



U.S. Department of Transportation  
Federal Highway Administration

## **Traffic Analysis/ Roundabout Study**

Kansas Lane – Garrett Road  
Connector and I-20 Interchange  
Improvements, Route I-20  
Environmental Assessment  
Ouachita Parish, Louisiana

Supplemental Agreement No. 1 and  
PO No. 2-48018  
State Project No. H.004774.5  
F.A.P. No. IM-3704(508)

27 June 2014



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Prepared for:

Louisiana Department of  
Transportation and Development and  
Federal Highway Administration

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- E SIDRA Reports
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### Executive Summary

The Kansas Lane – Garrett Road Connector and Interstate 20 (I-20) Interchange Improvements project has been proposed to improve the connection between Kansas Lane and Garrett Road in the vicinity of their intersections with Millhaven Road (LA 594) in eastern Monroe, Ouachita Parish, Louisiana. Figure ES-1 illustrates the study area for this proposed project.

Figure ES-1. Study Area





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### Development of Roadway Alternatives

An Environmental Assessment (EA) completed in 2011 proposed the following improvements in the study area with the goal of improving safety, mobility, and connectivity:

1. Widen Garrett Road from two lanes to four lanes between Huntington Drive and Millhaven Road.
2. Tie Garrett Road into Kansas Lane via an elevated connector.
3. Provide one-directional frontage roads on both sides of the connector that connect Garrett Road to Millhaven Road.

It is projected that the westbound I-20 ramp intersection with Garrett Road will experience a heavy volume of turning traffic in the year 2035. Therefore, the 2011 EA included additional signal control improvements for this intersection:

1. Construction of a cloverleaf ramp for the westbound on-ramp to I-20 for traffic traveling north on Garrett Road.
2. Construction of an additional bypass lane for the I-20 westbound on-ramp for traffic traveling south on Garrett Road.

The Louisiana Department of Transportation and Development (LADOTD) is seeking alternatives to the improvements proposed in the 2011 EA with the intention of minimizing the final footprint of the interchange while maintaining or improving safety and mobility for the study area.

Research and project evaluation studies throughout the country indicate that roundabouts often offer improved safety, less delay, and a smaller number of lanes than signal control. Therefore, roundabout intersection control instead of signal control has been identified as a promising solution for the Kansas Lane – Garrett Road Connector and I-20 interchange.

This Traffic Analysis/Roundabout Study supplements the 2011 EA by presenting a comparative analysis of stop-controlled, signal-controlled, and roundabout-controlled operations for the study intersections initially analyzed as a part of the 2011 EA. However, because a roundabout is expected to accommodate demand at the Garrett Road and I-20 westbound ramp intersection without the need for a bypass or a cloverleaf ramp, the analysis excluded these additional improvements proposed in the





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2011 EA. The resulting roadway configuration is a compact design that works well with the existing configuration of the interchange ramps and adjacent roadway network.

The roadway configuration proposed as a part of this study was analyzed with the various intersection controls for existing (2013) conditions, design year (2035) no-build conditions, and design year (2035) build conditions.

### **Existing Condition Analysis**

Recent crash history in the study area was evaluated based on crash data provided by LADOTD for the period from 2010 through 2012. During the 3-year analysis period, “rear-end” crashes with other vehicles were the most frequent, with a total of 38 such crashes, followed by “right-angle” crashes, with a total of 15 crashes. Ten were left-/right-turn crashes and 3 were head-on incidents.

Operational analyses of existing conditions indicate that the eastbound and westbound ramp intersections along Garrett Road operate at Level of Service (LOS) F (unacceptable levels) during the p.m. peak period. The remaining intersections operate at LOS D or better during both the a.m. and p.m. peak periods.

### **Future Year (2035) No-Build Analysis**

The design year no-build analysis predicts traffic demand for 2035 conditions under the existing roadway configuration. Traffic volumes for 2035 were developed using ambient background traffic growth for the study area and projected traffic from land development projects identified for the study area. The analysis indicates that the intersections of Kansas Lane and Millhaven Road and Garrett Road and Millhaven Road function at acceptable LOS (C or better), while the remaining intersections operate at a failing LOS (F).

