot
Protected Phases		2			6					4		4
Permitted Phases			Free			Free						
Actuated Green, G (s)		68.2	100.0		68.2	100.0				22.8		22.8
Effective Green, g (s)		68.7	100.0		68.7	100.0				23.3		23.3
Actuated g/C Ratio		0.69	1.00		0.69	1.00				0.23		0.23
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			4.0					2.5		2.5
Lane Grp Cap (vph)		2261	1458		2239	1411				743		343
v/s Ratio Prot		0.24			0.22					c0.16		0.09
v/s Ratio Perm			0.29			c0.51						
v/c Ratio		0.35	0.29		0.31	0.51				0.69		0.38
Uniform Delay, d1		6.5	0.0		6.2	0.0				35.1		32.3
Progression Factor		1.00	1.00		0.75	1.00				1.00		1.00
Incremental Delay, d2		0.4	0.5		0.3	1.2				2.6		0.5
Delay (s)		6.9	0.5		5.0	1.2				37.7		32.8
Level of Service		A	A		A	A				D		C
Approach Delay (s)		4.7			3.1			0.0			35.9	
Approach LOS		A			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			11.3									B
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			100.0							8.0		
Intersection Capacity Utilization			43.5%									A
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (veh/h)	0	727	386	0	641	650	0	0	0	469	0	261
Future Volume (veh/h)	0	727	386	0	641	650	0	0	0	469	0	261
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	1736	1723	0	1723	1709				1736	0	1736
Adj Flow Rate, veh/h	0	799	0	0	704	0				515	0	177
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	1	2	0	2	3				1	0	1
Cap, veh/h	0	2299		0	2281					716	0	328
Arrive On Green	0.00	0.70	0.00	0.00	0.70	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	3386	1460	0	3359	1448				3208	0	1471
Grp Volume(v), veh/h	0	799	0	0	704	0				515	0	177
Grp Sat Flow(s),veh/h/ln	0	1650	1460	0	1637	1448				1604	0	1471
Q Serve(g_s), s	0.0	9.7	0.0	0.0	8.3	0.0				14.9	0.0	10.6
Cycle Q Clear(g_c), s	0.0	9.7	0.0	0.0	8.3	0.0				14.9	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	2299		0	2281					716	0	328
V/C Ratio(X)	0.00	0.35		0.00	0.31					0.72	0.00	0.54
Avail Cap(c_a), veh/h	0	2299		0	2281					1155	0	530
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	1.00	0.00	0.00	0.84	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.1	0.0	0.0	5.9	0.0				35.9	0.0	34.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.3	0.0				1.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	0.0	0.0	2.6	0.0				5.8	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.5	0.0	0.0	6.2	0.0				37.0	0.0	35.3
LnGrp LOS	A	A		A	A					D	A	D
Approach Vol, veh/h		799	A		704	A					692	
Approach Delay, s/veh		6.5			6.2						36.5	
Approach LOS		A			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		73.7		26.3		73.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		55.5		35.5		55.5						
Max Q Clear Time (g_c+I1), s		11.7		16.9		10.3						
Green Ext Time (p_c), s		23.4		5.0		13.9						

Intersection Summary

HCM 6th Ctrl Delay	15.9
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

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↘	↕	↗			
Traffic Volume (vph)	0	1002	194	0	1108	299	183	0	464	0	0	0
Future Volume (vph)	0	1002	194	0	1108	299	183	0	464	0	0	0
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			
Lane Util. Factor		0.95	1.00		0.95	1.00	0.95	0.91	0.95			
Frbp, ped/bikes		1.00	0.97		1.00	0.98	1.00	0.99	0.99			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00			
Frt		1.00	0.85		1.00	0.85	1.00	0.86	0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)		3292	1428		3260	1409	1548	1324	1367			
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)		3292	1428		3260	1409	1548	1324	1367			
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	1077	209	0	1191	322	197	0	499	0	0	0
RTOR Reduction (vph)	0	0	63	0	0	97	0	64	64	0	0	0
Lane Group Flow (vph)	0	1077	146	0	1191	225	177	196	195	0	0	0
Confl. Peds. (#/hr)	6		5	5		6			1	1		1
Heavy Vehicles (%)	0%	1%	1%	0%	2%	3%	2%	0%	2%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm	Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases			2			6			8			
Actuated Green, G (s)		69.5	69.5		69.5	69.5	20.6	20.6	20.6			
Effective Green, g (s)		70.0	70.0		70.0	70.0	22.0	22.0	22.0			
Actuated g/C Ratio		0.70	0.70		0.70	0.70	0.22	0.22	0.22			
Clearance Time (s)		4.5	4.5		4.5	4.5	5.4	5.4	5.4			
Vehicle Extension (s)		4.0	4.0		6.0	6.0	2.5	2.5	2.5			
Lane Grp Cap (vph)		2304	999		2282	986	340	291	300			
v/s Ratio Prot		0.33			c0.37		0.11	c0.15				
v/s Ratio Perm			0.10			0.16			0.14			
v/c Ratio		0.47	0.15		0.52	0.23	0.52	0.67	0.65			
Uniform Delay, d1		6.7	5.0		7.1	5.4	34.4	35.7	35.5			
Progression Factor		0.98	1.54		0.60	1.10	1.00	1.00	1.00			
Incremental Delay, d2		0.6	0.3		0.7	0.4	1.1	5.5	4.4			
Delay (s)		7.2	8.0		4.9	6.3	35.5	41.2	39.9			
Level of Service		A	A		A	A	D	D	D			
Approach Delay (s)		7.3			5.2			39.3			0.0	
Approach LOS		A			A			D			A	

Intersection Summary

HCM 2000 Control Delay	12.8	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)	8.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↗	↕	↗			
Traffic Volume (veh/h)	0	1002	194	0	1108	299	183	0	464	0	0	0
Future Volume (veh/h)	0	1002	194	0	1108	299	183	0	464	0	0	0
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	1736	1736	0	1723	1709	1723	1750	1723			
Adj Flow Rate, veh/h	0	1077	0	0	1191	0	131	0	499			
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	1	1	0	2	3	2	0	2			
Cap, veh/h	0	2251		0	2233		390	0	693			
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.24	0.00	0.24			
Sat Flow, veh/h	0	3386	1471	0	3359	1448	1641	0	2914			
Grp Volume(v), veh/h	0	1077	0	0	1191	0	131	0	499			
Grp Sat Flow(s),veh/h/ln	0	1650	1471	0	1637	1448	1641	0	1457			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	15.8			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	15.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2251		0	2233		390	0	693			
V/C Ratio(X)	0.00	0.48		0.00	0.53		0.34	0.00	0.72			
Avail Cap(c_a), veh/h	0	2251		0	2233		591	0	1049			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.00	0.87	0.00	0.00	0.73	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	31.6	0.0	35.0			
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.7	0.0	0.4	0.0	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	0.2	0.0	2.6	0.0	5.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.6	0.0	0.0	0.7	0.0	31.9	0.0	36.1			
LnGrp LOS	A	A		A	A		C	A	D			
Approach Vol, veh/h		1077	A		1191	A		630				
Approach Delay, s/veh		0.6			0.7			35.2				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		72.2			72.2			27.8				
Change Period (Y+Rc), s		4.5			4.5			5.4				
Max Green Setting (Gmax), s		55.5			55.5			34.6				
Max Q Clear Time (g_c+I1), s		2.0			2.0			17.8				
Green Ext Time (p_c), s		26.1			40.1			4.5				

Intersection Summary

HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

User approved changes to right turn type.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↔	↔		↔	↔		↔	↔	↔	↔
Traffic Volume (vph)	42	83	875	127	11	174	867	27	416	30	156	36
Future Volume (vph)	42	83	875	127	11	174	867	27	416	30	156	36
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	0.98		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)		1599	3167	1443		1632	3094		1519	1526	1454	1583
Flt Permitted		0.20	1.00	1.00		0.17	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		344	3167	1443		300	3094		1519	1526	1454	1583
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)	45	89	941	137	12	187	932	29	447	32	168	39
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	134	941	137	0	199	959	0	237	242	168	39
Confl. Peds. (#/hr)											2	2
Confl. Bikes (#/hr)				1				1			2	
Heavy Vehicles (%)	0%	6%	5%	1%	0%	2%	7%	4%	4%	7%	1%	5%
Turn Type	pm+pt	pm+pt	NA	Free	pm+pt	pm+pt	NA		Split	NA	Free	Split
Protected Phases	5	5	2		1	1	6		4	4		8
Permitted Phases	2	2		Free	6	6					Free	
Actuated Green, G (s)		53.1	44.0	100.0		58.7	46.8		18.6	18.6	100.0	8.0
Effective Green, g (s)		53.1	44.5	100.0		58.7	47.3		19.1	19.1	100.0	8.5
Actuated g/C Ratio		0.53	0.44	1.00		0.59	0.47		0.19	0.19	1.00	0.08
Clearance Time (s)		4.0	4.5			4.0	4.5		4.5	4.5		4.5
Vehicle Extension (s)		2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)		296	1409	1443		334	1463		290	291	1454	134
v/s Ratio Prot		0.04	0.30			c0.07	c0.31		0.16	c0.16		c0.02
v/s Ratio Perm		0.20		0.09		0.28					0.12	
v/c Ratio		0.45	0.67	0.09		0.60	0.66		0.82	0.83	0.12	0.29
Uniform Delay, d1		13.3	21.9	0.0		12.9	20.1		38.8	38.9	0.0	42.9
Progression Factor		1.10	0.90	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		0.7	2.3	0.1		2.4	2.3		15.8	17.7	0.2	0.9
Delay (s)		15.4	22.1	0.1		15.3	22.4		54.6	56.6	0.2	43.8
Level of Service		B	C	A		B	C		D	E	A	D
Approach Delay (s)			18.8				21.2			41.2		
Approach LOS			B				C			D		
Intersection Summary												
HCM 2000 Control Delay			24.3				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			67.7%				ICU Level of Service				C	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

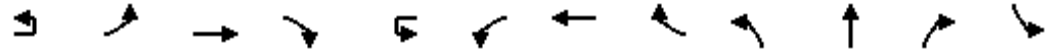
08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	35	82
Future Volume (vph)	35	82
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	1373
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1699	1373
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	38	88
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	38	88
Confl. Peds. (#/hr)		2
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	7%
Turn Type	NA	Free
Protected Phases	8	
Permitted Phases		Free
Actuated Green, G (s)	8.0	100.0
Effective Green, g (s)	8.5	100.0
Actuated g/C Ratio	0.08	1.00
Clearance Time (s)	4.5	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	144	1373
v/s Ratio Prot	0.02	
v/s Ratio Perm		0.06
v/c Ratio	0.26	0.06
Uniform Delay, d1	42.8	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.7	0.1
Delay (s)	43.5	0.1
Level of Service	D	A
Approach Delay (s)	20.4	
Approach LOS	C	
Intersection Summary		

HCM 6th Signalized Intersection Summary
4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕	↗	↖	↕	↗	↖
Traffic Volume (veh/h)	42	83	875	127	11	174	867	27	416	30	156	36
Future Volume (veh/h)	42	83	875	127	11	174	867	27	416	30	156	36
Initial Q (Qb), veh		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		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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1668	1682	1736		1723	1654	1695	1695	1654	1736	1682
Adj Flow Rate, veh/h		89	941	0		187	932	29	470	0	0	39
Peak Hour Factor		0.93	0.93	0.93		0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %		6	5	1		2	7	4	4	7	1	5
Cap, veh/h		366	1629			404	1679	52	569	0		125
Arrive On Green		0.03	0.68	0.00		0.08	0.72	0.53	0.18	0.00	0.00	0.08
Sat Flow, veh/h		1589	3195	1471		1641	3110	97	3229	0	1471	1602
Grp Volume(v), veh/h		89	941	0		187	471	490	470	0	0	39
Grp Sat Flow(s),veh/h/ln		1589	1598	1471		1641	1572	1635	1615	0	1471	1602
Q Serve(g_s), s		2.7	15.6	0.0		5.3	14.0	14.4	14.0	0.0	0.0	2.3
Cycle Q Clear(g_c), s		2.7	15.6	0.0		5.3	14.0	14.4	14.0	0.0	0.0	2.3
Prop In Lane		1.00		1.00		1.00		0.06	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		366	1629			404	849	883	569	0		125
V/C Ratio(X)		0.24	0.58			0.46	0.56	0.56	0.83	0.00		0.31
Avail Cap(c_a), veh/h		515	1629			510	849	883	678	0		256
HCM Platoon Ratio		0.67	1.33	0.67		1.00	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)		0.85	0.85	0.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		11.7	10.4	0.0		11.5	8.5	8.8	39.7	0.0	0.0	43.6
Incr Delay (d2), s/veh		0.2	1.3	0.0		0.6	2.6	2.5	6.7	0.0	0.0	1.0
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
%ile BackOfQ(50%),veh/ln		0.9	4.4	0.0		1.9	4.1	4.4	6.1	0.0	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		11.9	11.7	0.0		12.1	11.1	11.4	46.4	0.0	0.0	44.6
LnGrp LOS		B	B			B	B	B	D	A		D
Approach Vol, veh/h		1030		A		1148			470		A	
Approach Delay, s/veh		11.7				11.4			46.4			
Approach LOS		B				B			D			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	11.6	55.0	21.6		8.6	58.0	11.8					
Change Period (Y+Rc), s	4.0	4.5	4.5		4.0	4.5	4.5					
Max Green Setting (Gmax), s	14.0	32.5	20.5		14.0	32.5	15.5					
Max Q Clear Time (g_c+I1), s	7.3	17.6	16.0		4.7	16.4	4.3					
Green Ext Time (p_c), s	0.4	12.5	1.0		0.2	13.4	0.1					

Intersection Summary

HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
 4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (veh/h)	35	82
Future Volume (veh/h)	35	82
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1709	1654
Adj Flow Rate, veh/h	38	0
Peak Hour Factor	0.93	0.93
Percent Heavy Veh, %	3	7
Cap, veh/h	133	
Arrive On Green	0.08	0.00
Sat Flow, veh/h	1709	1402
Grp Volume(v), veh/h	38	0
Grp Sat Flow(s),veh/h/ln	1709	1402
Q Serve(g_s), s	2.1	0.0
Cycle Q Clear(g_c), s	2.1	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	133	
V/C Ratio(X)	0.29	
Avail Cap(c_a), veh/h	273	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(l)	1.00	0.00
Uniform Delay (d), s/veh	43.5	0.0
Incr Delay (d2), s/veh	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	44.3	0.0
LnGrp LOS	D	
Approach Vol, veh/h	77	A
Approach Delay, s/veh	44.5	
Approach LOS	D	

Timer - Assigned Phs

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	93	541	373	103	620	63	280	121	67	121	237	150
Future Volume (vph)	93	541	373	103	620	63	280	121	67	121	237	150
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	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1646	1716	1451	1662	1699	1446	1662	1733	1488	1646	1716	1488
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)	1646	1716	1451	1662	1699	1446	1662	1733	1488	1646	1716	1488
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	94	546	377	104	626	64	283	122	68	122	239	152
RTOR Reduction (vph)	0	0	105	0	0	21	0	0	43	0	0	108
Lane Group Flow (vph)	94	546	272	104	626	43	283	122	25	122	239	44
Confl. Peds. (#/hr)	1		6	6		1	6					
Heavy Vehicles (%)	1%	2%	0%	0%	3%	1%	0%	1%	0%	1%	2%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	13.5	57.7	86.0	14.2	58.4	72.6	28.3	38.7	52.9	14.2	24.6	38.1
Effective Green, g (s)	14.0	58.7	87.0	14.7	59.4	73.6	28.8	39.7	53.9	14.7	25.6	39.1
Actuated g/C Ratio	0.10	0.41	0.61	0.10	0.41	0.51	0.20	0.28	0.37	0.10	0.18	0.27
Clearance Time (s)	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5
Vehicle Extension (s)	2.5	4.8	2.5	2.5	4.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	160	700	877	169	701	740	332	478	557	168	305	404
v/s Ratio Prot	0.06	0.32	0.06	c0.06	c0.37	0.01	c0.17	0.07	0.00	0.07	c0.14	0.01
v/s Ratio Perm			0.13			0.02			0.01			0.02
v/c Ratio	0.59	0.78	0.31	0.62	0.89	0.06	0.85	0.26	0.05	0.73	0.78	0.11
Uniform Delay, d1	62.1	36.9	13.8	61.8	39.2	17.7	55.5	40.5	28.6	62.6	56.5	39.3
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	4.5	6.4	0.1	5.6	14.5	0.0	18.4	0.2	0.0	13.6	12.0	0.1
Delay (s)	66.6	43.4	14.0	67.4	53.7	17.7	73.8	40.7	28.6	76.2	68.4	39.4
Level of Service	E	D	B	E	D	B	E	D	C	E	E	D
Approach Delay (s)		34.6			52.6			58.8			61.7	
Approach LOS		C			D			E			E	

Intersection Summary

HCM 2000 Control Delay	48.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	143.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
 5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	93	541	373	103	620	63	280	121	67	121	237	150
Future Volume (veh/h)	93	541	373	103	620	63	280	121	67	121	237	150
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		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	1736	1723	1750	1750	1709	1736	1750	1736	1750	1736	1723	1750
Adj Flow Rate, veh/h	94	546	377	104	626	64	283	122	68	122	239	152
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	0	0	3	1	0	1	0	1	2	0
Cap, veh/h	122	758	924	133	763	783	316	462	503	154	292	355
Arrive On Green	0.07	0.44	0.44	0.08	0.45	0.44	0.19	0.27	0.26	0.09	0.17	0.17
Sat Flow, veh/h	1654	1723	1473	1667	1709	1462	1667	1736	1466	1654	1723	1483
Grp Volume(v), veh/h	94	546	377	104	626	64	283	122	68	122	239	152
Grp Sat Flow(s),veh/h/ln	1654	1723	1473	1667	1709	1462	1667	1736	1466	1654	1723	1483
Q Serve(g_s), s	7.4	34.4	17.0	8.1	42.3	2.8	21.9	7.3	4.2	9.6	17.7	11.5
Cycle Q Clear(g_c), s	7.4	34.4	17.0	8.1	42.3	2.8	21.9	7.3	4.2	9.6	17.7	11.5
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	122	758	924	133	763	783	316	462	503	154	292	355
V/C Ratio(X)	0.77	0.72	0.41	0.78	0.82	0.08	0.90	0.26	0.14	0.79	0.82	0.43
Avail Cap(c_a), veh/h	262	924	1066	264	917	915	390	462	503	387	404	451
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	60.2	30.4	12.4	59.7	32.0	14.9	52.3	38.3	30.0	58.8	53.0	42.6
Incr Delay (d2), s/veh	7.4	3.1	0.6	7.1	6.3	0.1	18.8	0.2	0.1	6.8	8.0	0.6
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	3.4	14.8	5.8	3.7	18.6	1.0	10.9	3.2	1.5	4.3	8.3	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	33.5	13.0	66.9	38.3	15.0	71.2	38.6	30.1	65.6	61.0	43.3
LnGrp LOS	E	C	B	E	D	B	E	D	C	E	E	D
Approach Vol, veh/h		1017			794			473			513	
Approach Delay, s/veh		29.0			40.2			56.8			56.8	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	62.3	29.1	26.4	13.8	63.1	16.3	39.2				
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	20.5	70.0	30.5	30.0	20.5	70.0	30.5	30.0				
Max Q Clear Time (g_c+I1), s	10.1	36.4	23.9	19.7	9.4	44.3	11.6	9.3				
Green Ext Time (p_c), s	0.2	19.5	0.6	1.2	0.2	13.7	0.4	0.7				

Intersection Summary

HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

HCM 6th TWSC
6: Evergreen Rd/Evergreen Road & Stacy Allison Way

08/10/2022

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Traffic Vol, veh/h	179	2	53	2	3	4	18	268	4	3	236	92
Future Vol, veh/h	179	2	53	2	3	4	18	268	4	3	236	92
Conflicting Peds, #/hr	15	0	2	2	0	15	4	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	50	-	-	25	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	1	0	0	0	0	0	0	1	0	0	3	2
Mvmt Flow	183	2	54	2	3	4	18	273	4	3	241	94

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	628	614	294	638	659	293	339	0	0	280	0	0
Stage 1	298	298	-	314	314	-	-	-	-	-	-	-
Stage 2	330	316	-	324	345	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	397	410	750	392	386	751	1231	-	-	1294	-	-
Stage 1	713	671	-	701	660	-	-	-	-	-	-	-
Stage 2	685	659	-	692	640	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	380	400	746	356	377	738	1226	-	-	1290	-	-
Mov Cap-2 Maneuver	482	481	-	356	377	-	-	-	-	-	-	-
Stage 1	700	667	-	689	648	-	-	-	-	-	-	-
Stage 2	658	647	-	637	636	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.4		12.7		0.5		0.1	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1226	-	-	482	731	474	1290	-	-
HCM Lane V/C Ratio	0.015	-	-	0.379	0.077	0.019	0.002	-	-
HCM Control Delay (s)	8	-	-	17	10.3	12.7	7.8	-	-
HCM Lane LOS	A	-	-	C	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.7	0.2	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	11	62	0	127	110	107	2	160	87	144	136	12
Future Vol, veh/h	11	62	0	127	110	107	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, %	0	0	0	1	0	0	0	1	1	2	2	0
Mvmt Flow	11	65	0	132	115	111	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	10.3	15.3	13.4	11.6
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%	85%	32%	0%	92%
Vol Right, %	0%	35%	0%	31%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	247	73	344	144	148
LT Vol	2	0	11	127	144	0
Through Vol	0	160	62	110	0	136
RT Vol	0	87	0	107	0	12
Lane Flow Rate	2	257	76	358	150	154
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.004	0.432	0.132	0.552	0.281	0.265
Departure Headway (Hd)	6.794	6.05	6.251	5.542	6.748	6.181
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	525	592	570	649	531	580
Service Time	4.556	3.812	4.335	3.6	4.51	3.942
HCM Lane V/C Ratio	0.004	0.434	0.133	0.552	0.282	0.266
HCM Control Delay	9.6	13.4	10.3	15.3	12.1	11.2
HCM Lane LOS	A	B	B	C	B	B
HCM 95th-tile Q	0	2.2	0.5	3.4	1.1	1.1

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖			↗	↗	
Traffic Vol, veh/h	45	0	150	340	439	67
Future Vol, veh/h	45	0	150	340	439	67
Conflicting Peds, #/hr	0	5	5	0	0	3
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	0	163	370	477	73

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1215	-	555	0	0
Stage 1	519	-	-	-	-
Stage 2	696	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-
Pot Cap-1 Maneuver	202	0	1026	-	-
Stage 1	601	0	-	-	-
Stage 2	498	0	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	160	-	1021	-	-
Mov Cap-2 Maneuver	160	-	-	-	-
Stage 1	478	-	-	-	-
Stage 2	496	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.1	2.8	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1021	-	160	-	-
HCM Lane V/C Ratio	0.16	-	0.306	-	-
HCM Control Delay (s)	9.2	0	37.1	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.6	-	1.2	-	-

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔				↔		↔			↔	
Traffic Vol, veh/h	0	29	161	0	0	41	0	449	2	22	417	0
Future Vol, veh/h	0	29	161	0	0	41	0	449	2	22	417	0
Conflicting Peds, #/hr	0	0	5	5	0	0	5	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	32	175	0	0	45	0	488	2	24	453	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	- 994	458	- - 492	- 0 0 493
Stage 1	- 501	-	- - -	- - -
Stage 2	- 493	-	- - -	- - -
Critical Hdwy	- 6.5	6.2	- - 6.2	- - - 4.1
Critical Hdwy Stg 1	- 5.5	-	- - -	- - -
Critical Hdwy Stg 2	- 5.5	-	- - -	- - -
Follow-up Hdwy	- 4	3.3	- - 3.3	- - - 2.2
Pot Cap-1 Maneuver	0 247	607	0 0 581	0 - - 1081
Stage 1	0 546	-	0 0 -	0 - - -
Stage 2	0 550	-	0 0 -	0 - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	- 239	604	- - 579	- - - 1078
Mov Cap-2 Maneuver	- 239	-	- - -	- - - -
Stage 1	- 530	-	- - -	- - - -
Stage 2	- 548	-	- - -	- - - -