Travel demand projections for design year (2035) build conditions accounted for the presence of latent demand, i.e., demand that would only be served as a result of implementation of capacity improvements for congested areas. Latent demand was quantified through the use of the Ouachita Council of Governments Metropolitan Planning Organization base and future year travel demand models. Build condition volume projections for year 2035 indicated that Garrett Road will experience additional volumes of 31 percent to 38 percent for build conditions as compared to no-build conditions due to latent demand.



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### Future Year (2035) Build Analysis and Conclusion

An analysis of build conditions with stop control indicates that none of the study intersections will operate at an acceptable LOS. These failing LOS are a result of high levels of delay experienced by the stop-controlled turning movements for the minor street.

An analysis of build conditions with signal control indicates that the signal control option results in better operations than the stop control option. Most of the study intersections operate with high volume to capacity (v/c) ratios (between 0.75 and 1), with v/c ratios exceeding 1.0 at the I-20 eastbound ramp and the Millhaven Road intersections along Garrett Road. The signal control option results in less than desirable conditions at these intersections.

In addition to the stop and signal control scenarios, three roundabout alternatives were analyzed:

- Build Alternative 1 – Separate roundabouts at the intersections of Garrett Road/I-20 eastbound ramps and Garrett Road/South Frontage Road;
- Build Alternative 2 – A roundabout combining the intersections at Garrett Road/I-20 eastbound ramps and Garrett Road/South Frontage Road; and
- Build Alternative 3 – A roundabout at the intersection of Garrett Road/I-20 eastbound ramps and a U-turn roundabout south of the intersection of Garrett Road/South Frontage Road.

Capacity analyses were performed for the three build alternatives with roundabouts in accordance with LADOTD Engineering Directives and Standards Manual VI.1.1.5.

Results indicate that Alternative 1, which includes roundabouts at all study intersections, provides better operational benefits than a stop and signal-control option with all intersection approaches functioning with low delays and the highest LOS.

Results of the analysis for Alternative 2 indicates that the combined roundabout in Alternative 2 operates at LOS D or better. However, the intersection v/c is 1.15, which is mainly due to the insufficient capacity to serve the left-turn movement on the I-20 Eastbound Ramp approach. The higher delays for the eastbound approach from the Eastbound off-ramp is accompanied by a significant queue that is projected to exceed



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1,800 feet. These queues point to unacceptable roundabout operations for the combined roundabout.

If Build Alternative 3, which includes a roundabout south of the South Frontage Road intersection, is implemented, all study intersections would operate at LOS A with minimal delays. However, Alternative 3 includes movement restrictions at the South Frontage Road and Garrett Road intersections and includes one additional intersection/conflict area as compared to the other two roundabout alternatives.

In summary, the roundabout alternatives outperform the signal and stop control options. Alternative 1, which includes roundabouts at all study intersections, provides the greatest operational benefits, with all intersections functioning with low delays and the highest level of service. In comparison to signal control, the roundabout option also provides a compact footprint for intersection approaches that accommodate heavy turning movements.

A breakdown year analysis indicates that Alternative 1 would function acceptably for the longest period of time as a single-lane roundabout before widening to a multi-lane roundabout is required. This indicates that Alternative 1 offers the better resilience and longevity of the alternatives in addition to the lowest operating delays. Alternative 3 includes additional delay for vehicles on South Frontage Road due to the elimination of the left-turn function. Most importantly, Alternative 3 includes an additional intersection/conflict area (U-turn roundabout) as compared to the roadway configuration for Alternative 1, making Alternative 1 the better option from a safety perspective. Therefore, it is recommended that Alternative 1 be considered as the preferred option for the study area. The final recommended configuration is shown on Figures ES-2 and ES-3.