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.6	11.7	0	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBL	SBT
Capacity (veh/h)	-	-	490 579	1078	-
HCM Lane V/C Ratio	-	-	0.421 0.077	0.022	-
HCM Control Delay (s)	-	-	17.6 11.7	8.4	0
HCM Lane LOS	-	-	C B	A	A
HCM 95th %tile Q(veh)	-	-	2.1 0.2	0.1	-

HCM 6th TWSC
10: Harvard Dr & Evergreen Rd

08/10/2022

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	11	147	24	46	135	5	6	33	51	1	87	39
Future Vol, veh/h	11	147	24	46	135	5	6	33	51	1	87	39
Conflicting Peds, #/hr	1	0	1	1	0	1	13	0	6	6	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	1	0	0	0	20	0	0	0	0	0	0
Mvmt Flow	12	165	27	52	152	6	7	37	57	1	98	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	159	0	0	193	0	0	547	467	186	516	477	169
Stage 1	-	-	-	-	-	-	204	204	-	260	260	-
Stage 2	-	-	-	-	-	-	343	263	-	256	217	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1433	-	-	1392	-	-	451	496	861	473	490	880
Stage 1	-	-	-	-	-	-	803	737	-	749	697	-
Stage 2	-	-	-	-	-	-	676	694	-	753	727	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1432	-	-	1391	-	-	343	473	855	401	467	868
Mov Cap-2 Maneuver	-	-	-	-	-	-	424	529	-	401	467	-
Stage 1	-	-	-	-	-	-	796	730	-	742	671	-
Stage 2	-	-	-	-	-	-	521	668	-	657	720	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			1.9			11.4			14		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	661	1432	-	-	1391	-	-	543
HCM Lane V/C Ratio	0.153	0.009	-	-	0.037	-	-	0.263
HCM Control Delay (s)	11.4	7.5	-	-	7.7	-	-	14
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	1

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	30	97	33	51	202
Future Vol, veh/h	36	30	97	33	51	202
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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	49	41	131	45	69	273

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	565	154	0	0	176
Stage 1	154	-	-	-	-
Stage 2	411	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	490	897	-	-	1412
Stage 1	879	-	-	-	-
Stage 2	674	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	462	897	-	-	1412
Mov Cap-2 Maneuver	462	-	-	-	-
Stage 1	879	-	-	-	-
Stage 2	635	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	593	1412
HCM Lane V/C Ratio	-	-	0.15	0.049
HCM Control Delay (s)	-	-	12.1	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑		↕	
Traffic Vol, veh/h	2	84	65	2	5	1
Future Vol, veh/h	2	84	65	2	5	1
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	87	87	87	87	87	87
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	2	97	75	2	6	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	77	0	-	0	177 76
Stage 1	-	-	-	-	76 -
Stage 2	-	-	-	-	101 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1535	-	-	-	817 991
Stage 1	-	-	-	-	952 -
Stage 2	-	-	-	-	928 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1535	-	-	-	816 991
Mov Cap-2 Maneuver	-	-	-	-	816 -
Stage 1	-	-	-	-	951 -
Stage 2	-	-	-	-	928 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1535	-	-	-	841
HCM Lane V/C Ratio	0.001	-	-	-	0.008
HCM Control Delay (s)	7.3	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th AWSC
 16: S Settlemier Ave & Parr Rd NE/S Front S

08/10/2022

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	59	58	37	66	4	39	115	29	4	129	51
Future Vol, veh/h	68	59	58	37	66	4	39	115	29	4	129	51
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, %	10	0	5	0	1	0	0	0	3	0	0	2
Mvmt Flow	76	66	65	42	74	4	44	129	33	4	145	57
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	10.4	9.7
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	75%	0%	0%	50%	0%	94%	97%	0%
Vol Right, %	0%	100%	0%	50%	0%	6%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	154	29	68	117	37	70	133	51
LT Vol	39	0	68	0	37	0	4	0
Through Vol	115	0	0	59	0	66	129	0
RT Vol	0	29	0	58	0	4	0	51
Lane Flow Rate	173	33	76	131	42	79	149	57
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.281	0.045	0.138	0.2	0.074	0.129	0.238	0.08
Departure Headway (Hd)	5.849	5.014	6.493	5.465	6.447	5.918	5.744	5.022
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	616	715	553	657	557	606	626	715
Service Time	3.57	2.736	4.217	3.189	4.175	3.645	3.466	2.743
HCM Lane V/C Ratio	0.281	0.046	0.137	0.199	0.075	0.13	0.238	0.08
HCM Control Delay	10.8	8	10.3	9.6	9.7	9.5	10.3	8.2
HCM Lane LOS	B	A	B	A	A	A	B	A
HCM 95th-tile Q	1.1	0.1	0.5	0.7	0.2	0.4	0.9	0.3

HCM 6th Roundabout
1: Butteville Rd & OR 219

08/10/2022

Intersection						
Intersection Delay, s/veh	5.3					
Intersection LOS	A					
Approach	EB		WB		NB	
Entry Lanes	2		2		1	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	309		869		434	
Demand Flow Rate, veh/h	338		900		447	
Vehicles Circulating, veh/h	575		129		197	
Vehicles Exiting, veh/h	454		197		716	
Ped Vol Crossing Leg, #/h	0		0		0	
Ped Cap Adj	1.000		1.000		1.000	
Approach Delay, s/veh	7.1		6.6		1.1	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Bypass
Designated Moves	LT	R	L	LTR	L	R
Assumed Moves	LT	R	L	LTR	L	R
RT Channelized						Free
Lane Util	0.583	0.417	0.530	0.470	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	318
Entry Flow, veh/h	197	141	477	423	129	1785
Cap Entry Lane, veh/h	795	871	1199	1273	1201	0.980
Entry HV Adj Factor	0.917	0.908	0.965	0.965	0.946	312
Flow Entry, veh/h	181	128	460	408	122	1750
Cap Entry, veh/h	730	791	1157	1228	1136	0.178
V/C Ratio	0.248	0.162	0.398	0.332	0.107	0.0
Control Delay, s/veh	7.8	6.2	7.1	6.0	4.1	A
LOS	A	A	A	A	A	1
95th %tile Queue, veh	1	1	2	1	0	

HCM Signalized Intersection Capacity Analysis

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗	
Traffic Volume (vph)	0	554	289	0	712	520	0	0	0	304	0	309	
Future Volume (vph)	0	554	289	0	712	520	0	0	0	304	0	309	
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)		3167	1316		3107	1324				2880		1390	
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (perm)		3167	1316		3107	1324				2880		1390	
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)	0	577	301	0	742	542	0	0	0	317	0	322	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	153	
Lane Group Flow (vph)	0	577	301	0	742	542	0	0	0	317	0	169	
Confl. Peds. (#/hr)	2					2							
Heavy Vehicles (%)	0%	5%	13%	0%	7%	10%	0%	0%	0%	12%	0%	7%	
Turn Type		NA	Free		NA	Free				Prot		Prot	
Protected Phases		2			6					4		4	
Permitted Phases			Free			Free							
Actuated Green, G (s)		72.1	100.0		72.1	100.0				18.9		18.9	
Effective Green, g (s)		72.6	100.0		72.6	100.0				19.4		19.4	
Actuated g/C Ratio		0.73	1.00		0.73	1.00				0.19		0.19	
Clearance Time (s)		4.5			4.5					4.5		4.5	
Vehicle Extension (s)		6.0			4.0					2.5		2.5	
Lane Grp Cap (vph)		2299	1316		2255	1324				558		269	
v/s Ratio Prot		0.18			0.24					0.11		c0.12	
v/s Ratio Perm			0.23			c0.41							
v/c Ratio		0.25	0.23		0.33	0.41				0.57		0.63	
Uniform Delay, d1		4.6	0.0		4.9	0.0				36.5		37.0	
Progression Factor		1.00	1.00		0.77	1.00				1.00		1.00	
Incremental Delay, d2		0.3	0.4		0.3	0.8				1.1		3.9	
Delay (s)		4.9	0.4		4.1	0.8				37.6		40.9	
Level of Service		A	A		A	A				D		D	
Approach Delay (s)		3.3			2.7			0.0			39.3		
Approach LOS		A			A			A			D		
Intersection Summary													
HCM 2000 Control Delay			11.2									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)	8.0
Intersection Capacity Utilization			48.8%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↘↘		↗
Traffic Volume (veh/h)	0	554	289	0	712	520	0	0	0	304	0	309
Future Volume (veh/h)	0	554	289	0	712	520	0	0	0	304	0	309
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	1682	1573	0	1654	1614				1586	0	1654
Adj Flow Rate, veh/h	0	577	0	0	742	0				317	0	218
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	5	13	0	7	10				12	0	7
Cap, veh/h	0	2273		0	2236					611	0	292
Arrive On Green	0.00	0.71	0.00	0.00	0.95	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3279	1333	0	3226	1367				2931	0	1402
Grp Volume(v), veh/h	0	577	0	0	742	0				317	0	218
Grp Sat Flow(s),veh/h/ln	0	1598	1333	0	1572	1367				1465	0	1402
Q Serve(g_s), s	0.0	6.4	0.0	0.0	1.8	0.0				9.6	0.0	14.6
Cycle Q Clear(g_c), s	0.0	6.4	0.0	0.0	1.8	0.0				9.6	0.0	14.6
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2273		0	2236					611	0	292
V/C Ratio(X)	0.00	0.25		0.00	0.33					0.52	0.00	0.75
Avail Cap(c_a), veh/h	0	2273		0	2236					1055	0	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.81	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.1	0.0	0.0	0.8	0.0				35.1	0.0	37.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0				0.5	0.0	2.8
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	1.9	0.0	0.0	0.5	0.0				3.4	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.3	0.0	0.0	1.1	0.0				35.6	0.0	39.9
LnGrp LOS	A	A		A	A					D	A	D
Approach Vol, veh/h		577	A		742	A					535	
Approach Delay, s/veh		5.3			1.1						37.4	
Approach LOS		A			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		75.1		24.9		75.1						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		55.5		35.5		55.5						
Max Q Clear Time (g_c+I1), s		8.4		16.6		3.8						
Green Ext Time (p_c), s		16.7		3.8		15.6						

Intersection Summary

HCM 6th Ctrl Delay	12.9
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

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↘	↕	↗			
Traffic Volume (vph)	0	597	260	0	880	804	350	0	733	0	0	0
Future Volume (vph)	0	597	260	0	880	804	350	0	733	0	0	0
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			
Lane Util. Factor		0.95	1.00		0.95	1.00	0.95	0.91	0.95			
Frbp, ped/bikes		1.00	1.00		1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00			
Frt		1.00	0.85		1.00	0.85	1.00	0.86	0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)		3107	1417		3079	1442	1423	1286	1333			
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)		3107	1417		3079	1442	1423	1286	1333			
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)	0	628	274	0	926	846	368	0	772	0	0	0
RTOR Reduction (vph)	0	0	107	0	0	330	0	175	175	0	0	0
Lane Group Flow (vph)	0	628	167	0	926	516	331	233	226	0	0	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	0%	7%	5%	0%	8%	1%	11%	0%	6%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm	Split	NA	Prot			
Protected Phases		2			6		8	8	8			
Permitted Phases			2			6						
Actuated Green, G (s)		60.5	60.5		60.5	60.5	29.6	29.6	29.6			
Effective Green, g (s)		61.0	61.0		61.0	61.0	31.0	31.0	31.0			
Actuated g/C Ratio		0.61	0.61		0.61	0.61	0.31	0.31	0.31			
Clearance Time (s)		4.5	4.5		4.5	4.5	5.4	5.4	5.4			
Vehicle Extension (s)		4.0	4.0		6.0	6.0	2.5	2.5	2.5			
Lane Grp Cap (vph)		1895	864		1878	879	441	398	413			
v/s Ratio Prot		0.20			0.30		c0.23	0.18	0.17			
v/s Ratio Perm			0.12			c0.36						
v/c Ratio		0.33	0.19		0.49	0.59	0.75	0.59	0.55			
Uniform Delay, d1		9.5	8.6		10.9	11.8	31.0	29.1	28.7			
Progression Factor		1.32	3.86		0.77	3.57	1.00	1.00	1.00			
Incremental Delay, d2		0.5	0.5		0.6	1.8	6.7	1.8	1.2			
Delay (s)		13.0	33.8		9.0	44.1	37.7	30.9	29.9			
Level of Service		B	C		A	D	D	C	C			
Approach Delay (s)		19.3			25.8			32.5			0.0	
Approach LOS		B			C			C			A	
Intersection Summary												
HCM 2000 Control Delay			26.3				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		8.0			
Intersection Capacity Utilization			79.5%				ICU Level of Service		D			
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↖	↕	↗			
Traffic Volume (veh/h)	0	597	260	0	880	804	350	0	733	0	0	0
Future Volume (veh/h)	0	597	260	0	880	804	350	0	733	0	0	0
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	1654	1682	0	1641	1736	1600	1750	1668			
Adj Flow Rate, veh/h	0	628	0	0	926	0	245	0	746			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	7	5	0	8	1	11	0	6			
Cap, veh/h	0	1878		0	1863		491	0	912			
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.32	0.00	0.32			
Sat Flow, veh/h	0	3226	1425	0	3200	1471	1524	0	2827			
Grp Volume(v), veh/h	0	628	0	0	926	0	245	0	746			
Grp Sat Flow(s),veh/h/ln	0	1572	1425	0	1559	1471	1524	0	1414			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	24.3			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	24.3			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1878		0	1863		491	0	912			
V/C Ratio(X)	0.00	0.33		0.00	0.50		0.50	0.00	0.82			
Avail Cap(c_a), veh/h	0	1878		0	1863		549	0	1018			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.00	0.94	0.00	0.00	0.54	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	27.4	0.0	31.2			
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.5	0.0	0.6	0.0	4.6			
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	0.1	0.0	0.0	0.1	0.0	4.7	0.0	8.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.5	0.0	0.0	0.5	0.0	27.9	0.0	35.8			
LnGrp LOS	A	A		A	A		C	A	D			
Approach Vol, veh/h		628	A		926	A		991				
Approach Delay, s/veh		0.5			0.5			33.9				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		63.8				63.8		36.2				
Change Period (Y+Rc), s		4.5				4.5		5.4				
Max Green Setting (Gmax), s		55.5				55.5		34.6				
Max Q Clear Time (g_c+I1), s		2.0				2.0		26.3				
Green Ext Time (p_c), s		12.6				31.1		4.6				

Intersection Summary

HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (vph)	48	55	858	236	5	136	895	14	721	21	170	12
Future Volume (vph)	48	55	858	236	5	136	895	14	721	21	170	12
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)		1645	3023	1261		1557	2992		1490	1495	1377	1662
Flt Permitted		0.17	1.00	1.00		0.16	1.00		0.95	0.95	1.00	0.95
Satd. Flow (perm)		286	3023	1261		266	2992		1490	1495	1377	1662
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)	51	58	903	248	5	143	942	15	759	22	179	13
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	0	0	0
Lane Group Flow (vph)	0	109	903	248	0	148	956	0	387	394	179	13
Confl. Bikes (#/hr)							1					
Heavy Vehicles (%)	0%	2%	10%	18%	0%	7%	11%	0%	6%	10%	8%	0%
Turn Type	pm+pt	pm+pt	NA	Free	custom	pm+pt	NA		Split	NA	Free	Split
Protected Phases	5	5	2			1	6		4	4		8
Permitted Phases	2	2		Free	1	6					Free	
Actuated Green, G (s)		47.0	38.6	100.0		50.4	40.3		28.5	28.5	100.0	5.3
Effective Green, g (s)		47.0	39.1	100.0		50.4	40.8		29.0	29.0	100.0	5.8
Actuated g/C Ratio		0.47	0.39	1.00		0.50	0.41		0.29	0.29	1.00	0.06
Clearance Time (s)		4.0	4.5			4.0	4.5		4.5	4.5		4.5
Vehicle Extension (s)		2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)		248	1181	1261		264	1220		432	433	1377	96
v/s Ratio Prot		0.04	0.30			c0.06	c0.32		0.26	c0.26		0.01
v/s Ratio Perm		0.17		c0.20		0.23					0.13	
v/c Ratio		0.44	0.76	0.20		0.56	0.78		0.90	0.91	0.13	0.14
Uniform Delay, d1		16.9	26.5	0.0		16.3	25.8		34.1	34.2	0.0	44.7
Progression Factor		1.11	0.99	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		0.8	4.2	0.3		2.2	5.1		20.5	22.6	0.2	0.5
Delay (s)		19.6	30.3	0.3		18.5	30.8		54.5	56.9	0.2	45.2
Level of Service		B	C	A		B	C		D	E	A	D
Approach Delay (s)			23.5				29.2			45.4		
Approach LOS			C				C			D		

Intersection Summary

HCM 2000 Control Delay	31.5	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)	16.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022

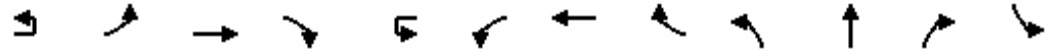


Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	17	35
Future Volume (vph)	17	35
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frbp, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1651	1271
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1651	1271
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	18	37
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	18	37
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	6%	17%
Turn Type	NA	Free
Protected Phases	8	
Permitted Phases		Free
Actuated Green, G (s)	5.3	100.0
Effective Green, g (s)	5.8	100.0
Actuated g/C Ratio	0.06	1.00
Clearance Time (s)	4.5	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	95	1271
v/s Ratio Prot	0.01	
v/s Ratio Perm		0.03
v/c Ratio	0.19	0.03
Uniform Delay, d1	44.9	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.7	0.0
Delay (s)	45.6	0.0
Level of Service	D	A
Approach Delay (s)	20.7	
Approach LOS	C	
Intersection Summary		

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (veh/h)	48	55	858	236	5	136	895	14	721	21	170	12
Future Volume (veh/h)	48	55	858	236	5	136	895	14	721	21	170	12
Initial Q (Qb), veh		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		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
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1723	1614	1504		1654	1600	1750	1668	1614	1641	1750
Adj Flow Rate, veh/h		58	903	0		143	942	15	775	0	0	13
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	10	18		7	11	0	6	10	8	0
Cap, veh/h		296	1353			322	1442	23	883	0		85
Arrive On Green		0.01	0.59	0.00		0.07	0.63	0.47	0.28	0.00	0.00	0.05
Sat Flow, veh/h		1641	3066	1275		1576	3061	49	3177	0	1391	1667
Grp Volume(v), veh/h		58	903	0		143	468	489	775	0	0	13
Grp Sat Flow(s),veh/h/ln		1641	1533	1275		1576	1520	1590	1589	0	1391	1667
Q Serve(g_s), s		1.9	20.0	0.0		4.8	19.5	19.6	23.3	0.0	0.0	0.7
Cycle Q Clear(g_c), s		1.9	20.0	0.0		4.8	19.5	19.6	23.3	0.0	0.0	0.7
Prop In Lane		1.00		1.00		1.00		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		296	1353			322	716	749	883	0		85
V/C Ratio(X)		0.20	0.67			0.44	0.65	0.65	0.88	0.00		0.15
Avail Cap(c_a), veh/h		460	1353			433	716	749	985	0		183
HCM Platoon Ratio		0.33	1.33	0.33		1.00	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)		0.88	0.88	0.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		16.2	15.7	0.0		15.8	13.5	13.7	34.5	0.0	0.0	45.4
Incr Delay (d2), s/veh		0.2	2.3	0.0		0.7	4.6	4.4	8.2	0.0	0.0	0.6
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
%ile BackOfQ(50%),veh/ln		0.7	6.1	0.0		1.7	6.1	6.4	9.9	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		16.4	18.0	0.0		16.5	18.1	18.1	42.7	0.0	0.0	46.0
LnGrp LOS		B	B			B	B	B	D	A		D
Approach Vol, veh/h			961	A			1100			775	A	
Approach Delay, s/veh			17.9				17.9			42.7		
Approach LOS			B				B			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	48.1		31.8	8.0	51.1		9.1				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	14.0	27.5		30.5	14.0	27.5		10.5				
Max Q Clear Time (g_c+I1), s	6.8	22.0		25.3	3.9	21.6		3.0				
Green Ext Time (p_c), s	0.3	4.8		2.0	0.1	5.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (veh/h)	17	35
Future Volume (veh/h)	17	35
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1668	1518
Adj Flow Rate, veh/h	18	0
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	6	17
Cap, veh/h	85	
Arrive On Green	0.05	0.00
Sat Flow, veh/h	1668	1286
Grp Volume(v), veh/h	18	0
Grp Sat Flow(s),veh/h/ln	1668	1286
Q Serve(g_s), s	1.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	85	
V/C Ratio(X)	0.21	
Avail Cap(c_a), veh/h	183	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(l)	1.00	0.00
Uniform Delay (d), s/veh	45.5	0.0
Incr Delay (d2), s/veh	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	46.4	0.0
LnGrp LOS	D	
Approach Vol, veh/h	31	A
Approach Delay, s/veh	46.2	
Approach LOS	D	

Timer - Assigned Phs

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	585	247	58	454	61	413	170	90	76	114	111
Future Volume (vph)	129	585	247	58	454	61	413	170	90	76	114	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	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	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	1606	1435	1630	1549	1488	1662	1733	1488	1630	1750	1472
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	1606	1435	1630	1549	1488	1662	1733	1488	1630	1750	1472
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)	136	616	260	61	478	64	435	179	95	80	120	117
RTOR Reduction (vph)	0	0	73	0	0	32	0	0	53	0	0	91
Lane Group Flow (vph)	136	616	187	61	478	32	435	179	42	80	120	26
Confl. Peds. (#/hr)			2	2			8					
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	4%	9%	2%	2%	13%	0%	0%	1%	0%	2%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	16.5	62.7	103.4	10.5	56.7	67.1	40.7	46.1	56.6	10.4	15.8	32.3
Effective Green, g (s)	17.0	63.7	104.4	11.0	57.7	68.1	41.2	47.1	57.6	10.9	16.8	33.3
Actuated g/C Ratio	0.11	0.43	0.70	0.07	0.39	0.46	0.28	0.32	0.39	0.07	0.11	0.22
Clearance Time (s)	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5
Vehicle Extension (s)	2.5	4.8	2.5	2.5	4.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	182	687	1007	120	601	681	460	548	576	119	197	329
v/s Ratio Prot	c0.09	c0.38	0.05	0.04	0.31	0.00	c0.26	0.10	0.01	0.05	c0.07	0.01
v/s Ratio Perm			0.08			0.02			0.02			0.01
v/c Ratio	0.75	0.90	0.19	0.51	0.80	0.05	0.95	0.33	0.07	0.67	0.61	0.08
Uniform Delay, d1	63.8	39.4	7.6	66.2	40.3	22.3	52.7	38.7	28.7	67.2	62.8	45.6
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	14.6	15.1	0.1	2.5	8.1	0.0	28.5	0.3	0.0	12.7	4.4	0.1
Delay (s)	78.4	54.5	7.7	68.7	48.4	22.3	81.1	39.0	28.8	79.9	67.3	45.7
Level of Service	E	D	A	E	D	C	F	D	C	E	E	D
Approach Delay (s)		45.7			47.7			63.5			62.5	
Approach LOS		D			D			E			E	