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Figure ES-2. Preferred Roundabout Alternative (Part 1)





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Figure ES-3. Preferred Roundabout Alternative (Part 2)





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### **1. Introduction**

The Louisiana Department of Transportation and Development (LADOTD) has retained ARCADIS U.S., Inc. (ARCADIS) to perform an additional traffic analysis and roundabout study under Supplemental Agreement No. 1 and PO No. 2-48018 for the Kansas Lane – Garrett Road Connector and Interstate 20 (I-20) Interchange Improvements project. The project area is located near I-20 at the Garrett Road interchange in the city of Monroe, Louisiana, within Ouachita Parish.

The purpose of the proposed Kansas Lane – Garrett Road Connector and I-20 Interchange Improvements project is to ease traffic congestion in the area of the proposed project. Proposed improvements include widening the existing Garrett Road from two lanes to four, connecting Garrett Road and Kansas Lane with an overpass over the Kansas City Southern Railroad and Millhaven Road (LA 594), and improving interstate access from Garrett Road. The Kansas Lane – Garrett Road Connector and I-20 Interchange Improvements Environmental Assessment (EA) dated February 5, 2011, analyzed the proposed improvements along with signalized controls at the I-20 ramp terminal intersections in addition to other study intersections. The EA determined that signalization of the ramps also required additional improvements to maintain acceptable operations.

The focus of this supplemental study is to present a comparative analysis of the operations of stop-controlled and signal-controlled intersections to those with roundabouts. Projected traffic operations for the study intersections with roundabouts were compared to unsignalized and signalized conditions to determine the preferred solution for the study locations.

ARCADIS performed the roundabout study in accordance with LADOTD's Engineering Directives and Standards Manual (EDSM) VI.1.1.5. Traffic forecasts were performed for the design year (2035), and capacity analyses were performed for a.m. and p.m. peak hours for existing conditions and for design year no-build and build conditions. Historical crash data for potential roundabout locations were also analyzed.

### **2. Study Area**

The study area for the capacity analyses consists of:

- Kansas Lane approximately 1,600 feet north of LA 594;
- Garrett Road between LA 594 and South Frontage Road; and



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- LA 594 from 1,000 feet west of Garrett Road and 3,000 feet east of Garrett Road

The study area is shown on Figure 1.

Currently, Garrett Road is a two-way, two-lane urban minor arterial road with two signalized and three primary unsignalized intersections in the study area. Kansas Lane is a two-way, four-lane urban minor arterial road with one signalized intersection along the study corridor. Millhaven Road is a two-way, five-lane urban minor arterial road, with one signalized and one primary unsignalized intersection in the study area.

The posted speed limit on Garrett Road, Kansas Lane, and Millhaven Road is 45 miles per hour in the study area. Both Garrett Road and Kansas Lane are owned and maintained by the City of Monroe, while Millhaven Road is owned and maintained by LADOTD. I-20 is a divided two-way, four-lane interstate highway in the study area.