Intersection Summary

HCM 2000 Control Delay	52.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	148.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary

5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	585	247	58	454	61	413	170	90	76	114	111
Future Volume (veh/h)	129	585	247	58	454	61	413	170	90	76	114	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
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	1627	1723	1723	1573	1750	1750	1736	1750	1723	1750	1750
Adj Flow Rate, veh/h	136	616	260	61	478	64	435	179	95	80	120	117
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, %	4	9	2	2	13	0	0	1	0	2	0	0
Cap, veh/h	166	708	1024	83	603	659	467	569	550	107	198	310
Arrive On Green	0.10	0.44	0.43	0.05	0.38	0.38	0.28	0.33	0.32	0.07	0.11	0.11
Sat Flow, veh/h	1615	1627	1426	1641	1573	1479	1667	1736	1465	1641	1750	1448
Grp Volume(v), veh/h	136	616	260	61	478	64	435	179	95	80	120	117
Grp Sat Flow(s),veh/h/ln	1615	1627	1426	1641	1573	1479	1667	1736	1465	1641	1750	1448
Q Serve(g_s), s	10.9	45.6	8.5	4.9	35.7	3.3	33.7	10.2	5.7	6.3	8.7	9.2
Cycle Q Clear(g_c), s	10.9	45.6	8.5	4.9	35.7	3.3	33.7	10.2	5.7	6.3	8.7	9.2
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	166	708	1024	83	603	659	467	569	550	107	198	310
V/C Ratio(X)	0.82	0.87	0.25	0.73	0.79	0.10	0.93	0.31	0.17	0.75	0.61	0.38
Avail Cap(c_a), veh/h	256	749	1060	260	724	772	516	569	550	508	410	486
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	58.2	34.0	6.7	62.0	36.2	21.3	46.5	33.4	27.7	60.8	56.0	44.8
Incr Delay (d2), s/veh	9.5	11.3	0.3	8.8	6.5	0.1	22.5	0.2	0.1	7.4	2.2	0.6
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	4.9	19.9	2.6	2.2	14.7	1.2	16.9	4.4	2.1	2.9	3.9	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	45.3	7.0	70.8	42.6	21.4	68.9	33.6	27.8	68.3	58.2	45.3
LnGrp LOS	E	D	A	E	D	C	E	C	C	E	E	D
Approach Vol, veh/h		1012			603			709			317	
Approach Delay, s/veh		38.4			43.2			54.5			56.0	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	61.7	41.1	19.0	17.6	54.8	12.7	47.4				
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	20.5	60.0	40.5	30.0	20.5	60.0	40.5	30.0				
Max Q Clear Time (g_c+I1), s	6.9	47.6	35.7	11.2	12.9	37.7	8.3	12.2				
Green Ext Time (p_c), s	0.1	9.1	0.9	0.8	0.2	9.6	0.3	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.0									
HCM 6th LOS			D									

HCM 6th TWSC
6: Evergreen Rd/Evergreen Road & Stacy Allison Way

08/10/2022

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Traffic Vol, veh/h	151	1	20	2	0	1	25	591	0	3	277	110
Future Vol, veh/h	151	1	20	2	0	1	25	591	0	3	277	110
Conflicting Peds, #/hr	3	0	1	1	0	3	3	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	100	-	-	-	-	-	50	-	-	25	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	14	0	5	0	0	0	4	4	0	33	3	7
Mvmt Flow	178	1	24	2	0	1	29	695	0	4	326	129

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1159	1155	395	1165	1219	698	458	0	0	695	0	0
Stage 1	402	402	-	753	753	-	-	-	-	-	-	-
Stage 2	757	753	-	412	466	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.5	6.25	7.1	6.5	6.2	4.14	-	-	4.43	-	-
Critical Hdwy Stg 1	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4	3.345	3.5	4	3.3	2.236	-	-	2.497	-	-
Pot Cap-1 Maneuver	~ 164	199	648	173	182	444	1092	-	-	773	-	-
Stage 1	601	604	-	405	420	-	-	-	-	-	-	-
Stage 2	382	420	-	621	566	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 159	192	646	162	176	443	1089	-	-	773	-	-
Mov Cap-2 Maneuver	272	303	-	162	176	-	-	-	-	-	-	-
Stage 1	584	599	-	394	409	-	-	-	-	-	-	-
Stage 2	370	409	-	594	561	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	36.6		22.9		0.3		0.1	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1089	-	-	272	613	205	773	-	-
HCM Lane V/C Ratio	0.027	-	-	0.653	0.04	0.017	0.005	-	-
HCM Control Delay (s)	8.4	-	-	40.1	11.1	22.9	9.7	-	-
HCM Lane LOS	A	-	-	E	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.2	0.1	0.1	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	63.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	49	20	2	76	59	130	0	438	94	50	218	17
Future Vol, veh/h	49	20	2	76	59	130	0	438	94	50	218	17
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	33	15	0	5	0	0	0	8	4	4	5	25
Mvmt Flow	58	24	2	90	70	155	0	521	112	60	260	20
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	14.1	19.9	116.8	17.1
HCM LOS	B	C	F	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	69%	29%	100%	0%
Vol Thru, %	100%	82%	28%	22%	0%	93%
Vol Right, %	0%	18%	3%	49%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	532	71	265	50	235
LT Vol	0	0	49	76	50	0
Through Vol	0	438	20	59	0	218
RT Vol	0	94	2	130	0	17
Lane Flow Rate	0	633	85	315	60	280
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0	1.166	0.195	0.588	0.124	0.541
Departure Headway (Hd)	6.618	6.63	8.919	7.154	7.871	7.322
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	545	405	508	458	495
Service Time	4.387	4.4	6.919	5.154	5.571	5.022
HCM Lane V/C Ratio	0	1.161	0.21	0.62	0.131	0.566
HCM Control Delay	9.4	116.8	14.1	19.9	11.7	18.3
HCM Lane LOS	N	F	B	C	B	C
HCM 95th-tile Q	0	21.9	0.7	3.7	0.4	3.2

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	22	0	72	484	283	22
Future Vol, veh/h	22	0	72	484	283	22
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	0	3	0	2	5
Mvmt Flow	27	0	88	590	345	27

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1126	-	373	0	0
Stage 1	360	-	-	-	-
Stage 2	766	-	-	-	-
Critical Hdwy	6.45	-	4.13	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	-	2.227	-	-
Pot Cap-1 Maneuver	224	0	1180	-	-
Stage 1	699	0	-	-	-
Stage 2	454	0	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	199	-	1179	-	-
Mov Cap-2 Maneuver	199	-	-	-	-
Stage 1	621	-	-	-	-
Stage 2	454	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.9	1.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1179	-	199	-	-
HCM Lane V/C Ratio	0.074	-	0.135	-	-
HCM Control Delay (s)	8.3	0	25.9	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔				↔		↔			↔	
Traffic Vol, veh/h	0	9	39	0	0	23	0	533	7	7	275	0
Future Vol, veh/h	0	9	39	0	0	23	0	533	7	7	275	0
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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	0	0	0	0	0	3	0	0	28	2	5
Mvmt Flow	0	11	48	0	0	28	0	650	9	9	335	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	-	1013	335	-	-	656	-	0	0	660	0	0
Stage 1	-	353	-	-	-	-	-	-	-	-	-	-
Stage 2	-	660	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	6.2	-	-	6.2	-	-	-	4.38	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.3	-	-	3.3	-	-	-	2.452	-	-
Pot Cap-1 Maneuver	0	241	712	0	0	469	0	-	-	817	-	0
Stage 1	0	634	-	0	0	-	0	-	-	-	-	0
Stage 2	0	463	-	0	0	-	0	-	-	-	-	0
Platoon blocked, %												
Mov Cap-1 Maneuver	-	237	712	-	-	469	-	-	-	816	-	-
Mov Cap-2 Maneuver	-	237	-	-	-	-	-	-	-	-	-	-
Stage 1	-	625	-	-	-	-	-	-	-	-	-	-
Stage 2	-	463	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.8		13.2		0		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	518	469	816	-
HCM Lane V/C Ratio	-	-	0.113	0.06	0.01	-
HCM Control Delay (s)	-	-	12.8	13.2	9.5	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0	-

HCM 6th TWSC
10: Harvard Dr & Evergreen Rd

08/10/2022

Intersection												
Int Delay, s/veh	10.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	327	15	70	202	2	5	74	228	8	61	17
Future Vol, veh/h	20	327	15	70	202	2	5	74	228	8	61	17
Conflicting Peds, #/hr	1	0	14	14	0	1	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	5	5	7	8	3	0	20	0	2	50	2	12
Mvmt Flow	23	380	17	81	235	2	6	86	265	9	71	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	238	0	0	411	0	0	894	849	404	1010	856	238
Stage 1	-	-	-	-	-	-	449	449	-	399	399	-
Stage 2	-	-	-	-	-	-	445	400	-	611	457	-
Critical Hdwy	4.15	-	-	4.18	-	-	7.3	6.5	6.22	7.6	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.5	-	6.6	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.5	-	6.6	5.52	-
Follow-up Hdwy	2.245	-	-	2.272	-	-	3.68	4	3.318	3.95	4.018	3.408
Pot Cap-1 Maneuver	1311	-	-	1116	-	-	244	300	647	179	295	777
Stage 1	-	-	-	-	-	-	556	576	-	542	602	-
Stage 2	-	-	-	-	-	-	559	605	-	408	568	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1310	-	-	1101	-	-	174	269	638	80	265	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	292	372	-	80	265	-
Stage 1	-	-	-	-	-	-	539	558	-	532	557	-
Stage 2	-	-	-	-	-	-	440	560	-	198	550	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			2.2			24.2			29.6		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	535	1310	-	-	1101	-	-	244
HCM Lane V/C Ratio	0.667	0.018	-	-	0.074	-	-	0.41
HCM Control Delay (s)	24.2	7.8	-	-	8.5	-	-	29.6
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	4.9	0.1	-	-	0.2	-	-	1.9

Intersection						
Int Delay, s/veh	6.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	186	190	52	142	97
Future Vol, veh/h	42	186	190	52	142	97
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	79	79	79	79	79	79
Heavy Vehicles, %	3	0	0	0	13	2
Mvmt Flow	53	235	241	66	180	123

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	757	274	0	0	307
Stage 1	274	-	-	-	-
Stage 2	483	-	-	-	-
Critical Hdwy	6.43	6.2	-	-	4.23
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.527	3.3	-	-	2.317
Pot Cap-1 Maneuver	374	770	-	-	1194
Stage 1	770	-	-	-	-
Stage 2	618	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	313	770	-	-	1194
Mov Cap-2 Maneuver	313	-	-	-	-
Stage 1	770	-	-	-	-
Stage 2	518	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	5.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	607	1194
HCM Lane V/C Ratio	-	-	0.475	0.151
HCM Control Delay (s)	-	-	16.2	8.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	2.6	0.5

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	20	69	125	26	15	50	41	103	13	34	53
Future Vol, veh/h	32	20	69	125	26	15	50	41	103	13	34	53
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	41	25	87	158	33	19	63	52	130	16	43	67
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	9.3	10.5	10.2	9.1
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	26%	75%	13%
Vol Thru, %	21%	17%	16%	34%
Vol Right, %	53%	57%	9%	53%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	194	121	166	100
LT Vol	50	32	125	13
Through Vol	41	20	26	34
RT Vol	103	69	15	53
Lane Flow Rate	246	153	210	127
Geometry Grp	1	1	1	1
Degree of Util (X)	0.326	0.207	0.301	0.173
Departure Headway (Hd)	4.783	4.872	5.163	4.915
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	728	689	722
Service Time	2.861	2.965	3.251	3.006
HCM Lane V/C Ratio	0.331	0.21	0.305	0.176
HCM Control Delay	10.2	9.3	10.5	9.1
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.4	0.8	1.3	0.6

HCM 6th TWSC
15: Parr Rd NE & Stubb Rd NE

08/10/2022

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	3	129	4	2	148	6	11	18	7	14	6	6
Future Vol, veh/h	3	129	4	2	148	6	11	18	7	14	6	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	59	59	59	59	59	59	59	59	59	59	59	59
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	50
Mvmt Flow	5	219	7	3	251	10	19	31	12	24	10	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	261	0	0	226	0	0	505	500	223	516	498	256
Stage 1	-	-	-	-	-	-	233	233	-	262	262	-
Stage 2	-	-	-	-	-	-	272	267	-	254	236	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	1315	-	-	1354	-	-	481	476	822	473	477	679
Stage 1	-	-	-	-	-	-	775	716	-	747	695	-
Stage 2	-	-	-	-	-	-	738	692	-	755	713	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1315	-	-	1354	-	-	464	473	822	441	474	679
Mov Cap-2 Maneuver	-	-	-	-	-	-	464	473	-	441	474	-
Stage 1	-	-	-	-	-	-	772	713	-	744	694	-
Stage 2	-	-	-	-	-	-	715	691	-	710	710	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			13			13.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	512	1315	-	-	1354	-	-	488
HCM Lane V/C Ratio	0.119	0.004	-	-	0.003	-	-	0.09
HCM Control Delay (s)	13	7.7	-	-	7.7	-	-	13.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	85	62	33	73	3	50	120	17	1	110	70
Future Vol, veh/h	90	85	62	33	73	3	50	120	17	1	110	70
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, %	4	0	0	0	0	0	2	2	6	0	6	9
Mvmt Flow	105	99	72	38	85	3	58	140	20	1	128	81
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	10.6	9.9	11.7	9.8
HCM LOS	B	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	29%	0%	100%	0%	100%	0%	1%	0%
Vol Thru, %	71%	0%	0%	58%	0%	96%	99%	0%
Vol Right, %	0%	100%	0%	42%	0%	4%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	17	90	147	33	76	111	70
LT Vol	50	0	90	0	33	0	1	0
Through Vol	120	0	0	85	0	73	110	0
RT Vol	0	17	0	62	0	3	0	70
Lane Flow Rate	198	20	105	171	38	88	129	81
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.337	0.029	0.189	0.267	0.071	0.15	0.215	0.122
Departure Headway (Hd)	6.145	5.288	6.503	5.63	6.659	6.124	5.999	5.389
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	585	677	553	638	538	585	599	665
Service Time	3.88	3.023	4.237	3.364	4.398	3.863	3.734	3.124
HCM Lane V/C Ratio	0.338	0.03	0.19	0.268	0.071	0.15	0.215	0.122
HCM Control Delay	12	8.2	10.8	10.4	9.9	9.9	10.4	8.9
HCM Lane LOS	B	A	B	B	A	A	B	A
HCM 95th-tile Q	1.5	0.1	0.7	1.1	0.2	0.5	0.8	0.4

Intersection						
Intersection Delay, s/veh	6.5					
Intersection LOS	A					
Approach	EB		WB		NB	
Entry Lanes	2		2		1	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	752		698		506	
Demand Flow Rate, veh/h	765		705		513	
Vehicles Circulating, veh/h	431		102		551	
Vehicles Exiting, veh/h	376		551		645	
Ped Vol Crossing Leg, #/h	1		0		0	
Ped Cap Adj	0.999		1.000		1.000	
Approach Delay, s/veh	11.1		5.4		1.0	
Approach LOS	B		A		A	
Lane	Left	Right	Left	Right	Left	Bypass
Designated Moves	LT	R	L	LTR	L	R
Assumed Moves	LT	R	L	LTR	L	R
RT Channelized						Free
Lane Util	0.720	0.280	0.530	0.470	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	411
Entry Flow, veh/h	551	214	374	331	102	1750
Cap Entry Lane, veh/h	908	984	1229	1302	889	1.000
Entry HV Adj Factor	0.980	0.991	0.990	0.992	0.931	411
Flow Entry, veh/h	540	212	370	328	95	1750
Cap Entry, veh/h	890	975	1216	1291	828	0.235
V/C Ratio	0.607	0.218	0.304	0.254	0.115	0.0
Control Delay, s/veh	13.1	5.8	5.8	5.0	5.5	A
LOS	B	A	A	A	A	1
95th %tile Queue, veh	4	1	1	1	0	

HCM Signalized Intersection Capacity Analysis

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗	
Traffic Volume (vph)	0	889	526	0	854	756	0	0	0	734	0	399	
Future Volume (vph)	0	889	526	0	854	756	0	0	0	734	0	399	
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)		3292	1458		3260	1411				3193		1473	
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00	
Satd. Flow (perm)		3292	1458		3260	1411				3193		1473	
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)	0	936	554	0	899	796	0	0	0	773	0	420	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	51	
Lane Group Flow (vph)	0	936	554	0	899	796	0	0	0	773	0	369	
Confl. Peds. (#/hr)	6					6	4						
Heavy Vehicles (%)	0%	1%	2%	0%	2%	3%	0%	0%	0%	1%	0%	1%	
Turn Type		NA	Free		NA	Free				Prot		Prot	
Protected Phases		2			6					4		4	
Permitted Phases			Free			Free							
Actuated Green, G (s)		56.4	100.0		56.4	100.0				34.6		34.6	
Effective Green, g (s)		56.9	100.0		56.9	100.0				35.1		35.1	
Actuated g/C Ratio		0.57	1.00		0.57	1.00				0.35		0.35	
Clearance Time (s)		4.5			4.5					4.5		4.5	
Vehicle Extension (s)		6.0			4.0					2.5		2.5	
Lane Grp Cap (vph)		1873	1458		1854	1411				1120		517	
v/s Ratio Prot		0.28			0.28					0.24		c0.25	
v/s Ratio Perm			0.38			c0.56							
v/c Ratio		0.50	0.38		0.48	0.56				0.69		0.71	
Uniform Delay, d1		13.0	0.0		12.8	0.0				27.8		28.1	
Progression Factor		1.00	1.00		0.98	1.00				1.00		1.00	
Incremental Delay, d2		1.0	0.8		0.7	1.2				1.7		4.3	
Delay (s)		13.9	0.8		13.3	1.2				29.5		32.5	
Level of Service		B	A		B	A				C		C	
Approach Delay (s)		9.0			7.6			0.0			30.5		
Approach LOS		A			A			A			C		
Intersection Summary													
HCM 2000 Control Delay			14.3		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.65										
Actuated Cycle Length (s)			100.0		Sum of lost time (s)					8.0			
Intersection Capacity Utilization			59.1%		ICU Level of Service					B			
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↖
Traffic Volume (veh/h)	0	889	526	0	854	756	0	0	0	734	0	399
Future Volume (veh/h)	0	889	526	0	854	756	0	0	0	734	0	399
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	1736	1723	0	1723	1709				1736	0	1736
Adj Flow Rate, veh/h	0	936	0	0	899	0				773	0	367
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	1	2	0	2	3				1	0	1
Cap, veh/h	0	1922		0	1907					1082	0	496
Arrive On Green	0.00	0.58	0.00	0.00	0.77	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3386	1460	0	3359	1448				3208	0	1471
Grp Volume(v), veh/h	0	936	0	0	899	0				773	0	367
Grp Sat Flow(s),veh/h/ln	0	1650	1460	0	1637	1448				1604	0	1471
Q Serve(g_s), s	0.0	16.5	0.0	0.0	9.7	0.0				21.0	0.0	22.0
Cycle Q Clear(g_c), s	0.0	16.5	0.0	0.0	9.7	0.0				21.0	0.0	22.0
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1922		0	1907					1082	0	496
V/C Ratio(X)	0.00	0.49		0.00	0.47					0.71	0.00	0.74
Avail Cap(c_a), veh/h	0	1922		0	1907					1476	0	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.68	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.2	0.0	0.0	5.8	0.0				28.9	0.0	29.2
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.6	0.0				0.8	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	5.9	0.0	0.0	2.6	0.0				8.0	0.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.0	0.0	0.0	6.4	0.0				29.7	0.0	31.6
LnGrp LOS	A	B		A	A					C	A	C
Approach Vol, veh/h		936	A		899	A					1140	
Approach Delay, s/veh		13.0			6.4						30.3	
Approach LOS		B			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		62.3		37.7		62.3						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		45.5		45.5		45.5						
Max Q Clear Time (g_c+I1), s		18.5		24.0		11.7						
Green Ext Time (p_c), s		19.4		9.2		16.5						

Intersection Summary

HCM 6th Ctrl Delay	17.7
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

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗	↘	↘	↗				
Traffic Volume (vph)	0	1364	258	0	1309	478	301	0	673	0	0	0	
Future Volume (vph)	0	1364	258	0	1309	478	301	0	673	0	0	0	
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				
Lane Util. Factor		0.95	1.00		0.95	1.00	1.00	0.95	0.95				
Frbp, ped/bikes		1.00	0.97		1.00	0.99	1.00	0.99	0.99				
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00				
Frt		1.00	0.85		1.00	0.85	1.00	0.85	0.85				
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00				
Satd. Flow (prot)		3292	1428		3260	1423	1630	1367	1367				
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00				
Satd. Flow (perm)		3292	1428		3260	1423	1630	1367	1367				
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)	0	1436	272	0	1378	503	317	0	708	0	0	0	
RTOR Reduction (vph)	0	0	106	0	0	196	0	21	21	0	0	0	
Lane Group Flow (vph)	0	1436	166	0	1378	307	317	333	333	0	0	0	
Confl. Peds. (#/hr)	6		5	5		6			1	1		1	
Heavy Vehicles (%)	0%	1%	1%	0%	2%	3%	2%	0%	2%	0%	0%	0%	
Turn Type		NA	Perm		NA	Perm	Split	NA	Perm				
Protected Phases		2			6		8	8					
Permitted Phases			2			6			8				
Actuated Green, G (s)		60.5	60.5		60.5	60.5	29.6	29.6	29.6				
Effective Green, g (s)		61.0	61.0		61.0	61.0	31.0	31.0	31.0				
Actuated g/C Ratio		0.61	0.61		0.61	0.61	0.31	0.31	0.31				
Clearance Time (s)		4.5	4.5		4.5	4.5	5.4	5.4	5.4				
Vehicle Extension (s)		4.0	4.0		6.0	6.0	2.5	2.5	2.5				
Lane Grp Cap (vph)		2008	871		1988	868	505	423	423				
v/s Ratio Prot		c0.44			0.42		0.19	c0.24					
v/s Ratio Perm			0.12			0.22			0.24				
v/c Ratio		0.72	0.19		0.69	0.35	0.63	0.79	0.79				
Uniform Delay, d1		13.5	8.6		13.2	9.7	29.6	31.5	31.5				
Progression Factor		1.05	0.80		0.71	2.48	1.00	1.00	1.00				
Incremental Delay, d2		1.9	0.4		1.1	0.6	2.1	9.0	9.0				
Delay (s)		16.1	7.3		10.4	24.7	31.7	40.5	40.5				
Level of Service		B	A		B	C	C	D	D				
Approach Delay (s)		14.7			14.2			37.7			0.0		
Approach LOS		B			B			D			A		
Intersection Summary													
HCM 2000 Control Delay			19.6		HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio			0.74										
Actuated Cycle Length (s)			100.0		Sum of lost time (s)					8.0			
Intersection Capacity Utilization			77.9%		ICU Level of Service					D			
Analysis Period (min)			15										

c Critical Lane Group

HCM 6th Signalized Intersection Summary

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	1364	258	0	1309	478	301	0	673	0	0	0
Future Volume (veh/h)	0	1364	258	0	1309	478	301	0	673	0	0	0
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	1736	1736	0	1723	1709	1723	1750	1723			
Adj Flow Rate, veh/h	0	1436	0	0	1378	0	317	0	666			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	1	1	0	2	3	2	0	2			
Cap, veh/h	0	2039		0	2023		495	0	880			
Arrive On Green	0.00	0.62	0.00	0.00	1.00	0.00	0.30	0.00	0.30			
Sat Flow, veh/h	0	3386	1471	0	3359	1448	1641	0	2915			
Grp Volume(v), veh/h	0	1436	0	0	1378	0	317	0	666			
Grp Sat Flow(s),veh/h/ln	0	1650	1471	0	1637	1448	1641	0	1457			
Q Serve(g_s), s	0.0	29.4	0.0	0.0	0.0	0.0	16.7	0.0	20.7			
Cycle Q Clear(g_c), s	0.0	29.4	0.0	0.0	0.0	0.0	16.7	0.0	20.7			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2039		0	2023		495	0	880			
V/C Ratio(X)	0.00	0.70		0.00	0.68		0.64	0.00	0.76			
Avail Cap(c_a), veh/h	0	2039		0	2023		607	0	1079			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.00	0.78	0.00	0.00	0.45	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	12.9	0.0	0.0	0.0	0.0	30.2	0.0	31.6			
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.0	0.8	0.0	1.3	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	10.3	0.0	0.0	0.2	0.0	6.7	0.0	7.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.5	0.0	0.0	0.8	0.0	31.5	0.0	33.8			
LnGrp LOS	A	B		A	A		C	A	C			
Approach Vol, veh/h		1436	A		1378	A		983				
Approach Delay, s/veh		14.5			0.8			33.1				
Approach LOS		B			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		65.8				65.8		34.2				
Change Period (Y+Rc), s		4.5				4.5		5.4				
Max Green Setting (Gmax), s		54.5				54.5		35.6				
Max Q Clear Time (g_c+I1), s		31.4				2.0		22.7				
Green Ext Time (p_c), s		19.2				44.2		6.1				