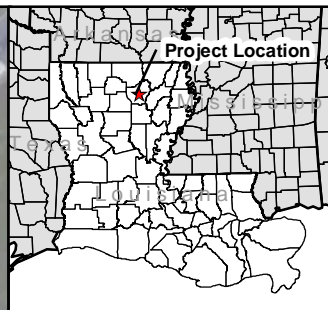
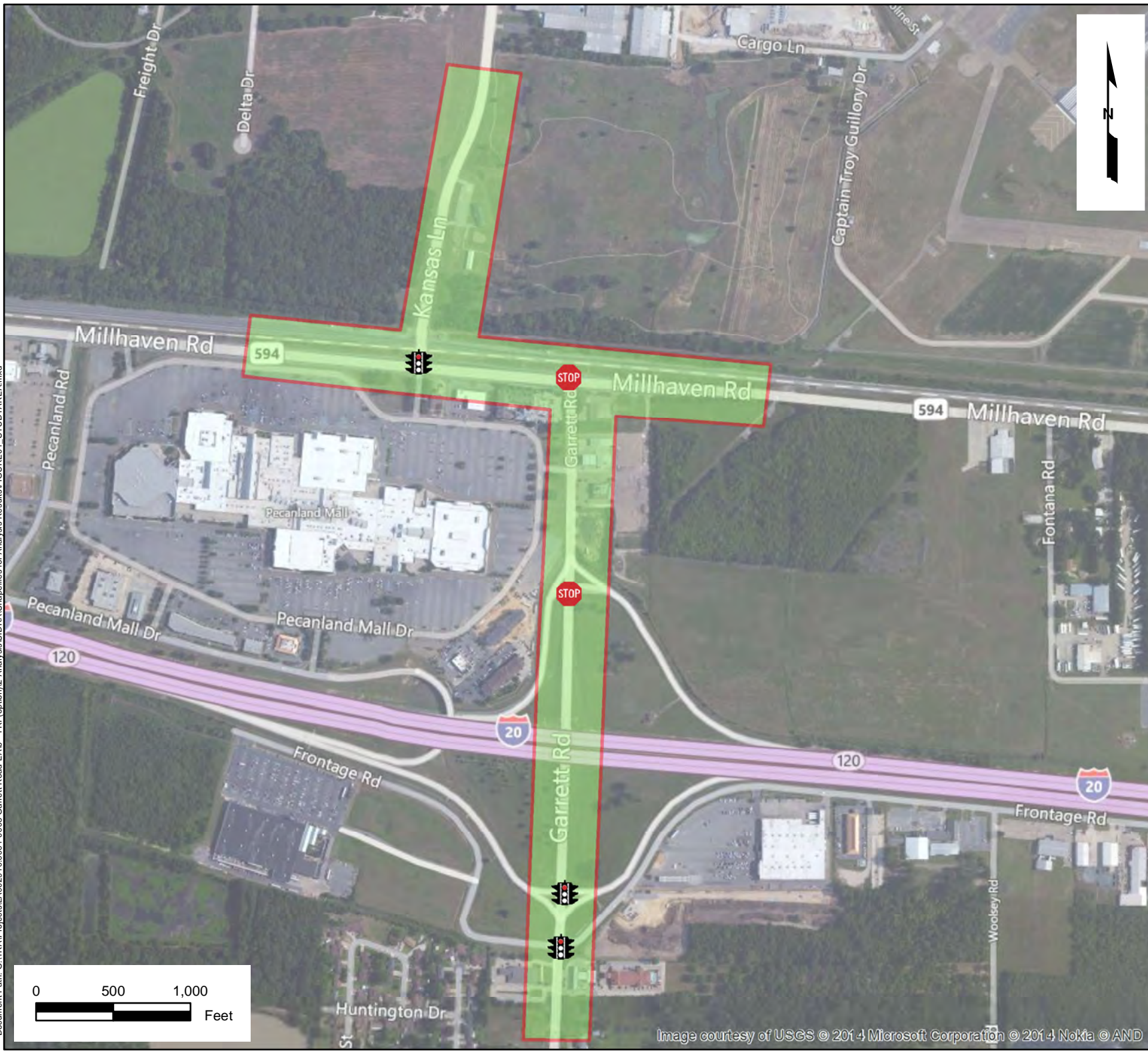
### 3. Existing Conditions Analysis

Safety and capacity analyses were conducted to quantify the operational characteristics of the roadway in the study area under existing conditions. The study intersections analyzed as part of the existing condition are listed in Table 1.