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- User approved changes to right turn type.
- Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (vph)	45	88	1106	499	12	240	1005	29	661	32	191	38
Future Volume (vph)	45	88	1106	499	12	240	1005	29	661	32	191	38
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	0.98		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)		1599	3167	1443		1631	3095		1519	1525	1454	1583
Flt Permitted		0.13	1.00	1.00		0.11	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		211	3167	1443		184	3095		1519	1525	1454	1583
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)	47	93	1164	525	13	253	1058	31	696	34	201	40
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	140	1164	525	0	266	1087	0	362	368	201	40
Confl. Peds. (#/hr)											2	2
Confl. Bikes (#/hr)				1				1			2	
Heavy Vehicles (%)	0%	6%	5%	1%	0%	2%	7%	4%	4%	7%	1%	5%
Turn Type	pm+pt	pm+pt	NA	Free	custom	pm+pt	NA		Split	NA	Free	Split
Protected Phases	5	5	2			1	6		4	4		8
Permitted Phases	2	2		Free	1	6					Free	
Actuated Green, G (s)		43.0	33.3	100.0		53.5	39.8		25.0	25.0	100.0	8.0
Effective Green, g (s)		43.0	33.8	100.0		53.5	40.3		25.5	25.5	100.0	8.5
Actuated g/C Ratio		0.43	0.34	1.00		0.54	0.40		0.26	0.26	1.00	0.08
Clearance Time (s)		4.0	4.5			4.0	4.5		4.5	4.5		4.5
Vehicle Extension (s)		2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)		225	1070	1443		332	1247		387	388	1454	134
v/s Ratio Prot		0.06	c0.37			c0.13	0.35		0.24	c0.24		0.03
v/s Ratio Perm		0.21		c0.36		0.30					0.14	
v/c Ratio		0.62	1.09	0.36		0.80	0.87		0.94	0.95	0.14	0.30
Uniform Delay, d1		20.0	33.1	0.0		25.9	27.5		36.4	36.6	0.0	43.0
Progression Factor		0.90	1.04	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		3.2	50.9	0.5		12.6	8.6		29.6	32.3	0.2	0.9
Delay (s)		21.1	85.1	0.5		38.5	36.0		66.1	68.9	0.2	43.9
Level of Service		C	F	A		D	D		E	E	A	D
Approach Delay (s)			55.9			36.5			53.0			
Approach LOS			E			D			D			

Intersection Summary

HCM 2000 Control Delay	47.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	37	87
Future Volume (vph)	37	87
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	1373
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1699	1373
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	39	92
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	39	92
Confl. Peds. (#/hr)		2
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	7%
Turn Type	NA	Free
Protected Phases	8	
Permitted Phases		Free
Actuated Green, G (s)	8.0	100.0
Effective Green, g (s)	8.5	100.0
Actuated g/C Ratio	0.08	1.00
Clearance Time (s)	4.5	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	144	1373
v/s Ratio Prot	0.02	
v/s Ratio Perm		0.07
v/c Ratio	0.27	0.07
Uniform Delay, d1	42.8	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.7	0.1
Delay (s)	43.6	0.1
Level of Service	D	A
Approach Delay (s)	20.3	
Approach LOS	C	
Intersection Summary		

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (veh/h)	45	88	1106	499	12	240	1005	29	661	32	191	38
Future Volume (veh/h)	45	88	1106	499	12	240	1005	29	661	32	191	38
Initial Q (Qb), veh		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		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
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1668	1682	1736		1723	1654	1695	1695	1654	1736	1682
Adj Flow Rate, veh/h		93	1164	0		253	1058	31	720	0	0	40
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		6	5	1		2	7	4	4	7	1	5
Cap, veh/h		261	1289			285	1437	42	804	0		126
Arrive On Green		0.02	0.54	0.00		0.11	0.61	0.46	0.25	0.00	0.00	0.08
Sat Flow, veh/h		1589	3195	1471		1641	3116	91	3229	0	1471	1602
Grp Volume(v), veh/h		93	1164	0		253	534	555	720	0	0	40
Grp Sat Flow(s),veh/h/ln		1589	1598	1471		1641	1572	1636	1615	0	1471	1602
Q Serve(g_s), s		3.4	32.7	0.0		8.6	23.9	24.2	21.6	0.0	0.0	2.4
Cycle Q Clear(g_c), s		3.4	32.7	0.0		8.6	23.9	24.2	21.6	0.0	0.0	2.4
Prop In Lane		1.00		1.00		1.00		0.06	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		261	1289			285	725	755	804	0		126
V/C Ratio(X)		0.36	0.90			0.89	0.74	0.74	0.90	0.00		0.32
Avail Cap(c_a), veh/h		402	1289			336	725	755	840	0		256
HCM Platoon Ratio		0.33	1.33	0.33		1.00	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.61	0.61	0.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		18.8	21.4	0.0		21.5	15.0	15.4	36.3	0.0	0.0	43.6
Incr Delay (d2), s/veh		0.4	6.8	0.0		20.5	6.6	6.3	11.7	0.0	0.0	1.1
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
%ile BackOfQ(50%),veh/ln		1.3	11.4	0.0		4.7	8.0	8.5	9.7	0.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		19.2	28.2	0.0		42.0	21.6	21.7	48.0	0.0	0.0	44.6
LnGrp LOS		B	C			D	C	C	D	A		D
Approach Vol, veh/h			1257	A			1342			720	A	
Approach Delay, s/veh			27.6				25.5			48.0		
Approach LOS			C				C			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.9	44.4		28.9	9.1	50.1		11.8				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	14.0	27.5		25.5	14.0	27.5		15.5				
Max Q Clear Time (g_c+I1), s	10.6	34.7		23.6	5.4	26.2		4.4				
Green Ext Time (p_c), s	0.3	0.0		0.8	0.2	1.2		0.1				

Intersection Summary

HCM 6th Ctrl Delay	31.5
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (veh/h)	37	87
Future Volume (veh/h)	37	87
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1709	1654
Adj Flow Rate, veh/h	39	0
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	3	7
Cap, veh/h	134	
Arrive On Green	0.08	0.00
Sat Flow, veh/h	1709	1402
Grp Volume(v), veh/h	39	0
Grp Sat Flow(s),veh/h/ln	1709	1402
Q Serve(g_s), s	2.2	0.0
Cycle Q Clear(g_c), s	2.2	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	134	
V/C Ratio(X)	0.29	
Avail Cap(c_a), veh/h	273	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(l)	1.00	0.00
Uniform Delay (d), s/veh	43.5	0.0
Incr Delay (d2), s/veh	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	44.3	0.0
LnGrp LOS	D	
Approach Vol, veh/h	79	A
Approach Delay, s/veh	44.5	
Approach LOS	D	

Timer - Assigned Phs

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	639	427	145	744	101	321	155	92	147	275	177
Future Volume (vph)	122	639	427	145	744	101	321	155	92	147	275	177
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	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1646	1716	1447	1662	1699	1445	1662	1733	1488	1646	1716	1488
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)	1646	1716	1447	1662	1699	1445	1662	1733	1488	1646	1716	1488
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	123	645	431	146	752	102	324	157	93	148	278	179
RTOR Reduction (vph)	0	0	48	0	0	31	0	0	60	0	0	92
Lane Group Flow (vph)	123	645	383	146	752	71	324	157	33	148	278	87
Confl. Peds. (#/hr)	1		6	6		1	6					
Heavy Vehicles (%)	1%	2%	0%	0%	3%	1%	0%	1%	0%	1%	2%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	13.5	73.0	106.3	15.5	75.0	92.9	33.3	43.1	58.6	17.9	27.7	41.2
Effective Green, g (s)	14.0	74.0	107.3	16.0	76.0	93.9	33.8	44.1	59.6	18.4	28.7	42.2
Actuated g/C Ratio	0.08	0.44	0.64	0.09	0.45	0.56	0.20	0.26	0.35	0.11	0.17	0.25
Clearance Time (s)	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5
Vehicle Extension (s)	2.5	4.8	2.5	2.5	4.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	136	753	921	157	766	805	333	453	526	179	292	372
v/s Ratio Prot	0.07	0.38	0.08	c0.09	c0.44	0.01	c0.19	0.09	0.01	0.09	c0.16	0.02
v/s Ratio Perm			0.18			0.04			0.02			0.04
v/c Ratio	0.90	0.86	0.42	0.93	0.98	0.09	0.97	0.35	0.06	0.83	0.95	0.23
Uniform Delay, d1	76.6	42.5	15.1	75.7	45.6	17.4	66.9	50.5	36.0	73.5	69.2	50.3
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	49.1	10.3	0.2	50.8	28.0	0.0	41.8	0.3	0.0	25.2	39.7	0.2
Delay (s)	125.7	52.7	15.3	126.5	73.6	17.4	108.7	50.8	36.0	98.7	108.9	50.5
Level of Service	F	D	B	F	E	B	F	D	D	F	F	D
Approach Delay (s)		46.8			75.6			81.1			89.1	
Approach LOS		D			E			F			F	

Intersection Summary

HCM 2000 Control Delay	68.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	168.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary

5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	639	427	145	744	101	321	155	92	147	275	177
Future Volume (veh/h)	122	639	427	145	744	101	321	155	92	147	275	177
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		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	1736	1723	1750	1750	1709	1736	1750	1736	1750	1736	1723	1750
Adj Flow Rate, veh/h	123	645	431	146	752	102	324	157	93	148	278	179
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	0	0	3	1	0	1	0	1	2	0
Cap, veh/h	136	759	942	157	773	811	334	463	526	172	294	371
Arrive On Green	0.08	0.44	0.44	0.09	0.45	0.45	0.20	0.27	0.26	0.10	0.17	0.17
Sat Flow, veh/h	1654	1723	1473	1667	1709	1462	1667	1736	1466	1654	1723	1483
Grp Volume(v), veh/h	123	645	431	146	752	102	324	157	93	148	278	179
Grp Sat Flow(s),veh/h/ln	1654	1723	1473	1667	1709	1462	1667	1736	1466	1654	1723	1483
Q Serve(g_s), s	12.5	56.9	25.4	14.8	73.1	5.7	32.8	12.4	7.4	15.0	27.1	17.5
Cycle Q Clear(g_c), s	12.5	56.9	25.4	14.8	73.1	5.7	32.8	12.4	7.4	15.0	27.1	17.5
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	136	759	942	157	773	811	334	463	526	172	294	371
V/C Ratio(X)	0.90	0.85	0.46	0.93	0.97	0.13	0.97	0.34	0.18	0.86	0.95	0.48
Avail Cap(c_a), veh/h	136	761	943	157	775	812	334	463	526	243	294	371
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	77.3	42.5	15.7	76.4	45.5	18.2	67.4	50.2	37.4	74.8	69.6	54.3
Incr Delay (d2), s/veh	48.5	9.7	0.7	51.2	25.8	0.1	41.3	0.3	0.1	17.1	37.8	0.7
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	7.2	26.3	9.0	8.6	36.3	2.0	17.9	5.6	2.8	7.2	15.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.8	52.1	16.4	127.6	71.2	18.3	108.8	50.5	37.5	91.9	107.5	55.0
LnGrp LOS	F	D	B	F	E	B	F	D	D	F	F	E
Approach Vol, veh/h		1199			1000			574			605	
Approach Delay, s/veh		46.8			74.1			81.3			88.2	
Approach LOS		D			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	78.9	38.0	33.0	18.0	80.9	21.7	49.3				
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	15.5	74.0	33.5	28.0	13.5	76.0	24.5	37.0				
Max Q Clear Time (g_c+I1), s	16.8	58.9	34.8	29.1	14.5	75.1	17.0	14.4				
Green Ext Time (p_c), s	0.0	12.1	0.0	0.0	0.0	0.8	0.3	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			68.2									
HCM 6th LOS			E									

HCM 6th TWSC
6: Evergreen Rd/Evergreen Road & Stacy Allison Way

08/10/2022

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Traffic Vol, veh/h	210	2	56	2	3	4	19	509	4	3	646	125
Future Vol, veh/h	210	2	56	2	3	4	19	509	4	3	646	125
Conflicting Peds, #/hr	15	0	2	2	0	15	4	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	50	-	-	25	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	1	0	0	0	0	0	0	1	0	0	3	2
Mvmt Flow	214	2	57	2	3	4	19	519	4	3	659	128

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1311	1297	729	1323	1359	539	791	0	0	526	0	0
Stage 1	733	733	-	562	562	-	-	-	-	-	-	-
Stage 2	578	564	-	761	797	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 136	163	426	135	150	546	838	-	-	1051	-	-
Stage 1	414	429	-	515	513	-	-	-	-	-	-	-
Stage 2	503	512	-	401	401	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 128	158	424	113	145	537	835	-	-	1048	-	-
Mov Cap-2 Maneuver	257	281	-	113	145	-	-	-	-	-	-	-
Stage 1	403	426	-	502	500	-	-	-	-	-	-	-
Stage 2	478	499	-	344	398	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	52.8		24.3		0.3		0	
HCM LOS	F		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	835	-	-	257	417	196	1048	-	-
HCM Lane V/C Ratio	0.023	-	-	0.834	0.142	0.047	0.003	-	-
HCM Control Delay (s)	9.4	-	-	63.2	15.1	24.3	8.4	-	-
HCM Lane LOS	A	-	-	F	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.7	0.5	0.1	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	79.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↵		↵	↵	
Traffic Vol, veh/h	38	66	0	143	117	120	2	362	97	165	481	60
Future Vol, veh/h	38	66	0	143	117	120	2	362	97	165	481	60
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, %	0	0	0	1	0	0	0	1	1	2	2	0
Mvmt Flow	40	69	0	149	122	125	2	377	101	172	501	63
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	16.5	40.2	77.9	111.5
HCM LOS	C	E	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	37%	38%	100%	0%
Vol Thru, %	0%	79%	63%	31%	0%	89%
Vol Right, %	0%	21%	0%	32%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	459	104	380	165	541
LT Vol	2	0	38	143	165	0
Through Vol	0	362	66	117	0	481
RT Vol	0	97	0	120	0	60
Lane Flow Rate	2	478	108	396	172	564
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.005	1.026	0.277	0.835	0.398	1.214
Departure Headway (Hd)	8.781	8.125	9.822	8.018	8.54	7.941
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	410	449	368	455	425	462
Service Time	6.481	5.825	7.822	6.018	6.24	5.641
HCM Lane V/C Ratio	0.005	1.065	0.293	0.87	0.405	1.221
HCM Control Delay	11.5	78.2	16.5	40.2	16.8	140.4
HCM Lane LOS	B	F	C	E	C	F
HCM 95th-tile Q	0	13.8	1.1	8.1	1.9	21.7

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶			↷	↷	
Traffic Vol, veh/h	49	0	168	432	555	73
Future Vol, veh/h	49	0	168	432	555	73
Conflicting Peds, #/hr	0	5	5	0	0	3
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	53	0	183	470	603	79

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1484	-	687	0	-	0
Stage 1	648	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	139	0	916	-	-	-
Stage 1	524	0	-	-	-	-
Stage 2	429	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	100	-	912	-	-	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	380	-	-	-	-	-
Stage 2	427	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	76.1	2.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	912	-	100	-	-
HCM Lane V/C Ratio	0.2	-	0.533	-	-
HCM Control Delay (s)	9.9	0	76.1	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.7	-	2.4	-	-

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔				↔		↔			↔	
Traffic Vol, veh/h	0	33	176	0	0	44	0	556	5	23	532	0
Future Vol, veh/h	0	33	176	0	0	44	0	556	5	23	532	0
Conflicting Peds, #/hr	0	0	5	5	0	0	5	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	36	191	0	0	48	0	604	5	25	578	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	-	1240	583	-	-	610	-	0	0	612	0	0
Stage 1	-	628	-	-	-	-	-	-	-	-	-	-
Stage 2	-	612	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	6.2	-	-	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.3	-	-	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	177	516	0	0	498	0	-	-	977	-	0
Stage 1	0	479	-	0	0	-	0	-	-	-	-	0
Stage 2	0	487	-	0	0	-	0	-	-	-	-	0
Platoon blocked, %												
Mov Cap-1 Maneuver	-	170	514	-	-	497	-	-	-	974	-	-
Mov Cap-2 Maneuver	-	170	-	-	-	-	-	-	-	-	-	-
Stage 1	-	461	-	-	-	-	-	-	-	-	-	-
Stage 2	-	486	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	26.3		13		0		0.4	
HCM LOS	D		B					

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	390	497	974	-
HCM Lane V/C Ratio	-	-	0.582	0.096	0.026	-
HCM Control Delay (s)	-	-	26.3	13	8.8	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	3.6	0.3	0.1	-

HCM 6th TWSC
 10: Harvard Dr & Evergreen Rd

08/10/2022

Intersection												
Int Delay, s/veh	39											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	12	273	25	169	348	5	6	61	134	21	139	41
Future Vol, veh/h	12	273	25	169	348	5	6	61	134	21	139	41
Conflicting Peds, #/hr	1	0	1	1	0	1	13	0	6	6	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	1	0	0	0	20	0	0	0	0	0	0
Mvmt Flow	13	307	28	190	391	6	7	69	151	24	156	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	398	0	0	336	0	0	1236	1126	328	1238	1137	408
Stage 1	-	-	-	-	-	-	348	348	-	775	775	-
Stage 2	-	-	-	-	-	-	888	778	-	463	362	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1172	-	-	1235	-	-	154	207	718	154	203	648
Stage 1	-	-	-	-	-	-	672	638	-	394	411	-
Stage 2	-	-	-	-	-	-	341	410	-	583	629	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1171	-	-	1234	-	-	25	173	713	85	170	639
Mov Cap-2 Maneuver	-	-	-	-	-	-	106	266	-	85	170	-
Stage 1	-	-	-	-	-	-	664	630	-	389	347	-
Stage 2	-	-	-	-	-	-	145	346	-	403	621	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			2.7			22.8			209		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	424	1171	-	-	1234	-	-	178
HCM Lane V/C Ratio	0.533	0.012	-	-	0.154	-	-	1.269
HCM Control Delay (s)	22.8	8.1	-	-	8.4	-	-	209
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	3	0	-	-	0.5	-	-	12.7

Intersection						
Int Delay, s/veh	6.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	127	117	45	163	227
Future Vol, veh/h	45	127	117	45	163	227
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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	61	172	158	61	220	307

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	936	189	0	0	219
Stage 1	189	-	-	-	-
Stage 2	747	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	297	858	-	-	1362
Stage 1	848	-	-	-	-
Stage 2	472	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	239	858	-	-	1362
Mov Cap-2 Maneuver	239	-	-	-	-
Stage 1	848	-	-	-	-
Stage 2	380	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	3.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	511	1362
HCM Lane V/C Ratio	-	-	0.455	0.162
HCM Control Delay (s)	-	-	17.8	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	2.3	0.6

Intersection	
Intersection Delay, s/veh	9.6
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	85	26	17	67	34	107	11	30	42
Future Vol, veh/h	29	17	57	85	26	17	67	34	107	11	30	42
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	23	77	115	35	23	91	46	145	15	41	57
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	9	9.8	10.2	8.7
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	28%	66%	13%
Vol Thru, %	16%	17%	20%	36%
Vol Right, %	51%	55%	13%	51%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	208	103	128	83
LT Vol	67	29	85	11
Through Vol	34	17	26	30
RT Vol	107	57	17	42
Lane Flow Rate	281	139	173	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.359	0.186	0.244	0.149
Departure Headway (Hd)	4.595	4.804	5.075	4.769
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	776	739	701	745
Service Time	2.658	2.884	3.152	2.847
HCM Lane V/C Ratio	0.362	0.188	0.247	0.15
HCM Control Delay	10.2	9	9.8	8.7
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.6	0.7	1	0.5

HCM 6th TWSC
 15: Parr Rd NE & Stubb Rd NE

08/10/2022

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	5	120	12	8	116	10	7	12	5	9	20	5
Future Vol, veh/h	5	120	12	8	116	10	7	12	5	9	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	3	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	138	14	9	133	11	8	14	6	10	23	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	144	0	0	152	0	0	328	319	145	324	321	139
Stage 1	-	-	-	-	-	-	157	157	-	157	157	-
Stage 2	-	-	-	-	-	-	171	162	-	167	164	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1451	-	-	1441	-	-	629	601	908	633	599	915
Stage 1	-	-	-	-	-	-	850	772	-	850	772	-
Stage 2	-	-	-	-	-	-	836	768	-	840	766	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1451	-	-	1441	-	-	602	595	908	613	593	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	602	595	-	613	593	-
Stage 1	-	-	-	-	-	-	847	769	-	847	767	-
Stage 2	-	-	-	-	-	-	801	763	-	816	763	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.4			10.9			11.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	643	1451	-	-	1441	-	-	631
HCM Lane V/C Ratio	0.043	0.004	-	-	0.006	-	-	0.062
HCM Control Delay (s)	10.9	7.5	-	-	7.5	-	-	11.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

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	100	79	66	39	92	4	50	147	31	4	152	100
Future Vol, veh/h	100	79	66	39	92	4	50	147	31	4	152	100
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, %	10	0	5	0	1	0	0	0	3	0	0	2
Mvmt Flow	112	89	74	44	103	4	56	165	35	4	171	112
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	11.3	10.8	12.6	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	75%	0%	0%	54%	0%	96%	97%	0%
Vol Right, %	0%	100%	0%	46%	0%	4%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	31	100	145	39	96	156	100
LT Vol	50	0	100	0	39	0	4	0
Through Vol	147	0	0	79	0	92	152	0
RT Vol	0	31	0	66	0	4	0	100
Lane Flow Rate	221	35	112	163	44	108	175	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.391	0.053	0.219	0.272	0.086	0.195	0.303	0.172
Departure Headway (Hd)	6.363	5.524	7.004	6	7.043	6.522	6.229	5.506
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	564	645	511	596	507	548	575	649
Service Time	4.12	3.281	4.758	3.754	4.806	4.285	3.984	3.26
HCM Lane V/C Ratio	0.392	0.054	0.219	0.273	0.087	0.197	0.304	0.173
HCM Control Delay	13.2	8.6	11.7	11	10.5	10.9	11.7	9.4
HCM Lane LOS	B	A	B	B	B	B	B	A
HCM 95th-tile Q	1.8	0.2	0.8	1.1	0.3	0.7	1.3	0.6