**Table 1. Study Intersections**

Intersection ID	Study Intersection	Traffic Control
1	Garrett Road at South Frontage Road	Signalized
2	Garrett Road at I-20 Eastbound On- and Off-Ramps	Signalized
3	Garrett Road at I-20 Westbound On- and Off-Ramps	Unsignalized
4	Garrett Road at Millhaven Road	Unsignalized
5	Millhaven Road at Kansas Lane	Signalized

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**STUDY AREA**

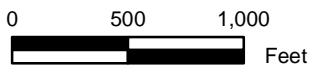
KANSAS LANE - GARRETT ROAD CONNECTOR AND I-20 INTERCHANGE IMPROVEMENTS  
STATE PROJECT NO. H.004774.5  
F.A.P. NO. IM 3704(508)



**Legend**

- TRAFFIC ANALYSIS LIMITS
- UNSIGNALIZED
- SIGNALIZED

PROJECT MANAGER: AC	CHECKED BY: SB
DRAWING BY: MK	DATE: 06.19.2014
PROJECT NUMBER: LA003218.0001	FIGURE: 1







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### 3.1 Data Collection

Crash data, roadway geometry information, traffic signal inventories, and traffic count data were collected from several sources.

#### 3.1.1 Crash Data

Historical crash data for Ouachita Parish was obtained from LADOTD's crash database. Data were compiled for a 3-year period from 2010 to 2012. Detailed crash data obtained from LADOTD are included in Appendix A.

#### 3.1.2 Roadway Geometry

Preliminary roadway geometric information was obtained from online mapping services such as Google Earth and Google Maps. Additionally, geographic information system (GIS) roadway shapefiles provided detailed roadway characteristic information. These data were supplemented by field verification in November 2013.

#### 3.1.3 Traffic Signal Inventory

The LADOTD Monroe District provided traffic signal inventories (TSIs) for all signals along the study corridor. TSIs were required for the following intersections:

- Millhaven Road at Kansas Lane;
- South Frontage Road at Garrett Road; and
- I-20 Eastbound Ramps and Garrett Road.

The TSIs are provided in Appendix B. TSIs were input into Synchro for analysis of the existing study corridor condition.

#### 3.1.4 Traffic Count Data

ARCADIS obtained the majority of the traffic count data from the LADOTD Monroe District. Turning movement counts (TMCs) for two intersections were obtained from the Kansas Lane – Garrett Road Connector and I-20 Interchange Improvements EA dated February 5, 2011.



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The LADOTD Monroe District provided 7-day vehicle classification intersection approach counts for the following intersections:

- LA 594 at Garrett Road;
- Garrett Road at I-20 westbound ramps;
- Garrett Road at I-20 eastbound ramps; and
- Garrett Road at South Frontage Road.

The LADOTD Monroe District confirmed that peak hours occur from 7:00 a.m. to 10:00 a.m. and from 2:00 p.m. to 5:00 p.m. on weekdays, and not at noon or on weekends. The same trend was noted in the traffic study performed as part of the 2011 EA.