Intersection						
Intersection Delay, s/veh	5.3					
Intersection LOS	A					
Approach	EB		WB		NB	
Entry Lanes	2		2		1	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	311		882		471	
Demand Flow Rate, veh/h	340		914		486	
Vehicles Circulating, veh/h	589		136		197	
Vehicles Exiting, veh/h	461		197		732	
Ped Vol Crossing Leg, #/h	0		0		0	
Ped Cap Adj	1.000		1.000		1.000	
Approach Delay, s/veh	7.3		6.8		1.1	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Bypass
Designated Moves	LT	R	L	LTR	L	R
Assumed Moves	LT	R	L	LTR	L	R
RT Channelized						Free
Lane Util	0.579	0.421	0.530	0.470	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	350
Entry Flow, veh/h	197	143	484	430	136	1785
Cap Entry Lane, veh/h	785	861	1191	1265	1201	0.980
Entry HV Adj Factor	0.917	0.909	0.965	0.964	0.941	343
Flow Entry, veh/h	181	130	467	414	128	1750
Cap Entry, veh/h	720	782	1150	1219	1130	0.196
V/C Ratio	0.251	0.166	0.406	0.340	0.113	0.0
Control Delay, s/veh	7.9	6.3	7.3	6.2	4.2	A
LOS	A	A	A	A	A	1
95th %tile Queue, veh	1	1	2	2	0	

HCM Signalized Intersection Capacity Analysis

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (vph)	0	573	299	0	716	534	0	0	0	311	0	316
Future Volume (vph)	0	573	299	0	716	534	0	0	0	311	0	316
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)		3167	1316		3107	1324				2880		1390
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3167	1316		3107	1324				2880		1390
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)	0	597	311	0	746	556	0	0	0	324	0	329
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	151
Lane Group Flow (vph)	0	597	311	0	746	556	0	0	0	324	0	178
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	0%	5%	13%	0%	7%	10%	0%	0%	0%	12%	0%	7%
Turn Type		NA	Free		NA	Free				Prot		Prot
Protected Phases		2			6					4		4
Permitted Phases			Free			Free						
Actuated Green, G (s)		71.6	100.0		71.6	100.0				19.4		19.4
Effective Green, g (s)		72.1	100.0		72.1	100.0				19.9		19.9
Actuated g/C Ratio		0.72	1.00		0.72	1.00				0.20		0.20
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			4.0					2.5		2.5
Lane Grp Cap (vph)		2283	1316		2240	1324				573		276
v/s Ratio Prot		0.19			0.24					0.11		c0.13
v/s Ratio Perm			0.24			c0.42						
v/c Ratio		0.26	0.24		0.33	0.42				0.57		0.65
Uniform Delay, d1		4.8	0.0		5.1	0.0				36.1		36.8
Progression Factor		1.00	1.00		0.74	1.00				1.00		1.00
Incremental Delay, d2		0.3	0.4		0.3	0.8				1.0		4.5
Delay (s)		5.1	0.4		4.1	0.8				37.2		41.4
Level of Service		A	A		A	A				D		D
Approach Delay (s)		3.5			2.7			0.0			39.3	
Approach LOS		A			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			11.3									B
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			100.0							8.0		
Intersection Capacity Utilization			49.4%									A
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↘↘		↗
Traffic Volume (veh/h)	0	573	299	0	716	534	0	0	0	311	0	316
Future Volume (veh/h)	0	573	299	0	716	534	0	0	0	311	0	316
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	1682	1573	0	1654	1614				1586	0	1654
Adj Flow Rate, veh/h	0	597	0	0	746	0				324	0	225
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	5	13	0	7	10				12	0	7
Cap, veh/h	0	2256		0	2220					627	0	300
Arrive On Green	0.00	0.71	0.00	0.00	0.94	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3279	1333	0	3226	1367				2931	0	1402
Grp Volume(v), veh/h	0	597	0	0	746	0				324	0	225
Grp Sat Flow(s),veh/h/ln	0	1598	1333	0	1572	1367				1465	0	1402
Q Serve(g_s), s	0.0	6.8	0.0	0.0	2.1	0.0				9.8	0.0	15.0
Cycle Q Clear(g_c), s	0.0	6.8	0.0	0.0	2.1	0.0				9.8	0.0	15.0
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2256		0	2220					627	0	300
V/C Ratio(X)	0.00	0.26		0.00	0.34					0.52	0.00	0.75
Avail Cap(c_a), veh/h	0	2256		0	2220					1055	0	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.80	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.3	0.0	0.0	1.0	0.0				34.7	0.0	36.8
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0				0.5	0.0	2.8
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	2.0	0.0	0.0	0.5	0.0				3.5	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.6	0.0	0.0	1.3	0.0				35.2	0.0	39.6
LnGrp LOS	A	A		A	A					D	A	D
Approach Vol, veh/h		597	A		746	A					549	
Approach Delay, s/veh		5.6			1.3						37.0	
Approach LOS		A			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		74.6		25.4		74.6						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		55.5		35.5		55.5						
Max Q Clear Time (g_c+I1), s		8.8		17.0		4.1						
Green Ext Time (p_c), s		17.3		3.9		15.7						

Intersection Summary

HCM 6th Ctrl Delay	13.0
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

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑	↗		↑↑	↗	↘	↕	↗				
Traffic Volume (vph)	0	604	279	0	894	823	354	0	739	0	0	0	
Future Volume (vph)	0	604	279	0	894	823	354	0	739	0	0	0	
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				
Lane Util. Factor		0.95	1.00		0.95	1.00	0.95	0.91	0.95				
Frbp, ped/bikes		1.00	1.00		1.00	0.98	1.00	1.00	1.00				
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00				
Frt		1.00	0.85		1.00	0.85	1.00	0.86	0.85				
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00				
Satd. Flow (prot)		3107	1417		3079	1442	1423	1286	1333				
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00				
Satd. Flow (perm)		3107	1417		3079	1442	1423	1286	1333				
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)	0	636	294	0	941	866	373	0	778	0	0	0	
RTOR Reduction (vph)	0	0	115	0	0	339	0	171	171	0	0	0	
Lane Group Flow (vph)	0	636	179	0	941	527	336	239	234	0	0	0	
Confl. Peds. (#/hr)	1					1							
Heavy Vehicles (%)	0%	7%	5%	0%	8%	1%	11%	0%	6%	0%	0%	0%	
Turn Type		NA	Perm		NA	Perm	Split	NA	Prot				
Protected Phases		2			6		8	8	8				
Permitted Phases			2			6							
Actuated Green, G (s)		60.4	60.4		60.4	60.4	29.7	29.7	29.7				
Effective Green, g (s)		60.9	60.9		60.9	60.9	31.1	31.1	31.1				
Actuated g/C Ratio		0.61	0.61		0.61	0.61	0.31	0.31	0.31				
Clearance Time (s)		4.5	4.5		4.5	4.5	5.4	5.4	5.4				
Vehicle Extension (s)		4.0	4.0		6.0	6.0	2.5	2.5	2.5				
Lane Grp Cap (vph)		1892	862		1875	878	442	399	414				
v/s Ratio Prot		0.20			0.31		c0.24	0.19	0.18				
v/s Ratio Perm			0.13			c0.37							
v/c Ratio		0.34	0.21		0.50	0.60	0.76	0.60	0.57				
Uniform Delay, d1		9.6	8.8		11.0	12.1	31.1	29.2	28.8				
Progression Factor		1.31	3.92		0.77	3.70	1.00	1.00	1.00				
Incremental Delay, d2		0.5	0.5		0.6	1.8	7.2	2.0	1.4				
Delay (s)		13.1	34.8		9.0	46.4	38.3	31.2	30.2				
Level of Service		B	C		A	D	D	C	C				
Approach Delay (s)		20.0			27.0			32.9			0.0		
Approach LOS		B			C			C			A		
Intersection Summary													
HCM 2000 Control Delay			27.1		HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.65										
Actuated Cycle Length (s)			100.0		Sum of lost time (s)				8.0				
Intersection Capacity Utilization			80.9%		ICU Level of Service				D				
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↖	↕	↗			
Traffic Volume (veh/h)	0	604	279	0	894	823	354	0	739	0	0	0
Future Volume (veh/h)	0	604	279	0	894	823	354	0	739	0	0	0
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	1654	1682	0	1641	1736	1600	1750	1668			
Adj Flow Rate, veh/h	0	636	0	0	941	0	249	0	753			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	7	5	0	8	1	11	0	6			
Cap, veh/h	0	1873		0	1857		494	0	917			
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.32	0.00	0.32			
Sat Flow, veh/h	0	3226	1425	0	3200	1471	1524	0	2827			
Grp Volume(v), veh/h	0	636	0	0	941	0	249	0	753			
Grp Sat Flow(s),veh/h/ln	0	1572	1425	0	1559	1471	1524	0	1414			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	24.5			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	24.5			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1873		0	1857		494	0	917			
V/C Ratio(X)	0.00	0.34		0.00	0.51		0.50	0.00	0.82			
Avail Cap(c_a), veh/h	0	1873		0	1857		549	0	1018			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.00	0.94	0.00	0.00	0.52	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	27.3	0.0	31.1			
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.5	0.0	0.6	0.0	4.8			
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	0.1	0.0	0.0	0.1	0.0	4.8	0.0	8.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.5	0.0	0.0	0.5	0.0	27.9	0.0	35.9			
LnGrp LOS	A	A		A	A		C	A	D			
Approach Vol, veh/h		636	A		941	A		1002				
Approach Delay, s/veh		0.5			0.5			33.9				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		63.6				63.6		36.4				
Change Period (Y+Rc), s		4.5				4.5		5.4				
Max Green Setting (Gmax), s		55.5				55.5		34.6				
Max Q Clear Time (g_c+I1), s		2.0				2.0		26.5				
Green Ext Time (p_c), s		12.8				31.6		4.5				

Intersection Summary

HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (vph)	48	55	858	249	5	136	895	14	754	21	170	12
Future Volume (vph)	48	55	858	249	5	136	895	14	754	21	170	12
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)		1645	3023	1261		1557	2992		1490	1495	1377	1662
Flt Permitted		0.16	1.00	1.00		0.16	1.00		0.95	0.95	1.00	0.95
Satd. Flow (perm)		278	3023	1261		259	2992		1490	1495	1377	1662
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)	51	58	903	262	5	143	942	15	794	22	179	13
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	0	0	0
Lane Group Flow (vph)	0	109	903	262	0	148	956	0	405	411	179	13
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	2%	10%	18%	0%	7%	11%	0%	6%	10%	8%	0%
Turn Type	pm+pt	pm+pt	NA	Free	custom	pm+pt	NA		Split	NA	Free	Split
Protected Phases	5	5	2			1	6		4	4		8
Permitted Phases	2	2		Free	1	6					Free	
Actuated Green, G (s)		46.3	37.9	100.0		49.7	39.6		29.2	29.2	100.0	5.3
Effective Green, g (s)		46.3	38.4	100.0		49.7	40.1		29.7	29.7	100.0	5.8
Actuated g/C Ratio		0.46	0.38	1.00		0.50	0.40		0.30	0.30	1.00	0.06
Clearance Time (s)		4.0	4.5			4.0	4.5		4.5	4.5		4.5
Vehicle Extension (s)		2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)		243	1160	1261		259	1199		442	444	1377	96
v/s Ratio Prot		0.04	0.30			c0.06	c0.32		0.27	c0.28		0.01
v/s Ratio Perm		0.17		c0.21		0.23					0.13	
v/c Ratio		0.45	0.78	0.21		0.57	0.80		0.92	0.93	0.13	0.14
Uniform Delay, d1		17.4	27.1	0.0		16.7	26.4		33.9	34.1	0.0	44.7
Progression Factor		1.13	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		0.8	4.6	0.3		2.5	5.6		23.5	25.1	0.2	0.5
Delay (s)		20.5	31.7	0.3		19.2	31.9		57.4	59.2	0.2	45.2
Level of Service		C	C	A		B	C		E	E	A	D
Approach Delay (s)			24.3				30.2			47.9		
Approach LOS			C				C			D		

Intersection Summary

HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022

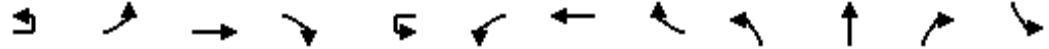


Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	17	35
Future Volume (vph)	17	35
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1651	1271
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1651	1271
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	18	37
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	18	37
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	6%	17%
Turn Type	NA	Free
Protected Phases	8	
Permitted Phases		Free
Actuated Green, G (s)	5.3	100.0
Effective Green, g (s)	5.8	100.0
Actuated g/C Ratio	0.06	1.00
Clearance Time (s)	4.5	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	95	1271
v/s Ratio Prot	0.01	
v/s Ratio Perm		0.03
v/c Ratio	0.19	0.03
Uniform Delay, d1	44.9	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.7	0.0
Delay (s)	45.6	0.0
Level of Service	D	A
Approach Delay (s)	20.7	
Approach LOS	C	
Intersection Summary		

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (veh/h)	48	55	858	249	5	136	895	14	754	21	170	12
Future Volume (veh/h)	48	55	858	249	5	136	895	14	754	21	170	12
Initial Q (Qb), veh		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		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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1723	1614	1504		1654	1600	1750	1668	1614	1641	1750
Adj Flow Rate, veh/h		58	903	0		143	942	15	810	0	0	13
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	10	18		7	11	0	6	10	8	0
Cap, veh/h		288	1325			314	1416	23	910	0		85
Arrive On Green		0.01	0.57	0.00		0.07	0.62	0.46	0.29	0.00	0.00	0.05
Sat Flow, veh/h		1641	3066	1275		1576	3061	49	3177	0	1391	1667
Grp Volume(v), veh/h		58	903	0		143	468	489	810	0	0	13
Grp Sat Flow(s),veh/h/ln		1641	1533	1275		1576	1520	1590	1589	0	1391	1667
Q Serve(g_s), s		2.0	20.6	0.0		4.9	20.1	20.2	24.4	0.0	0.0	0.7
Cycle Q Clear(g_c), s		2.0	20.6	0.0		4.9	20.1	20.2	24.4	0.0	0.0	0.7
Prop In Lane		1.00		1.00		1.00		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		288	1325			314	703	735	910	0		85
V/C Ratio(X)		0.20	0.68			0.46	0.67	0.67	0.89	0.00		0.15
Avail Cap(c_a), veh/h		452	1325			424	703	735	985	0		183
HCM Platoon Ratio		0.33	1.33	0.33		1.00	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.88	0.88	0.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		16.8	16.5	0.0		16.4	14.2	14.4	34.2	0.0	0.0	45.4
Incr Delay (d2), s/veh		0.2	2.5	0.0		0.8	4.9	4.7	9.5	0.0	0.0	0.6
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
%ile BackOfQ(50%),veh/ln		0.8	6.4	0.0		1.8	6.4	6.7	10.5	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		17.0	19.0	0.0		17.2	19.1	19.1	43.6	0.0	0.0	46.0
LnGrp LOS		B	B			B	B	B	D	A		D
Approach Vol, veh/h			961	A			1100			810	A	
Approach Delay, s/veh			18.8				18.9			43.6		
Approach LOS			B				B			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	47.2		32.6	8.0	50.2		9.1				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	14.0	27.5		30.5	14.0	27.5		10.5				
Max Q Clear Time (g_c+I1), s	6.9	22.6		26.4	4.0	22.2		3.0				
Green Ext Time (p_c), s	0.3	4.3		1.7	0.1	4.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (veh/h)	17	35
Future Volume (veh/h)	17	35
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1668	1518
Adj Flow Rate, veh/h	18	0
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	6	17
Cap, veh/h	85	
Arrive On Green	0.05	0.00
Sat Flow, veh/h	1668	1286
Grp Volume(v), veh/h	18	0
Grp Sat Flow(s),veh/h/ln	1668	1286
Q Serve(g_s), s	1.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	85	
V/C Ratio(X)	0.21	
Avail Cap(c_a), veh/h	183	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	45.5	0.0
Incr Delay (d2), s/veh	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	46.4	0.0
LnGrp LOS	D	
Approach Vol, veh/h	31	A
Approach Delay, s/veh	46.2	
Approach LOS	D	

Timer - Assigned Phs

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	129	585	247	58	454	61	413	175	90	76	116	111
Future Volume (vph)	129	585	247	58	454	61	413	175	90	76	116	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	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	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	1606	1435	1630	1549	1488	1662	1733	1488	1630	1750	1472
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	1606	1435	1630	1549	1488	1662	1733	1488	1630	1750	1472
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)	136	616	260	61	478	64	435	184	95	80	122	117
RTOR Reduction (vph)	0	0	74	0	0	32	0	0	52	0	0	91
Lane Group Flow (vph)	136	616	186	61	478	32	435	184	43	80	122	26
Confl. Peds. (#/hr)			2	2			8					
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	4%	9%	2%	2%	13%	0%	0%	1%	0%	2%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	16.5	62.7	103.4	10.5	56.7	67.1	40.7	46.3	56.8	10.4	16.0	32.5
Effective Green, g (s)	17.0	63.7	104.4	11.0	57.7	68.1	41.2	47.3	57.8	10.9	17.0	33.5
Actuated g/C Ratio	0.11	0.43	0.70	0.07	0.39	0.46	0.28	0.32	0.39	0.07	0.11	0.22
Clearance Time (s)	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5
Vehicle Extension (s)	2.5	4.8	2.5	2.5	4.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	182	687	1006	120	600	680	459	550	577	119	199	331
v/s Ratio Prot	c0.09	c0.38	0.05	0.04	0.31	0.00	c0.26	0.11	0.01	0.05	c0.07	0.01
v/s Ratio Perm			0.08			0.02			0.02			0.01
v/c Ratio	0.75	0.90	0.19	0.51	0.80	0.05	0.95	0.33	0.07	0.67	0.61	0.08
Uniform Delay, d1	63.9	39.5	7.6	66.3	40.4	22.4	52.8	38.8	28.7	67.3	62.8	45.5
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	14.6	15.1	0.1	2.5	8.2	0.0	28.9	0.3	0.0	12.7	4.7	0.1
Delay (s)	78.5	54.6	7.7	68.8	48.6	22.4	81.7	39.0	28.7	80.0	67.5	45.6
Level of Service	E	D	A	E	D	C	F	D	C	E	E	D
Approach Delay (s)		45.8			47.9			63.6			62.6	
Approach LOS		D			D			E			E	

Intersection Summary

HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	148.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
 5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	129	585	247	58	454	61	413	175	90	76	116	111
Future Volume (veh/h)	129	585	247	58	454	61	413	175	90	76	116	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
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	1627	1723	1723	1573	1750	1750	1736	1750	1723	1750	1750
Adj Flow Rate, veh/h	136	616	260	61	478	64	435	184	95	80	122	117
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, %	4	9	2	2	13	0	0	1	0	2	0	0
Cap, veh/h	166	708	1024	83	603	659	467	569	550	107	198	310
Arrive On Green	0.10	0.44	0.43	0.05	0.38	0.38	0.28	0.33	0.32	0.07	0.11	0.11
Sat Flow, veh/h	1615	1627	1426	1641	1573	1479	1667	1736	1465	1641	1750	1448
Grp Volume(v), veh/h	136	616	260	61	478	64	435	184	95	80	122	117
Grp Sat Flow(s),veh/h/ln	1615	1627	1426	1641	1573	1479	1667	1736	1465	1641	1750	1448
Q Serve(g_s), s	10.9	45.6	8.5	4.9	35.7	3.3	33.7	10.6	5.7	6.3	8.8	9.2
Cycle Q Clear(g_c), s	10.9	45.6	8.5	4.9	35.7	3.3	33.7	10.6	5.7	6.3	8.8	9.2
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	166	708	1024	83	603	659	467	569	550	107	198	310
V/C Ratio(X)	0.82	0.87	0.25	0.73	0.79	0.10	0.93	0.32	0.17	0.75	0.62	0.38
Avail Cap(c_a), veh/h	256	749	1060	260	724	772	516	569	550	508	409	486
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	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	58.3	34.0	6.7	62.0	36.2	21.3	46.5	33.5	27.7	60.8	56.0	44.8
Incr Delay (d2), s/veh	9.5	11.3	0.3	8.8	6.5	0.1	22.5	0.2	0.1	7.4	2.3	0.6
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	4.9	20.0	2.6	2.2	14.7	1.2	16.9	4.6	2.1	2.9	4.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	45.3	7.0	70.8	42.6	21.4	68.9	33.7	27.8	68.3	58.3	45.3
LnGrp LOS	E	D	A	E	D	C	E	C	C	E	E	D
Approach Vol, veh/h		1012			603			714			319	
Approach Delay, s/veh		38.5			43.2			54.4			56.1	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	61.7	41.1	19.0	17.6	54.8	12.7	47.4				
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	20.5	60.0	40.5	30.0	20.5	60.0	40.5	30.0				
Max Q Clear Time (g_c+I1), s	6.9	47.6	35.7	11.2	12.9	37.7	8.3	12.6				
Green Ext Time (p_c), s	0.1	9.1	0.9	0.8	0.2	9.6	0.3	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			46.0									
HCM 6th LOS			D									

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Traffic Vol, veh/h	151	1	21	2	0	1	29	624	0	3	290	110
Future Vol, veh/h	151	1	21	2	0	1	29	624	0	3	290	110
Conflicting Peds, #/hr	3	0	1	1	0	3	3	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	100	-	-	-	-	-	50	-	-	25	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	14	0	5	0	0	0	4	4	0	33	3	7
Mvmt Flow	178	1	25	2	0	1	34	734	0	4	341	129

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1223	1219	410	1230	1283	737	473	0	0	734	0	0
Stage 1	417	417	-	802	802	-	-	-	-	-	-	-
Stage 2	806	802	-	428	481	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.5	6.25	7.1	6.5	6.2	4.14	-	-	4.43	-	-
Critical Hdwy Stg 1	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4	3.345	3.5	4	3.3	2.236	-	-	2.497	-	-
Pot Cap-1 Maneuver	~ 148	182	635	156	167	422	1079	-	-	746	-	-
Stage 1	590	595	-	381	399	-	-	-	-	-	-	-
Stage 2	359	399	-	609	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 143	175	633	145	160	421	1076	-	-	746	-	-
Mov Cap-2 Maneuver	254	286	-	145	160	-	-	-	-	-	-	-
Stage 1	570	590	-	369	386	-	-	-	-	-	-	-
Stage 2	346	386	-	580	553	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	42.1		24.7		0.4		0.1	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1076	-	-	254	600	186	746	-	-
HCM Lane V/C Ratio	0.032	-	-	0.699	0.043	0.019	0.005	-	-
HCM Control Delay (s)	8.5	-	-	46.6	11.3	24.7	9.8	-	-
HCM Lane LOS	A	-	-	E	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.7	0.1	0.1	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	81.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	49	20	2	76	59	130	0	475	94	50	232	17
Future Vol, veh/h	49	20	2	76	59	130	0	475	94	50	232	17
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	33	15	0	5	0	0	0	8	4	4	5	25
Mvmt Flow	58	24	2	90	70	155	0	565	112	60	276	20
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	14.4	20.4	151.1	18.4
HCM LOS	B	C	F	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	69%	29%	100%	0%
Vol Thru, %	100%	83%	28%	22%	0%	93%
Vol Right, %	0%	17%	3%	49%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	569	71	265	50	249
LT Vol	0	0	49	76	50	0
Through Vol	0	475	20	59	0	232
RT Vol	0	94	2	130	0	17
Lane Flow Rate	0	677	85	315	60	296
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0	1.255	0.197	0.591	0.124	0.574
Departure Headway (Hd)	6.651	6.672	9.179	7.356	7.987	7.44
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	542	394	495	452	489
Service Time	4.433	4.454	7.179	5.356	5.687	5.14
HCM Lane V/C Ratio	0	1.249	0.216	0.636	0.133	0.605
HCM Control Delay	9.4	151.1	14.4	20.4	11.8	19.7
HCM Lane LOS	N	F	B	C	B	C
HCM 95th-tile Q	0	26.5	0.7	3.8	0.4	3.6

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	22	0	72	489	285	22
Future Vol, veh/h	22	0	72	489	285	22
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	0	3	0	2	5
Mvmt Flow	27	0	88	596	348	27

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1135	-	376	0	-	0
Stage 1	363	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Critical Hdwy	6.45	-	4.13	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	-	2.227	-	-	-
Pot Cap-1 Maneuver	221	0	1177	-	-	-
Stage 1	697	0	-	-	-	-
Stage 2	451	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	196	-	1176	-	-	-
Mov Cap-2 Maneuver	196	-	-	-	-	-
Stage 1	618	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.3	1.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1176	-	196	-	-
HCM Lane V/C Ratio	0.075	-	0.137	-	-
HCM Control Delay (s)	8.3	0	26.3	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻				↻		↻			↻	
Traffic Vol, veh/h	0	9	39	0	0	23	0	538	7	7	277	0
Future Vol, veh/h	0	9	39	0	0	23	0	538	7	7	277	0
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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	0	0	0	0	0	3	0	0	28	2	5
Mvmt Flow	0	11	48	0	0	28	0	656	9	9	338	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	-	1022	338	-	-	662	-	0	0	666	0	0
Stage 1	-	356	-	-	-	-	-	-	-	-	-	-
Stage 2	-	666	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	6.2	-	-	6.2	-	-	-	4.38	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.3	-	-	3.3	-	-	-	2.452	-	-
Pot Cap-1 Maneuver	0	238	709	0	0	465	0	-	-	812	-	0
Stage 1	0	633	-	0	0	-	0	-	-	-	-	0
Stage 2	0	460	-	0	0	-	0	-	-	-	-	0
Platoon blocked, %												
Mov Cap-1 Maneuver	-	234	709	-	-	465	-	-	-	811	-	-
Mov Cap-2 Maneuver	-	234	-	-	-	-	-	-	-	-	-	-
Stage 1	-	624	-	-	-	-	-	-	-	-	-	-
Stage 2	-	460	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.9		13.2		0		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	514	465	811	-
HCM Lane V/C Ratio	-	-	0.114	0.06	0.011	-
HCM Control Delay (s)	-	-	12.9	13.2	9.5	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0	-

HCM 6th TWSC
10: Harvard Dr & Evergreen Rd

08/10/2022

Intersection												
Int Delay, s/veh	11.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	20	359	15	72	214	2	5	74	233	8	61	17
Future Vol, veh/h	20	359	15	72	214	2	5	74	233	8	61	17
Conflicting Peds, #/hr	1	0	14	14	0	1	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	5	5	7	8	3	0	20	0	2	50	2	12
Mvmt Flow	23	417	17	84	249	2	6	86	271	9	71	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	252	0	0	448	0	0	951	906	441	1070	913	252
Stage 1	-	-	-	-	-	-	486	486	-	419	419	-
Stage 2	-	-	-	-	-	-	465	420	-	651	494	-
Critical Hdwy	4.15	-	-	4.18	-	-	7.3	6.5	6.22	7.6	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.5	-	6.6	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.5	-	6.6	5.52	-
Follow-up Hdwy	2.245	-	-	2.272	-	-	3.68	4	3.318	3.95	4.018	3.408
Pot Cap-1 Maneuver	1296	-	-	1081	-	-	222	278	616	162	273	763
Stage 1	-	-	-	-	-	-	530	554	-	527	590	-
Stage 2	-	-	-	-	-	-	545	593	-	387	546	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1295	-	-	1067	-	-	154	248	607	68	244	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	275	355	-	68	244	-
Stage 1	-	-	-	-	-	-	514	537	-	517	543	-
Stage 2	-	-	-	-	-	-	425	546	-	177	529	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			2.2			27.5			34.1		
HCM LOS							D			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	511	1295	-	-	1067	-	-	221
HCM Lane V/C Ratio	0.71	0.018	-	-	0.078	-	-	0.452
HCM Control Delay (s)	27.5	7.8	-	-	8.7	-	-	34.1
HCM Lane LOS	D	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	5.6	0.1	-	-	0.3	-	-	2.2

Intersection						
Int Delay, s/veh	8.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	220	190	54	155	97
Future Vol, veh/h	47	220	190	54	155	97
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	79	79	79	79	79	79
Heavy Vehicles, %	3	0	0	0	13	2
Mvmt Flow	59	278	241	68	196	123

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	790	275	0	0	309
Stage 1	275	-	-	-	-
Stage 2	515	-	-	-	-
Critical Hdwy	6.43	6.2	-	-	4.23
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.527	3.3	-	-	2.317
Pot Cap-1 Maneuver	358	769	-	-	1192
Stage 1	769	-	-	-	-
Stage 2	598	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	295	769	-	-	1192
Mov Cap-2 Maneuver	295	-	-	-	-
Stage 1	769	-	-	-	-
Stage 2	493	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.5	0	5.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	599	1192
HCM Lane V/C Ratio	-	-	0.564	0.165
HCM Control Delay (s)	-	-	18.5	8.6
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	3.5	0.6

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	196	13	34	23	8	233
Future Vol, veh/h	196	13	34	23	8	233
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	5	1	1	1	1	5
Mvmt Flow	248	16	43	29	10	295
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	10.7	8.2	9.5
HCM LOS	B	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	94%	0%	3%
Vol Thru, %	6%	60%	0%
Vol Right, %	0%	40%	97%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	209	57	241
LT Vol	196	0	8
Through Vol	13	34	0
RT Vol	0	23	233
Lane Flow Rate	265	72	305
Geometry Grp	1	1	1
Degree of Util (X)	0.361	0.094	0.354
Departure Headway (Hd)	4.916	4.668	4.176
Convergence, Y/N	Yes	Yes	Yes
Cap	730	763	860
Service Time	2.965	2.726	2.205
HCM Lane V/C Ratio	0.363	0.094	0.355
HCM Control Delay	10.7	8.2	9.5
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.6	0.3	1.6

Intersection

Intersection Delay, s/veh 10.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	20	69	130	26	24	50	64	105	17	42	53
Future Vol, veh/h	32	20	69	130	26	24	50	64	105	17	42	53
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	41	25	87	165	33	30	63	81	133	22	53	67
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	9.6	11.2	11.2	9.6
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	26%	72%	15%
Vol Thru, %	29%	17%	14%	38%
Vol Right, %	48%	57%	13%	47%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	121	180	112
LT Vol	50	32	130	17
Through Vol	64	20	26	42
RT Vol	105	69	24	53
Lane Flow Rate	277	153	228	142
Geometry Grp	1	1	1	1
Degree of Util (X)	0.387	0.219	0.34	0.204
Departure Headway (Hd)	5.02	5.157	5.378	5.182
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	721	695	668	692
Service Time	3.02	3.193	3.411	3.218
HCM Lane V/C Ratio	0.384	0.22	0.341	0.205
HCM Control Delay	11.2	9.6	11.2	9.6
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.8	0.8	1.5	0.8

HCM 6th TWSC
 14: Street A (Access) & Parr Rd NE

08/10/2022

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	136	6	10	166	14	24
Future Vol, veh/h	136	6	10	166	14	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	5	1	1	5	1	1
Mvmt Flow	172	8	13	210	18	30

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	180	0	412
Stage 1	-	-	-	-	176
Stage 2	-	-	-	-	236
Critical Hdwy	-	-	4.11	-	6.41
Critical Hdwy Stg 1	-	-	-	-	5.41
Critical Hdwy Stg 2	-	-	-	-	5.41
Follow-up Hdwy	-	-	2.209	-	3.509
Pot Cap-1 Maneuver	-	-	1402	-	598
Stage 1	-	-	-	-	857
Stage 2	-	-	-	-	806
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1402	-	593
Mov Cap-2 Maneuver	-	-	-	-	593
Stage 1	-	-	-	-	857
Stage 2	-	-	-	-	799

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	742	-	-	1402	-
HCM Lane V/C Ratio	0.065	-	-	0.009	-
HCM Control Delay (s)	10.2	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th TWSC
15: Parr Rd NE & Stubb Rd NE

08/10/2022

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	8	148	4	2	156	6	11	18	7	14	6	8
Future Vol, veh/h	8	148	4	2	156	6	11	18	7	14	6	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	59	59	59	59	59	59	59	59	59	59	59	59
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	50
Mvmt Flow	14	251	7	3	264	10	19	31	12	24	10	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	274	0	0	258	0	0	570	563	255	579	561	269
Stage 1	-	-	-	-	-	-	283	283	-	275	275	-
Stage 2	-	-	-	-	-	-	287	280	-	304	286	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	1301	-	-	1318	-	-	435	438	789	429	439	667
Stage 1	-	-	-	-	-	-	728	681	-	736	686	-
Stage 2	-	-	-	-	-	-	725	683	-	710	679	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1301	-	-	1318	-	-	415	432	789	396	433	667
Mov Cap-2 Maneuver	-	-	-	-	-	-	415	432	-	396	433	-
Stage 1	-	-	-	-	-	-	720	674	-	728	685	-
Stage 2	-	-	-	-	-	-	698	682	-	660	672	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.1			13.9			13.8		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	467	1301	-	-	1318	-	-	457
HCM Lane V/C Ratio	0.131	0.01	-	-	0.003	-	-	0.104
HCM Control Delay (s)	13.9	7.8	-	-	7.7	-	-	13.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔	↔		↔	↔
Traffic Vol, veh/h	95	99	62	33	79	3	50	120	17	1	110	72
Future Vol, veh/h	95	99	62	33	79	3	50	120	17	1	110	72
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, %	4	0	0	0	0	0	2	2	6	0	6	9
Mvmt Flow	110	115	72	38	92	3	58	140	20	1	128	84
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	10.8	10.1	11.8	10
HCM LOS	B	B	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	29%	0%	100%	0%	100%	0%	1%	0%
Vol Thru, %	71%	0%	0%	61%	0%	96%	99%	0%
Vol Right, %	0%	100%	0%	39%	0%	4%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	17	95	161	33	82	111	72
LT Vol	50	0	95	0	33	0	1	0
Through Vol	120	0	0	99	0	79	110	0
RT Vol	0	17	0	62	0	3	0	72
Lane Flow Rate	198	20	110	187	38	95	129	84
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.343	0.03	0.201	0.296	0.072	0.164	0.219	0.128
Departure Headway (Hd)	6.244	5.386	6.541	5.694	6.722	6.188	6.097	5.487
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	575	664	549	631	533	579	589	652
Service Time	3.986	3.127	4.281	3.434	4.468	3.935	3.839	3.228
HCM Lane V/C Ratio	0.344	0.03	0.2	0.296	0.071	0.164	0.219	0.129
HCM Control Delay	12.2	8.3	10.9	10.8	10	10.2	10.6	9
HCM Lane LOS	B	A	B	B	A	B	B	A
HCM 95th-tile Q	1.5	0.1	0.7	1.2	0.2	0.6	0.8	0.4

Intersection						
Intersection Delay, s/veh	6.7					
Intersection LOS	A					
Approach	EB		WB		NB	
Entry Lanes	2		2		1	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	758		735		534	
Demand Flow Rate, veh/h	771		743		541	
Vehicles Circulating, veh/h	469		106		551	
Vehicles Exiting, veh/h	380		551		689	
Ped Vol Crossing Leg, #/h	1		0		0	
Ped Cap Adj	0.999		1.000		1.000	
Approach Delay, s/veh	11.8		5.6		1.0	
Approach LOS	B		A		A	
Lane	Left	Right	Left	Right	Left	Bypass
Designated Moves	LT	R	L	LTR	L	R
Assumed Moves	LT	R	L	LTR	L	R
RT Channelized						Free
Lane Util	0.715	0.285	0.530	0.470	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	435
Entry Flow, veh/h	551	220	394	349	106	1750
Cap Entry Lane, veh/h	877	953	1224	1298	889	1.000
Entry HV Adj Factor	0.980	0.991	0.989	0.990	0.934	435
Flow Entry, veh/h	540	218	390	346	99	1750
Cap Entry, veh/h	859	944	1211	1285	830	0.249
V/C Ratio	0.629	0.231	0.322	0.269	0.119	0.0
Control Delay, s/veh	14.2	6.1	6.0	5.2	5.5	A
LOS	B	A	A	A	A	1
95th %tile Queue, veh	5	1	1	1	0	

HCM Signalized Intersection Capacity Analysis

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↗		↗
Traffic Volume (vph)	0	902	533	0	864	766	0	0	0	755	0	420
Future Volume (vph)	0	902	533	0	864	766	0	0	0	755	0	420
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)		3292	1458		3260	1411				3193		1473
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3292	1458		3260	1411				3193		1473
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)	0	949	561	0	909	806	0	0	0	795	0	442
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	82
Lane Group Flow (vph)	0	949	561	0	909	806	0	0	0	795	0	360
Confl. Peds. (#/hr)	6					6	4					
Heavy Vehicles (%)	0%	1%	2%	0%	2%	3%	0%	0%	0%	1%	0%	1%
Turn Type		NA	Free		NA	Free				Prot		Prot
Protected Phases		2			6					4		4
Permitted Phases			Free			Free						
Actuated Green, G (s)		57.3	100.0		57.3	100.0				33.7		33.7
Effective Green, g (s)		57.8	100.0		57.8	100.0				34.2		34.2
Actuated g/C Ratio		0.58	1.00		0.58	1.00				0.34		0.34
Clearance Time (s)		4.5			4.5					4.5		4.5
Vehicle Extension (s)		6.0			4.0					2.5		2.5
Lane Grp Cap (vph)		1902	1458		1884	1411				1092		503
v/s Ratio Prot		0.29			0.28					c0.25		0.24
v/s Ratio Perm			0.38			c0.57						
v/c Ratio		0.50	0.38		0.48	0.57				0.73		0.72
Uniform Delay, d1		12.5	0.0		12.3	0.0				28.8		28.7
Progression Factor		1.00	1.00		0.76	1.00				1.00		1.00
Incremental Delay, d2		0.9	0.8		0.7	1.2				2.3		4.5
Delay (s)		13.5	0.8		10.1	1.2				31.1		33.2
Level of Service		B	A		B	A				C		C
Approach Delay (s)		8.7			5.9			0.0			31.9	
Approach LOS		A			A			A			C	

Intersection Summary

HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	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

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

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	902	533	0	864	766	0	0	0	755	0	420
Future Volume (veh/h)	0	902	533	0	864	766	0	0	0	755	0	420
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	1736	1723	0	1723	1709				1736	0	1736
Adj Flow Rate, veh/h	0	949	0	0	909	0				795	0	358
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	1	2	0	2	3				1	0	1
Cap, veh/h	0	2003		0	1988					1003	0	460
Arrive On Green	0.00	0.61	0.00	0.00	0.81	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	3386	1460	0	3359	1448				3208	0	1471
Grp Volume(v), veh/h	0	949	0	0	909	0				795	0	358
Grp Sat Flow(s),veh/h/ln	0	1650	1460	0	1637	1448				1604	0	1471
Q Serve(g_s), s	0.0	15.9	0.0	0.0	8.5	0.0				22.6	0.0	22.1
Cycle Q Clear(g_c), s	0.0	15.9	0.0	0.0	8.5	0.0				22.6	0.0	22.1
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2003		0	1988					1003	0	460
V/C Ratio(X)	0.00	0.47		0.00	0.46					0.79	0.00	0.78
Avail Cap(c_a), veh/h	0	2003		0	1988					1155	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.66	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.8	0.0	0.0	4.6	0.0				31.4	0.0	31.2
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.5	0.0				3.2	0.0	5.9
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	5.6	0.0	0.0	2.2	0.0				9.0	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.6	0.0	0.0	5.1	0.0				34.6	0.0	37.1
LnGrp LOS	A	B		A	A					C	A	D
Approach Vol, veh/h		949	A		909	A					1153	
Approach Delay, s/veh		11.6			5.1						35.3	
Approach LOS		B			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		64.7		35.3		64.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		55.5		35.5		55.5						
Max Q Clear Time (g_c+I1), s		17.9		24.6		10.5						
Green Ext Time (p_c), s		25.2		6.1		19.3						

Intersection Summary

HCM 6th Ctrl Delay	18.7
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

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↘	↑	↗			
Traffic Volume (vph)	0	1385	271	0	1319	491	311	0	688	0	0	0
Future Volume (vph)	0	1385	271	0	1319	491	311	0	688	0	0	0
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			
Lane Util. Factor		0.95	1.00		0.95	1.00	1.00	0.95	0.95			
Frbp, ped/bikes		1.00	0.97		1.00	0.99	1.00	0.99	0.99			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00			
Frt		1.00	0.85		1.00	0.85	1.00	0.85	0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)		3292	1428		3260	1423	1630	1367	1367			
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)		3292	1428		3260	1423	1630	1367	1367			
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)	0	1458	285	0	1388	517	327	0	724	0	0	0
RTOR Reduction (vph)	0	0	111	0	0	202	0	22	22	0	0	0
Lane Group Flow (vph)	0	1458	174	0	1388	315	327	340	340	0	0	0
Confl. Peds. (#/hr)	6		5	5		6			1	1		1
Heavy Vehicles (%)	0%	1%	1%	0%	2%	3%	2%	0%	2%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm	Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases			2			6			8			
Actuated Green, G (s)		60.5	60.5		60.5	60.5	29.6	29.6	29.6			
Effective Green, g (s)		61.0	61.0		61.0	61.0	31.0	31.0	31.0			
Actuated g/C Ratio		0.61	0.61		0.61	0.61	0.31	0.31	0.31			
Clearance Time (s)		4.5	4.5		4.5	4.5	5.4	5.4	5.4			
Vehicle Extension (s)		4.0	4.0		6.0	6.0	2.5	2.5	2.5			
Lane Grp Cap (vph)		2008	871		1988	868	505	423	423			
v/s Ratio Prot		c0.44			0.43		0.20	c0.25				
v/s Ratio Perm			0.12			0.22			0.25			
v/c Ratio		0.73	0.20		0.70	0.36	0.65	0.80	0.80			
Uniform Delay, d1		13.7	8.7		13.2	9.8	29.8	31.7	31.7			
Progression Factor		0.96	1.72		0.45	0.90	1.00	1.00	1.00			
Incremental Delay, d2		1.9	0.4		1.0	0.6	2.5	10.3	10.3			
Delay (s)		15.0	15.3		7.0	9.3	32.3	42.0	42.0			
Level of Service		B	B		A	A	C	D	D			
Approach Delay (s)		15.1			7.7			39.0			0.0	
Approach LOS		B			A			D			A	

Intersection Summary		
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.75	B
Actuated Cycle Length (s)	100.0	Sum of lost time (s)
Intersection Capacity Utilization	79.2%	8.0
Analysis Period (min)	15	ICU Level of Service
		D

c Critical Lane Group

HCM 6th Signalized Intersection Summary

3: I-5 NB Ramps & OR 214/219/OR 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	1385	271	0	1319	491	311	0	688	0	0	0
Future Volume (veh/h)	0	1385	271	0	1319	491	311	0	688	0	0	0
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	1736	1736	0	1723	1709	1723	1750	1723			
Adj Flow Rate, veh/h	0	1458	0	0	1388	0	327	0	682			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	1	1	0	2	3	2	0	2			
Cap, veh/h	0	2032		0	2016		499	0	886			
Arrive On Green	0.00	0.62	0.00	0.00	1.00	0.00	0.30	0.00	0.30			
Sat Flow, veh/h	0	3386	1471	0	3359	1448	1641	0	2915			
Grp Volume(v), veh/h	0	1458	0	0	1388	0	327	0	682			
Grp Sat Flow(s),veh/h/ln	0	1650	1471	0	1637	1448	1641	0	1458			
Q Serve(g_s), s	0.0	30.4	0.0	0.0	0.0	0.0	17.3	0.0	21.3			
Cycle Q Clear(g_c), s	0.0	30.4	0.0	0.0	0.0	0.0	17.3	0.0	21.3			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2032		0	2016		499	0	886			
V/C Ratio(X)	0.00	0.72		0.00	0.69		0.66	0.00	0.77			
Avail Cap(c_a), veh/h	0	2032		0	2016		591	0	1049			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.76	0.00	0.00	0.43	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	13.2	0.0	0.0	0.0	0.0	30.3	0.0	31.6			
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.8	0.0	1.7	0.0	2.7			
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	10.6	0.0	0.0	0.2	0.0	7.0	0.0	7.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.9	0.0	0.0	0.8	0.0	32.0	0.0	34.3			
LnGrp LOS	A	B		A	A		C	A	C			
Approach Vol, veh/h		1458	A		1388	A		1009				
Approach Delay, s/veh		14.9			0.8			33.6				
Approach LOS		B			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		65.6				65.6		34.4				
Change Period (Y+Rc), s		4.5				4.5		5.4				
Max Green Setting (Gmax), s		55.5				55.5		34.6				
Max Q Clear Time (g_c+I1), s		32.4				2.0		23.3				
Green Ext Time (p_c), s		19.3				45.1		5.7				

Intersection Summary

HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

User approved changes to right turn type.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (vph)	45	88	1106	535	12	240	1005	29	684	32	191	38
Future Volume (vph)	45	88	1106	535	12	240	1005	29	684	32	191	38
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	0.98		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)		1599	3167	1443		1631	3095		1519	1525	1454	1583
Flt Permitted		0.12	1.00	1.00		0.11	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		205	3167	1443		187	3095		1519	1525	1454	1583
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)	47	93	1164	563	13	253	1058	31	720	34	201	40
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	140	1164	563	0	266	1087	0	374	380	201	40
Confl. Peds. (#/hr)											2	2
Confl. Bikes (#/hr)				1				1			2	
Heavy Vehicles (%)	0%	6%	5%	1%	0%	2%	7%	4%	4%	7%	1%	5%
Turn Type	pm+pt	pm+pt	NA	Free	custom	pm+pt	NA		Split	NA	Free	Split
Protected Phases	5	5	2			1	6		4	4		8
Permitted Phases	2	2		Free	1	6					Free	
Actuated Green, G (s)		42.5	32.8	100.0		53.0	39.3		25.5	25.5	100.0	8.0
Effective Green, g (s)		42.5	33.3	100.0		53.0	39.8		26.0	26.0	100.0	8.5
Actuated g/C Ratio		0.42	0.33	1.00		0.53	0.40		0.26	0.26	1.00	0.08
Clearance Time (s)		4.0	4.5			4.0	4.5		4.5	4.5		4.5
Vehicle Extension (s)		2.5	6.2			2.5	6.2		2.5	2.5		2.5
Lane Grp Cap (vph)		222	1054	1443		333	1231		394	396	1454	134
v/s Ratio Prot		0.06	c0.37			c0.13	0.35		0.25	c0.25		0.03
v/s Ratio Perm		0.21		c0.39		0.29					0.14	
v/c Ratio		0.63	1.10	0.39		0.80	0.88		0.95	0.96	0.14	0.30
Uniform Delay, d1		20.4	33.4	0.0		25.7	27.9		36.4	36.5	0.0	43.0
Progression Factor		0.83	1.04	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		3.4	57.1	0.5		12.2	9.4		32.1	34.4	0.2	0.9
Delay (s)		20.3	91.6	0.5		37.9	37.3		68.5	70.8	0.2	43.9
Level of Service		C	F	A		D	D		E	E	A	D
Approach Delay (s)			58.8				37.4			55.0		
Approach LOS			E				D			E		
Intersection Summary												
HCM 2000 Control Delay			49.8				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			86.5%				ICU Level of Service			E		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (vph)	37	87
Future Volume (vph)	37	87
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	0.99
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1699	1373
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1699	1373
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	39	92
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	39	92
Confl. Peds. (#/hr)		2
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	7%
Turn Type	NA	Free
Protected Phases	8	
Permitted Phases		Free
Actuated Green, G (s)	8.0	100.0
Effective Green, g (s)	8.5	100.0
Actuated g/C Ratio	0.08	1.00
Clearance Time (s)	4.5	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	144	1373
v/s Ratio Prot	0.02	
v/s Ratio Perm		0.07
v/c Ratio	0.27	0.07
Uniform Delay, d1	42.8	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.7	0.1
Delay (s)	43.6	0.1
Level of Service	D	A
Approach Delay (s)	20.3	
Approach LOS	C	
Intersection Summary		

HCM 6th Signalized Intersection Summary

4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↕	↗		↔	↕		↖	↕	↗	↘
Traffic Volume (veh/h)	45	88	1106	535	12	240	1005	29	684	32	191	38
Future Volume (veh/h)	45	88	1106	535	12	240	1005	29	684	32	191	38
Initial Q (Qb), veh		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		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
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1668	1682	1736		1723	1654	1695	1695	1654	1736	1682
Adj Flow Rate, veh/h		93	1164	0		253	1058	31	744	0	0	40
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		6	5	1		2	7	4	4	7	1	5
Cap, veh/h		257	1258			284	1421	42	819	0		126
Arrive On Green		0.02	0.52	0.00		0.11	0.61	0.45	0.25	0.00	0.00	0.08
Sat Flow, veh/h		1589	3195	1471		1641	3116	91	3229	0	1471	1602
Grp Volume(v), veh/h		93	1164	0		253	534	555	744	0	0	40
Grp Sat Flow(s),veh/h/ln		1589	1598	1471		1641	1572	1636	1615	0	1471	1602
Q Serve(g_s), s		3.5	33.7	0.0		9.2	24.4	24.6	22.3	0.0	0.0	2.4
Cycle Q Clear(g_c), s		3.5	33.7	0.0		9.2	24.4	24.6	22.3	0.0	0.0	2.4
Prop In Lane		1.00		1.00		1.00		0.06	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		257	1258			284	717	746	819	0		126
V/C Ratio(X)		0.36	0.93			0.89	0.74	0.74	0.91	0.00		0.32
Avail Cap(c_a), veh/h		397	1258			327	717	746	840	0		256
HCM Platoon Ratio		0.33	1.33	0.33		1.00	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.59	0.59	0.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		19.4	22.5	0.0		23.0	15.5	15.9	36.2	0.0	0.0	43.6
Incr Delay (d2), s/veh		0.4	8.4	0.0		21.9	6.9	6.7	13.3	0.0	0.0	1.1
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
%ile BackOfQ(50%),veh/ln		1.3	12.1	0.0		5.0	8.3	8.8	10.2	0.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		19.8	30.9	0.0		44.9	22.4	22.6	49.5	0.0	0.0	44.6
LnGrp LOS		B	C			D	C	C	D	A		D
Approach Vol, veh/h			1257	A			1342			744	A	
Approach Delay, s/veh			30.0				26.7			49.5		
Approach LOS			C				C			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	43.4		29.4	9.2	49.6		11.8				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	14.0	27.5		25.5	14.0	27.5		15.5				
Max Q Clear Time (g_c+I1), s	11.2	35.7		24.3	5.5	26.6		4.4				
Green Ext Time (p_c), s	0.3	0.0		0.5	0.2	0.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
 4: Evergreen Road & OR 214/Hwy 214

08/10/2022



Movement	SBT	SBR
Lane Configurations	↑	↗
Traffic Volume (veh/h)	37	87
Future Volume (veh/h)	37	87
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1709	1654
Adj Flow Rate, veh/h	39	0
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	3	7
Cap, veh/h	134	
Arrive On Green	0.08	0.00
Sat Flow, veh/h	1709	1402
Grp Volume(v), veh/h	39	0
Grp Sat Flow(s),veh/h/ln	1709	1402
Q Serve(g_s), s	2.2	0.0
Cycle Q Clear(g_c), s	2.2	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	134	
V/C Ratio(X)	0.29	
Avail Cap(c_a), veh/h	273	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(l)	1.00	0.00
Uniform Delay (d), s/veh	43.5	0.0
Incr Delay (d2), s/veh	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	44.3	0.0
LnGrp LOS	D	
Approach Vol, veh/h	79	A
Approach Delay, s/veh	44.5	
Approach LOS	D	

Timer - Assigned Phs

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	639	427	145	744	101	321	158	92	147	280	177
Future Volume (vph)	122	639	427	145	744	101	321	158	92	147	280	177
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	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1646	1716	1447	1662	1699	1445	1662	1733	1488	1646	1716	1488
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)	1646	1716	1447	1662	1699	1445	1662	1733	1488	1646	1716	1488
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	123	645	431	146	752	102	324	160	93	148	283	179
RTOR Reduction (vph)	0	0	47	0	0	32	0	0	60	0	0	92
Lane Group Flow (vph)	123	645	384	146	752	70	324	160	33	148	283	87
Confl. Peds. (#/hr)	1		6	6		1	6					
Heavy Vehicles (%)	1%	2%	0%	0%	3%	1%	0%	1%	0%	1%	2%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	13.5	73.0	106.3	15.5	75.0	92.9	33.3	43.4	58.9	17.9	28.0	41.5
Effective Green, g (s)	14.0	74.0	107.3	16.0	76.0	93.9	33.8	44.4	59.9	18.4	29.0	42.5
Actuated g/C Ratio	0.08	0.44	0.64	0.09	0.45	0.56	0.20	0.26	0.35	0.11	0.17	0.25
Clearance Time (s)	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5
Vehicle Extension (s)	2.5	4.8	2.5	2.5	4.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	136	752	919	157	764	803	332	455	528	179	294	374
v/s Ratio Prot	0.07	0.38	0.08	c0.09	c0.44	0.01	c0.19	0.09	0.01	0.09	c0.16	0.02
v/s Ratio Perm			0.18			0.04			0.02			0.04
v/c Ratio	0.90	0.86	0.42	0.93	0.98	0.09	0.98	0.35	0.06	0.83	0.96	0.23
Uniform Delay, d1	76.7	42.7	15.3	75.8	45.8	17.5	67.1	50.5	35.9	73.6	69.4	50.2
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	49.1	10.3	0.2	50.8	28.6	0.0	42.5	0.3	0.0	25.2	42.1	0.2
Delay (s)	125.8	53.0	15.5	126.7	74.4	17.5	109.6	50.9	36.0	98.9	111.5	50.4
Level of Service	F	D	B	F	E	B	F	D	D	F	F	D
Approach Delay (s)		47.0			76.2			81.4			90.5	
Approach LOS		D			E			F			F	

Intersection Summary

HCM 2000 Control Delay	69.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	168.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
 5: Settlemier Ave/Boones Ferry Rd & Hwy 214

08/10/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	639	427	145	744	101	321	158	92	147	280	177
Future Volume (veh/h)	122	639	427	145	744	101	321	158	92	147	280	177
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		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	1736	1723	1750	1750	1709	1736	1750	1736	1750	1736	1723	1750
Adj Flow Rate, veh/h	123	645	431	146	752	102	324	160	93	148	283	179
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	0	0	3	1	0	1	0	1	2	0
Cap, veh/h	136	759	942	157	773	811	334	463	526	172	294	371
Arrive On Green	0.08	0.44	0.44	0.09	0.45	0.45	0.20	0.27	0.26	0.10	0.17	0.17
Sat Flow, veh/h	1654	1723	1473	1667	1709	1462	1667	1736	1466	1654	1723	1483
Grp Volume(v), veh/h	123	645	431	146	752	102	324	160	93	148	283	179
Grp Sat Flow(s),veh/h/ln	1654	1723	1473	1667	1709	1462	1667	1736	1466	1654	1723	1483
Q Serve(g_s), s	12.5	56.9	25.4	14.8	73.1	5.7	32.8	12.6	7.4	15.0	27.7	17.5
Cycle Q Clear(g_c), s	12.5	56.9	25.4	14.8	73.1	5.7	32.8	12.6	7.4	15.0	27.7	17.5
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	136	759	942	157	773	811	334	463	526	172	294	371
V/C Ratio(X)	0.90	0.85	0.46	0.93	0.97	0.13	0.97	0.35	0.18	0.86	0.96	0.48
Avail Cap(c_a), veh/h	136	761	943	157	775	812	334	463	526	243	294	371
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	77.3	42.5	15.7	76.4	45.5	18.2	67.4	50.3	37.4	74.8	69.9	54.3
Incr Delay (d2), s/veh	48.5	9.7	0.7	51.2	25.8	0.1	41.3	0.3	0.1	17.1	42.0	0.7
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	7.2	26.3	9.0	8.6	36.3	2.0	17.9	5.7	2.8	7.2	15.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.8	52.1	16.4	127.6	71.2	18.3	108.8	50.6	37.5	91.9	111.9	55.0
LnGrp LOS	F	D	B	F	E	B	F	D	D	F	F	E
Approach Vol, veh/h		1199			1000			577			610	
Approach Delay, s/veh		46.8			74.1			81.2			90.4	
Approach LOS		D			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	78.9	38.0	33.0	18.0	80.9	21.7	49.3				
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	15.5	74.0	33.5	28.0	13.5	76.0	24.5	37.0				
Max Q Clear Time (g_c+I1), s	16.8	58.9	34.8	29.7	14.5	75.1	17.0	14.6				
Green Ext Time (p_c), s	0.0	12.1	0.0	0.0	0.0	0.8	0.3	1.0				

Intersection Summary

HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

HCM 6th TWSC
6: Evergreen Rd/Evergreen Road & Stacy Allison Way

08/10/2022

Intersection												
Int Delay, s/veh	10.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Traffic Vol, veh/h	210	2	63	2	3	4	23	532	4	3	681	125
Future Vol, veh/h	210	2	63	2	3	4	23	532	4	3	681	125
Conflicting Peds, #/hr	15	0	2	2	0	15	4	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	50	-	-	25	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	1	0	0	0	0	0	0	1	0	0	3	2
Mvmt Flow	214	2	64	2	3	4	23	543	4	3	695	128

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1379	1365	765	1394	1427	563	827	0	0	550	0	0
Stage 1	769	769	-	594	594	-	-	-	-	-	-	-
Stage 2	610	596	-	800	833	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 122	149	406	120	136	530	813	-	-	1030	-	-
Stage 1	395	413	-	495	496	-	-	-	-	-	-	-
Stage 2	483	495	-	382	386	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 114	143	404	97	131	521	810	-	-	1027	-	-
Mov Cap-2 Maneuver	241	266	-	97	131	-	-	-	-	-	-	-
Stage 1	382	410	-	480	481	-	-	-	-	-	-	-
Stage 2	456	480	-	318	383	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	61.9		26.6		0.4		0	
HCM LOS	F		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	810	-	-	241	398	176	1027	-	-
HCM Lane V/C Ratio	0.029	-	-	0.889	0.167	0.052	0.003	-	-
HCM Control Delay (s)	9.6	-	-	76.2	15.8	26.6	8.5	-	-
HCM Lane LOS	A	-	-	F	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	7.4	0.6	0.2	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	99.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	38	66	0	143	117	120	2	389	97	165	523	60
Future Vol, veh/h	38	66	0	143	117	120	2	389	97	165	523	60
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, %	0	0	0	1	0	0	0	1	1	2	2	0
Mvmt Flow	40	69	0	149	122	125	2	405	101	172	545	63
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	16.9	40.4	98	141.8
HCM LOS	C	E	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	37%	38%	100%	0%
Vol Thru, %	0%	80%	63%	31%	0%	90%
Vol Right, %	0%	20%	0%	32%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	486	104	380	165	583
LT Vol	2	0	38	143	165	0
Through Vol	0	389	66	117	0	523
RT Vol	0	97	0	120	0	60
Lane Flow Rate	2	506	108	396	172	607
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.005	1.092	0.275	0.831	0.397	1.307
Departure Headway (Hd)	8.856	8.208	10.113	8.213	8.618	8.023
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	407	446	357	443	421	455
Service Time	6.556	5.908	8.113	6.213	6.318	5.723
HCM Lane V/C Ratio	0.005	1.135	0.303	0.894	0.409	1.334
HCM Control Delay	11.6	98.4	16.9	40.4	16.9	177.2
HCM Lane LOS	B	F	C	E	C	F
HCM 95th-tile Q	0	16.2	1.1	7.9	1.9	25.8

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↵			↵	↵	
Traffic Vol, veh/h	49	0	168	435	560	73
Future Vol, veh/h	49	0	168	435	560	73
Conflicting Peds, #/hr	0	5	5	0	0	3
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	53	0	183	473	609	79

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1493	-	693	0	-	0
Stage 1	654	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	137	0	912	-	-	-
Stage 1	521	0	-	-	-	-
Stage 2	427	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	-	908	-	-	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	377	-	-	-	-	-
Stage 2	425	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	77.4	2.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	908	-	99	-	-
HCM Lane V/C Ratio	0.201	-	0.538	-	-
HCM Control Delay (s)	10	0	77.4	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.7	-	2.4	-	-

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻				↻		↻			↻	
Traffic Vol, veh/h	0	33	176	0	0	44	0	559	5	23	537	0
Future Vol, veh/h	0	33	176	0	0	44	0	559	5	23	537	0
Conflicting Peds, #/hr	0	0	5	5	0	0	5	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	36	191	0	0	48	0	608	5	25	584	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	-	1250	589	-	-	614	-	0	0	616	0	0
Stage 1	-	634	-	-	-	-	-	-	-	-	-	-
Stage 2	-	616	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	6.2	-	-	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.3	-	-	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	174	512	0	0	496	0	-	-	974	-	0
Stage 1	0	476	-	0	0	-	0	-	-	-	-	0
Stage 2	0	485	-	0	0	-	0	-	-	-	-	0
Platoon blocked, %												
Mov Cap-1 Maneuver	-	167	510	-	-	495	-	-	-	971	-	-
Mov Cap-2 Maneuver	-	167	-	-	-	-	-	-	-	-	-	-
Stage 1	-	458	-	-	-	-	-	-	-	-	-	-
Stage 2	-	484	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	26.9		13		0		0.4	
HCM LOS	D		B					

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	385	495	971	-
HCM Lane V/C Ratio	-	-	0.59	0.097	0.026	-
HCM Control Delay (s)	-	-	26.9	13	8.8	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	3.6	0.3	0.1	-

HCM 6th TWSC
10: Harvard Dr & Evergreen Rd

08/10/2022

Intersection												
Int Delay, s/veh	45.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	12	297	25	174	385	5	6	61	137	21	139	41
Future Vol, veh/h	12	297	25	174	385	5	6	61	137	21	139	41
Conflicting Peds, #/hr	1	0	1	1	0	1	13	0	6	6	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	1	0	0	0	20	0	0	0	0	0	0
Mvmt Flow	13	334	28	196	433	6	7	69	154	24	156	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	440	0	0	363	0	0	1317	1207	355	1321	1218	450
Stage 1	-	-	-	-	-	-	375	375	-	829	829	-
Stage 2	-	-	-	-	-	-	942	832	-	492	389	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1131	-	-	1207	-	-	136	185	693	135	182	613
Stage 1	-	-	-	-	-	-	650	621	-	368	388	-
Stage 2	-	-	-	-	-	-	318	387	-	562	612	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1130	-	-	1206	-	-	-	153	688	71	~ 150	605
Mov Cap-2 Maneuver	-	-	-	-	-	-	87	247	-	71	~ 150	-
Stage 1	-	-	-	-	-	-	642	613	-	364	324	-
Stage 2	-	-	-	-	-	-	126	324	-	381	604	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	2.6		287.5
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1130	-	-	1206	-	-	156
HCM Lane V/C Ratio	-	0.012	-	-	0.162	-	-	1.448
HCM Control Delay (s)	-	8.2	-	-	8.6	-	-	287.5
HCM Lane LOS	-	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	-	0	-	-	0.6	-	-	14.6

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 7.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	48	150	117	50	199	227
Future Vol, veh/h	48	150	117	50	199	227
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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	65	203	158	68	269	307

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1037	192	0
Stage 1	192	-	-
Stage 2	845	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	258	855	-
Stage 1	845	-	-
Stage 2	425	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	196	855	-
Mov Cap-2 Maneuver	196	-	-
Stage 1	845	-	-
Stage 2	323	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.2	0	3.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	471	1354
HCM Lane V/C Ratio	-	-	0.568	0.199
HCM Control Delay (s)	-	-	22.2	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	3.5	0.7

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	36	23	17	27	175
Future Vol, veh/h	213	36	23	17	27	175
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	1	1	1	1	2
Mvmt Flow	288	49	31	23	36	236
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	11.7	8.1	9.6
HCM LOS	B	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	0%	13%
Vol Thru, %	14%	57%	0%
Vol Right, %	0%	42%	87%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	249	40	202
LT Vol	213	0	27
Through Vol	36	23	0
RT Vol	0	17	175
Lane Flow Rate	336	54	273
Geometry Grp	1	1	1
Degree of Util (X)	0.447	0.07	0.332
Departure Headway (Hd)	4.782	4.689	4.375
Convergence, Y/N	Yes	Yes	Yes
Cap	750	759	822
Service Time	2.83	2.75	2.408
HCM Lane V/C Ratio	0.448	0.071	0.332
HCM Control Delay	11.7	8.1	9.6
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2.3	0.2	1.5

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	29	17	57	88	26	24	67	51	112	21	57	42
Future Vol, veh/h	29	17	57	88	26	24	67	51	112	21	57	42
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	23	77	119	35	32	91	69	151	28	77	57
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	9.5	10.5	11.3	9.6
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	28%	64%	17%
Vol Thru, %	22%	17%	19%	48%
Vol Right, %	49%	55%	17%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	103	138	120
LT Vol	67	29	88	21
Through Vol	51	17	26	57
RT Vol	112	57	24	42
Lane Flow Rate	311	139	186	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.418	0.199	0.278	0.229
Departure Headway (Hd)	4.845	5.158	5.369	5.081
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	749	696	669	707
Service Time	2.845	3.192	3.4	3.111
HCM Lane V/C Ratio	0.415	0.2	0.278	0.229
HCM Control Delay	11.3	9.5	10.5	9.6
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	2.1	0.7	1.1	0.9

HCM 6th TWSC
 14: Street A (Access) & Parr Rd NE

08/10/2022

Intersection

Int Delay, s/veh 1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	135	15	25	128	10	16
Future Vol, veh/h	135	15	25	128	10	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	1	1	2	1	1
Mvmt Flow	182	20	34	173	14	22

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	202
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.11
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.209
Pot Cap-1 Maneuver	-	-	1376
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1376
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	714	-	-	1376	-
HCM Lane V/C Ratio	0.049	-	-	0.025	-
HCM Control Delay (s)	10.3	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	8	133	12	8	136	10	7	12	5	9	20	10
Future Vol, veh/h	8	133	12	8	136	10	7	12	5	9	20	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	3	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	153	14	9	156	11	8	14	6	10	23	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	167	0	0	167	0	0	375	363	160	368	365	162
Stage 1	-	-	-	-	-	-	178	178	-	180	180	-
Stage 2	-	-	-	-	-	-	197	185	-	188	185	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1423	-	-	1423	-	-	586	568	890	592	566	888
Stage 1	-	-	-	-	-	-	828	756	-	826	754	-
Stage 2	-	-	-	-	-	-	809	751	-	818	751	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1423	-	-	1423	-	-	555	561	890	572	559	888
Mov Cap-2 Maneuver	-	-	-	-	-	-	555	561	-	572	559	-
Stage 1	-	-	-	-	-	-	823	751	-	821	749	-
Stage 2	-	-	-	-	-	-	769	746	-	793	746	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.4			11.2			11.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	1423	-	-	1423	-	-	621
HCM Lane V/C Ratio	0.046	0.006	-	-	0.006	-	-	0.072
HCM Control Delay (s)	11.2	7.5	-	-	7.5	-	-	11.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

HCM 6th AWSC
 16: S Settlemier Ave & Parr Rd NE/S Front S

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Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	89	66	39	107	4	50	147	31	4	152	105
Future Vol, veh/h	103	89	66	39	107	4	50	147	31	4	152	105
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, %	10	0	5	0	1	0	0	0	3	0	0	2
Mvmt Flow	116	100	74	44	120	4	56	165	35	4	171	118
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	11.6	11.1	12.8	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	0%	100%	0%	100%	0%	3%	0%
Vol Thru, %	75%	0%	0%	57%	0%	96%	97%	0%
Vol Right, %	0%	100%	0%	43%	0%	4%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	31	103	155	39	111	156	105
LT Vol	50	0	103	0	39	0	4	0
Through Vol	147	0	0	89	0	107	152	0
RT Vol	0	31	0	66	0	4	0	105
Lane Flow Rate	221	35	116	174	44	125	175	118
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.399	0.055	0.228	0.295	0.087	0.229	0.309	0.184
Departure Headway (Hd)	6.488	5.648	7.077	6.094	7.113	6.596	6.345	5.621
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	553	630	506	587	502	541	564	635
Service Time	4.254	3.414	4.842	3.858	4.885	4.367	4.112	3.387
HCM Lane V/C Ratio	0.4	0.056	0.229	0.296	0.088	0.231	0.31	0.186
HCM Control Delay	13.5	8.7	11.9	11.4	10.6	11.3	12	9.7
HCM Lane LOS	B	A	B	B	B	B	B	A
HCM 95th-tile Q	1.9	0.2	0.9	1.2	0.3	0.9	1.3	0.7

Intersection: 1: Butteville Rd & OR 219

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	LT	L
Maximum Queue (ft)	112	75	107	82	65
Average Queue (ft)	45	17	34	9	13
95th Queue (ft)	88	52	80	42	44
Link Distance (ft)	992		1093	1093	1655
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: OR 219/OR 214/219 & I-5 SB Ramps

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	202	229	190	189	210	260	248
Average Queue (ft)	82	94	89	90	70	146	12
95th Queue (ft)	155	187	163	172	164	234	100
Link Distance (ft)	1032	1032	692	692		1270	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					675		450
Storage Blk Time (%)		0					
Queuing Penalty (veh)		1					

Intersection: 3: I-5 NB Ramps & OR 214/219/OR 214

Movement	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	284	311	400	598	210	598	732	370
Average Queue (ft)	134	163	147	227	7	216	365	282
95th Queue (ft)	229	264	299	433	108	469	610	411
Link Distance (ft)	692	692	804	804			1302	
Upstream Blk Time (%)				0				
Queuing Penalty (veh)				0				
Storage Bay Dist (ft)					425	610		270
Storage Blk Time (%)				0		0	17	6
Queuing Penalty (veh)				4		0	94	45

Intersection: 4: Evergreen Road & OR 214/Hwy 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)	289	537	562	400	420	626	660	530	726	435	64	61
Average Queue (ft)	85	248	258	44	107	310	415	502	698	361	12	19
95th Queue (ft)	204	423	435	225	282	556	652	620	796	623	44	52
Link Distance (ft)		804	804			723	723		703			313
Upstream Blk Time (%)						0	1		36			
Queuing Penalty (veh)						0	0		270			
Storage Bay Dist (ft)	230			300	415			430		335	180	
Storage Blk Time (%)		11	6		0	2		18	81	0		3
Queuing Penalty (veh)		11	13		1	2		97	431	1		1

Intersection: 4: Evergreen Road & OR 214/Hwy 214

Movement	SB
Directions Served	R
Maximum Queue (ft)	28
Average Queue (ft)	2
95th Queue (ft)	22
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	60
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 5: Settlemier Ave/Boones Ferry Rd & Hwy 214

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	450	1181	350	419	718	270	300	1113	205	178	225	146
Average Queue (ft)	222	760	217	84	386	60	295	788	39	71	103	52
95th Queue (ft)	465	1345	477	232	624	226	315	1235	128	137	189	110
Link Distance (ft)		1185			1105			1205				1567
Upstream Blk Time (%)		10						1				
Queuing Penalty (veh)		0						3				
Storage Bay Dist (ft)	350		250	320		170	200		105	370		895
Storage Blk Time (%)	0	35			34		59	18	0			
Queuing Penalty (veh)	4	131			40		153	90	0			

Intersection: 6: Evergreen Rd/Evergreen Road & Stacy Allison Way

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	LTR	L	TR	L	TR
Maximum Queue (ft)	200	756	15	149	478	31	25
Average Queue (ft)	175	562	2	20	299	1	2
95th Queue (ft)	250	1003	12	89	587	16	15
Link Distance (ft)		709	416		463		703
Upstream Blk Time (%)		61			10		
Queuing Penalty (veh)		0			61		
Storage Bay Dist (ft)	100			50		25	
Storage Blk Time (%)	85	0		0	44	0	0
Queuing Penalty (veh)	18	0		0	11	1	0

Intersection: 7: Evergreen Rd & Hayes St

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	TR	L	TR
Maximum Queue (ft)	128	344	1071	63	138
Average Queue (ft)	46	108	573	31	63
95th Queue (ft)	93	231	1201	58	106
Link Distance (ft)	512	659	1100		463
Upstream Blk Time (%)			4		
Queuing Penalty (veh)			22		
Storage Bay Dist (ft)				135	
Storage Blk Time (%)			78		0
Queuing Penalty (veh)			0		0

Intersection: 8: Settlemier Ave & Hayes St N

Movement	EB	NB	SB
Directions Served	L	LT	TR
Maximum Queue (ft)	74	89	56
Average Queue (ft)	22	25	2
95th Queue (ft)	58	72	25
Link Distance (ft)	396	62	1205
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		8	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Settlemier Ave & Hayes St

Movement	EB	WB	NB	SB
Directions Served	TR	R	TR	LT
Maximum Queue (ft)	56	34	94	66
Average Queue (ft)	26	10	10	4
95th Queue (ft)	52	28	53	30
Link Distance (ft)	309	534	530	62
Upstream Blk Time (%)				0
Queuing Penalty (veh)				1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Harvard Dr & Evergreen Rd

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	69	373	65	12	419	121
Average Queue (ft)	9	50	21	0	177	49
95th Queue (ft)	58	289	54	6	481	102
Link Distance (ft)		820		1100	616	600
Upstream Blk Time (%)		0			10	
Queuing Penalty (veh)		0			0	
Storage Bay Dist (ft)	100		100			
Storage Blk Time (%)		7	0			
Queuing Penalty (veh)		1	0			

Intersection: 11: Butteville Rd NE & Parr Rd NE

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	163	11	112
Average Queue (ft)	59	0	29
95th Queue (ft)	123	8	76
Link Distance (ft)	3323	1336	1416
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Industrial/Parr Rd NE & Evergreen

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	86	95	85	89
Average Queue (ft)	43	43	43	39
95th Queue (ft)	69	72	69	66
Link Distance (ft)	977	705	1005	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Parr Rd NE & Stubb Rd NE

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	14	7	57	76
Average Queue (ft)	0	0	24	21
95th Queue (ft)	7	5	54	57
Link Distance (ft)			476	1692
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: S Settlemier Ave & Parr Rd NE/S Front S

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	85	106	41	66	107	39	81	55
Average Queue (ft)	39	52	20	35	43	9	38	21
95th Queue (ft)	70	84	46	58	75	30	66	40
Link Distance (ft)		3022		647	528		760	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	105		75			85		140
Storage Blk Time (%)	0	0	0	0	0	0		
Queuing Penalty (veh)	0	0	0	0	0	0		

Network Summary

Network wide Queuing Penalty: 1518

Intersection: 1: OR 219

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	LT	L
Maximum Queue (ft)	405	233	67	31	78
Average Queue (ft)	124	36	19	4	16
95th Queue (ft)	305	174	53	22	48
Link Distance (ft)	992		1093	1093	1655
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)	6				
Queuing Penalty (veh)	12				

Intersection: 2: OR 219/OR 214/219 & I-5 SB Ramps

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	T	T	L	L	R
Maximum Queue (ft)	485	515	350	338	362	275	317	247
Average Queue (ft)	206	252	45	170	187	147	196	29
95th Queue (ft)	357	431	239	280	307	253	294	147
Link Distance (ft)	1032	1032		692	692		1270	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			250			675		450
Storage Blk Time (%)		7						
Queuing Penalty (veh)		39						

Intersection: 3: I-5 NB Ramps & OR 214/219/OR 214

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	R	T	T	R	L	TR	R
Maximum Queue (ft)	542	565	130	450	736	315	464	554	316
Average Queue (ft)	303	338	13	163	338	22	213	271	191
95th Queue (ft)	502	534	166	344	607	193	462	739	335
Link Distance (ft)	692	692		804	804			1302	
Upstream Blk Time (%)	0	0			0			4	
Queuing Penalty (veh)	0	1			4			0	
Storage Bay Dist (ft)			550			425	610		270
Storage Blk Time (%)		1			2		0	9	9
Queuing Penalty (veh)		3			9		1	58	55

Intersection: 4: Evergreen Road & OR 214/Hwy 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)	330	827	828	400	495	739	758	530	725	435	103	104
Average Queue (ft)	179	517	527	259	207	475	565	486	667	367	38	37
95th Queue (ft)	371	908	917	519	407	785	823	635	819	622	81	81
Link Distance (ft)		804	804			723	723		703			313
Upstream Blk Time (%)		3	4			5	11		27			
Queuing Penalty (veh)		34	41			0	0		192			
Storage Bay Dist (ft)	230			300	415			430		335	180	
Storage Blk Time (%)	0	35	29	0	1	7		14	84	0		9
Queuing Penalty (veh)	0	47	143	1	6	19		78	438	1		11

Intersection: 4: Evergreen Road & OR 214/Hwy 214

Movement	SB
Directions Served	R
Maximum Queue (ft)	118
Average Queue (ft)	15
95th Queue (ft)	67
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	60
Storage Blk Time (%)	1
Queuing Penalty (veh)	1

Intersection: 5: Settlemier Ave/Boones Ferry Rd & Hwy 214

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	450	1232	350	420	1149	270	300	1206	155	470	1530	995
Average Queue (ft)	224	1193	293	268	1091	76	289	886	35	354	996	479
95th Queue (ft)	466	1329	479	481	1303	266	336	1468	134	619	1658	1188
Link Distance (ft)		1185			1105			1205				1567
Upstream Blk Time (%)		37			45			4				9
Queuing Penalty (veh)		0			0			18				0
Storage Bay Dist (ft)	350		250	320		170	200		105	370		895
Storage Blk Time (%)	0	41	1	1	49		66	18	0			72
Queuing Penalty (veh)	3	226	6	11	120		164	73	0			232

Intersection: 6: Evergreen Rd/Evergreen Road & Stacy Allison Way

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	LTR	L	TR	L	TR
Maximum Queue (ft)	200	754	35	129	470	23	223
Average Queue (ft)	192	649	4	22	187	1	28
95th Queue (ft)	223	950	19	91	463	10	136
Link Distance (ft)		709	416		463		703
Upstream Blk Time (%)		80			3		
Queuing Penalty (veh)		0			17		
Storage Bay Dist (ft)	100			50		25	
Storage Blk Time (%)	97	0		1	29	0	3
Queuing Penalty (veh)	56	1		3	6	2	0

Intersection: 7: Evergreen Rd & Hayes St

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	103	405	117	796	184	440
Average Queue (ft)	45	159	4	347	100	188
95th Queue (ft)	81	324	48	759	203	359
Link Distance (ft)	512	659		1100		463
Upstream Blk Time (%)				0		1
Queuing Penalty (veh)				0		7
Storage Bay Dist (ft)			85		135	
Storage Blk Time (%)				70	0	28
Queuing Penalty (veh)				1	1	46

Intersection: 8: Settlemier Ave & Hayes St N

Movement	EB	NB	SB
Directions Served	L	LT	TR
Maximum Queue (ft)	201	84	129
Average Queue (ft)	71	59	10
95th Queue (ft)	157	82	65
Link Distance (ft)	396	62	1205
Upstream Blk Time (%)		13	
Queuing Penalty (veh)		79	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Settlemier Ave & Hayes St

Movement	EB	WB	NB	SB
Directions Served	TR	R	TR	LT
Maximum Queue (ft)	176	94	387	67
Average Queue (ft)	70	26	119	13
95th Queue (ft)	124	77	320	50
Link Distance (ft)	309	534	530	62
Upstream Blk Time (%)			0	1
Queuing Penalty (veh)			0	4
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Harvard Dr & Evergreen Rd

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	34	55	69	59	217	220
Average Queue (ft)	7	6	34	4	78	89
95th Queue (ft)	29	30	65	26	156	163
Link Distance (ft)		820		1100	616	600
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100		100			
Storage Blk Time (%)		0	0	0		
Queuing Penalty (veh)		0	0	0		

Intersection: 11: Butteville Rd NE & Parr Rd NE

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	113	5	94
Average Queue (ft)	47	0	23
95th Queue (ft)	84	4	63
Link Distance (ft)	3323	1336	1416
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Industrial/Parr Rd NE & Evergreen

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	73	66	86	68
Average Queue (ft)	40	35	41	37
95th Queue (ft)	62	53	65	59
Link Distance (ft)	977	705	1005	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Parr Rd NE & Stubb Rd NE

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	14	28	40	41
Average Queue (ft)	0	1	20	23
95th Queue (ft)	5	12	49	50
Link Distance (ft)			476	1692
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: S Settlemier Ave & Parr Rd NE/S Front S

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	94	112	46	75	96	44	81	63
Average Queue (ft)	42	52	22	40	48	14	40	23
95th Queue (ft)	75	89	48	65	81	33	69	43
Link Distance (ft)		3022		647	528		760	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	105		75			85		140
Storage Blk Time (%)	0	0	0	0	0	0		
Queuing Penalty (veh)	0	0	0	0	0	0		

Network Summary

Network wide Queuing Penalty: 2271

Intersection: 1: OR 219

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	LT	L
Maximum Queue (ft)	119	100	97	47	85
Average Queue (ft)	44	15	36	9	15
95th Queue (ft)	92	58	77	36	51
Link Distance (ft)	992		1093	1093	1655
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		225			
Storage Blk Time (%)		0			0
Queuing Penalty (veh)		0			0

Intersection: 2: OR 219/OR 214/219 & I-5 SB Ramps

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	206	232	226	236	184	232	227
Average Queue (ft)	83	101	91	97	65	138	18
95th Queue (ft)	166	189	174	191	152	215	119
Link Distance (ft)	1032	1032	692	692		1270	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					675		450
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

Intersection: 3: I-5 NB Ramps & OR 214/219/OR 214

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	LTR	R
Maximum Queue (ft)	274	310	383	684	598	824	370
Average Queue (ft)	133	163	147	229	193	349	272
95th Queue (ft)	232	270	305	448	437	663	409
Link Distance (ft)	692	692	804	804		1302	
Upstream Blk Time (%)				0		1	
Queuing Penalty (veh)				0		0	
Storage Bay Dist (ft)					610		270
Storage Blk Time (%)				0	0	15	6
Queuing Penalty (veh)				3	0	83	46

Intersection: 4: Evergreen Road & OR 214/Hwy 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)	287	452	516	304	487	718	741	530	726	435	59	62
Average Queue (ft)	83	229	244	50	125	389	469	491	698	338	16	17
95th Queue (ft)	176	366	401	213	319	726	761	620	787	633	49	48
Link Distance (ft)		804	804			723	723		703			313
Upstream Blk Time (%)						2	7		39			
Queuing Penalty (veh)						0	0		301			
Storage Bay Dist (ft)	230			300	415			430		335	180	
Storage Blk Time (%)		9	4		0	4		18	82	0		2
Queuing Penalty (veh)		9	11		0	5		104	448	0		1

Intersection: 4: Evergreen Road & OR 214/Hwy 214

Movement	SB
Directions Served	R
Maximum Queue (ft)	46
Average Queue (ft)	2
95th Queue (ft)	24
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	60
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 5: Settlemier Ave/Boones Ferry Rd & Hwy 214

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	450	1234	350	368	657	270	300	1042	205	159	209	144
Average Queue (ft)	215	807	193	90	378	71	287	614	40	75	108	52
95th Queue (ft)	445	1404	458	265	608	243	340	1095	136	140	189	110
Link Distance (ft)		1185			1105			1205				1567
Upstream Blk Time (%)		14						0				
Queuing Penalty (veh)		0						1				
Storage Bay Dist (ft)	350		250	320		170	200		105	370		895
Storage Blk Time (%)		37			35		52	17	0			
Queuing Penalty (veh)		141			42		137	84	2			

Intersection: 6: Evergreen Rd/Evergreen Road & Stacy Allison Way

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	LTR	L	TR	L	TR
Maximum Queue (ft)	200	742	14	149	477	12	23
Average Queue (ft)	176	571	2	32	332	0	1
95th Queue (ft)	248	1009	10	120	606	4	11
Link Distance (ft)		709	416		463		703
Upstream Blk Time (%)		71			12		
Queuing Penalty (veh)		0			78		
Storage Bay Dist (ft)	100			50		25	
Storage Blk Time (%)	87			0	47	0	0
Queuing Penalty (veh)	19			1	14	1	0

Intersection: 7: Evergreen Rd & Hayes St

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	TR	L	TR
Maximum Queue (ft)	146	299	1116	69	132
Average Queue (ft)	52	109	806	29	67
95th Queue (ft)	108	225	1437	59	107
Link Distance (ft)	512	659	1100		463
Upstream Blk Time (%)			12		
Queuing Penalty (veh)			72		
Storage Bay Dist (ft)				135	
Storage Blk Time (%)			86		0
Queuing Penalty (veh)			0		0

Intersection: 8: Settlemier Ave & Hayes St N

Movement	EB	NB	SB
Directions Served	L	LT	TR
Maximum Queue (ft)	57	86	21
Average Queue (ft)	20	24	0
95th Queue (ft)	51	70	6
Link Distance (ft)	396	62	1205
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		8	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Settlemier Ave & Hayes St

Movement	EB	WB	NB	SB
Directions Served	TR	R	TR	LT
Maximum Queue (ft)	65	29	116	57
Average Queue (ft)	30	9	14	4
95th Queue (ft)	58	24	80	26
Link Distance (ft)	309	534	530	62
Upstream Blk Time (%)				0
Queuing Penalty (veh)				1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Harvard Dr & Evergreen Rd

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	166	495	66	22	642	211
Average Queue (ft)	21	159	24	1	364	64
95th Queue (ft)	111	588	56	12	767	200
Link Distance (ft)		820		1100	616	600
Upstream Blk Time (%)		9			33	
Queuing Penalty (veh)		0			0	
Storage Bay Dist (ft)	100		100			
Storage Blk Time (%)		23	0			
Queuing Penalty (veh)		4	0			

Intersection: 11: Butteville Rd NE & Parr Rd NE

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	198	5	122
Average Queue (ft)	68	0	35
95th Queue (ft)	137	4	83
Link Distance (ft)	3329	1336	1416
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Parr Rd NE/Street H (Access)

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	85	57	101
Average Queue (ft)	41	31	54
95th Queue (ft)	62	55	85
Link Distance (ft)	3329	618	1005
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Industrial/Parr Rd NE & Evergreen

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	90	96	79
Average Queue (ft)	43	45	42	43
95th Queue (ft)	68	73	66	67
Link Distance (ft)	977	699	1005	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Street A (Access) & Parr Rd NE

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	6	52
Average Queue (ft)	0	25
95th Queue (ft)	5	53
Link Distance (ft)		447
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Parr Rd NE & Stubb Rd NE

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	21	27	51	64
Average Queue (ft)	1	1	23	23
95th Queue (ft)	10	10	53	57
Link Distance (ft)			428	1692
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: S Settlemier Ave & Parr Rd NE/S Front S

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	79	90	42	72	77	37	77	73
Average Queue (ft)	41	54	22	36	42	9	36	25
95th Queue (ft)	72	82	47	59	68	28	63	52
Link Distance (ft)		3022		647	528		760	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	105		75			85		140
Storage Blk Time (%)	0	0	0	0	0			
Queuing Penalty (veh)	0	0	0	0	0			

Network Summary

Network wide Queuing Penalty: 1616

Intersection: 1: OR 219

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	LT	L
Maximum Queue (ft)	648	223	59	47	73
Average Queue (ft)	208	54	19	5	22
95th Queue (ft)	615	230	49	27	57
Link Distance (ft)	992		1093	1093	1655
Upstream Blk Time (%)	2				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		225			
Storage Blk Time (%)	16				
Queuing Penalty (veh)	33				

Intersection: 2: OR 219/OR 214/219 & I-5 SB Ramps

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	T	T	L	L	R
Maximum Queue (ft)	562	539	348	288	328	336	386	244
Average Queue (ft)	227	238	38	149	158	163	222	37
95th Queue (ft)	416	405	218	246	265	307	345	164
Link Distance (ft)	1032	1032		692	692		1270	
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)			250			675		450
Storage Blk Time (%)		7						
Queuing Penalty (veh)		40						

Intersection: 3: I-5 NB Ramps & OR 214/219/OR 214

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	R	T	T	R	L	TR	R
Maximum Queue (ft)	634	699	649	476	783	315	642	1048	370
Average Queue (ft)	341	376	27	154	254	14	227	325	244
95th Queue (ft)	570	604	240	333	525	156	476	744	391
Link Distance (ft)	692	692		804	804			1302	
Upstream Blk Time (%)	0	0			0			1	
Queuing Penalty (veh)	0	3			4			0	
Storage Bay Dist (ft)			550			425	610		270
Storage Blk Time (%)		3			1	0	0	13	13
Queuing Penalty (veh)		7			3	0	2	84	87

Intersection: 4: Evergreen Road & OR 214/Hwy 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)	330	831	834	400	515	758	780	530	725	435	97	111
Average Queue (ft)	217	635	642	323	243	493	562	458	625	337	38	39
95th Queue (ft)	416	991	993	537	492	812	846	641	842	629	84	90
Link Distance (ft)		804	804			723	723		703			313
Upstream Blk Time (%)		6	7			7	14		23			
Queuing Penalty (veh)		59	70			0	0		174			
Storage Bay Dist (ft)	230			300	415			430		335	180	
Storage Blk Time (%)	2	42	37	0	2	13		20	80	0		10
Queuing Penalty (veh)	11	55	199	2	11	32		112	424	1		13

Intersection: 4: Evergreen Road & OR 214/Hwy 214

Movement	SB
Directions Served	R
Maximum Queue (ft)	115
Average Queue (ft)	11
95th Queue (ft)	59
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	60
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 5: Settlemier Ave/Boones Ferry Rd & Hwy 214

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	450	1232	350	420	1154	270	300	1202	173	470	1130	707
Average Queue (ft)	214	1168	280	297	1116	102	294	937	26	289	729	294
95th Queue (ft)	446	1401	483	500	1198	308	322	1385	114	574	1520	879
Link Distance (ft)		1185			1105			1205				1567
Upstream Blk Time (%)		37			46			4				13
Queuing Penalty (veh)		0			0			17				0
Storage Bay Dist (ft)	350		250	320		170	200		105	370		895
Storage Blk Time (%)	0	41	0	12	48		71	22		1	49	
Queuing Penalty (veh)	1	226	0	100	119		177	91		3	158	

Intersection: 6: Evergreen Rd/Evergreen Road & Stacy Allison Way

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	LTR	L	TR	L	TR
Maximum Queue (ft)	200	728	27	108	415	11	328
Average Queue (ft)	196	686	3	19	173	1	65
95th Queue (ft)	207	889	16	73	484	7	248
Link Distance (ft)		709	416		463		703
Upstream Blk Time (%)		86			4		
Queuing Penalty (veh)		0			20		
Storage Bay Dist (ft)	100			50		25	
Storage Blk Time (%)	100	1		1	25	0	9
Queuing Penalty (veh)	65	2		6	6	1	0

Intersection: 7: Evergreen Rd & Hayes St

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	107	399	87	662	185	483
Average Queue (ft)	47	158	3	368	140	304
95th Queue (ft)	81	343	39	882	247	527
Link Distance (ft)	512	659		1100		463
Upstream Blk Time (%)				0		4
Queuing Penalty (veh)				2		32
Storage Bay Dist (ft)			85		135	
Storage Blk Time (%)				71	0	60
Queuing Penalty (veh)				1	0	100

Intersection: 8: Settlemier Ave & Hayes St N

Movement	EB	NB	SB
Directions Served	L	LT	TR
Maximum Queue (ft)	197	90	93
Average Queue (ft)	76	61	7
95th Queue (ft)	222	81	45
Link Distance (ft)	396	62	1205
Upstream Blk Time (%)	3	11	
Queuing Penalty (veh)	0	66	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Settlemier Ave & Hayes St

Movement	EB	WB	NB	SB
Directions Served	TR	R	TR	LT
Maximum Queue (ft)	167	97	304	60
Average Queue (ft)	69	26	84	15
95th Queue (ft)	121	67	204	52
Link Distance (ft)	309	534	530	62
Upstream Blk Time (%)				1
Queuing Penalty (veh)				4
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Harvard Dr & Evergreen Rd

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	34	68	80	52	219	230
Average Queue (ft)	5	8	37	5	95	98
95th Queue (ft)	23	40	69	28	176	183
Link Distance (ft)		820		1100	616	600
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100		100			
Storage Blk Time (%)		0	0			
Queuing Penalty (veh)		0	0			

Intersection: 11: Butteville Rd NE & Parr Rd NE

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	196	10	96
Average Queue (ft)	55	1	27
95th Queue (ft)	130	7	71
Link Distance (ft)	3329	1336	1416
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Parr Rd NE/Street H (Access)

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	75	51	76
Average Queue (ft)	42	27	43
95th Queue (ft)	65	53	65
Link Distance (ft)	3329	618	1005
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Industrial/Parr Rd NE & Evergreen

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	74	68	74	79
Average Queue (ft)	41	38	40	42
95th Queue (ft)	62	57	57	67
Link Distance (ft)	977	699	1005	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Street A (Access) & Parr Rd NE

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	32	46
Average Queue (ft)	4	20
95th Queue (ft)	21	50
Link Distance (ft)		447
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Parr Rd NE & Stubb Rd NE

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	20	14	46	56
Average Queue (ft)	1	1	20	26
95th Queue (ft)	11	12	50	52
Link Distance (ft)			428	1692
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: S Settlemier Ave & Parr Rd NE/S Front S

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	95	99	52	89	94	44	81	66
Average Queue (ft)	48	50	26	44	47	14	40	25
95th Queue (ft)	83	80	50	72	81	33	69	48
Link Distance (ft)		3022		647	528		760	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	105		75			85		140
Storage Blk Time (%)	0	0	0	1	1			
Queuing Penalty (veh)	0	0	0	0	0			

Network Summary

Network wide Queuing Penalty: 2622