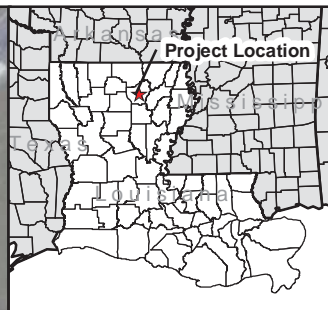
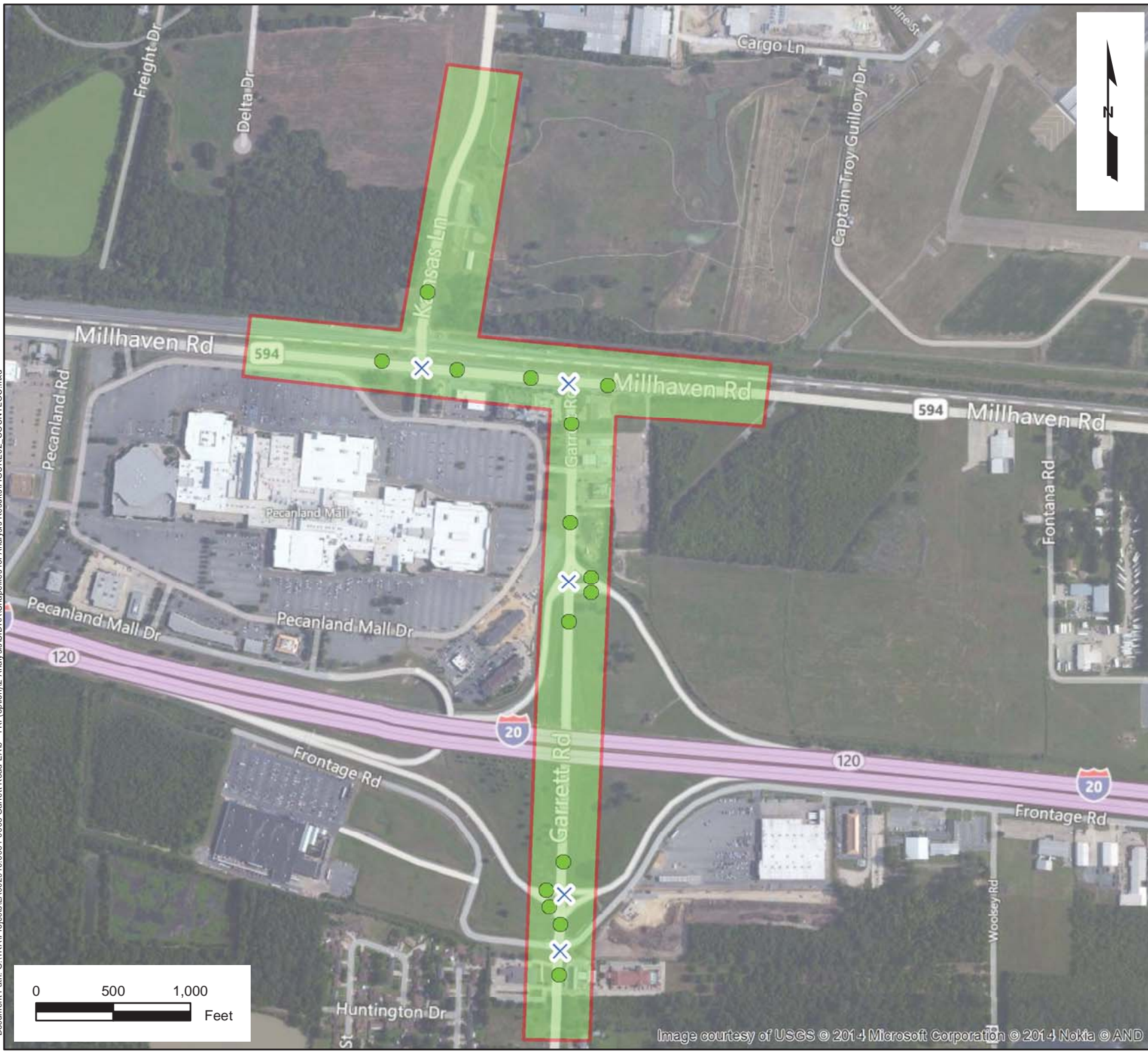
LADOTD collected a.m. peak period and p.m. peak period turning movement counts for a Tuesday, Wednesday, Thursday, or Friday in the months of October and November 2013 for the intersections listed above. The count locations are illustrated on Figure 2.

The a.m. and p.m. peak period turning movement counts for the following intersections were obtained from the traffic count data collected in November 2009 for the 2011 EA:

- LA 594 at Kansas Lane; and
- Garrett Road at Pecanland Mall Driveway.

For the purposes of this analysis, the existing year was considered to be 2013 because the majority of the traffic counts were collected in 2013. Traffic count data obtained from LADOTD and the 2011 EA are provided in Appendix C.

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**TRAFFIC COUNT LOCATIONS**

KANSAS LANE - GARRETT ROAD CONNECTOR AND I-20 INTERCHANGE IMPROVEMENTS  
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 F.A.P. NO. IM 3704(508)



**Legend**

- TRAFFIC ANALYSIS LIMITS
- X TURNING MOVEMENT COUNT
- VEHICLE CLASS COUNT



PROJECT MANAGER: AC	CHECKED BY: SB
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PROJECT NUMBER: LA003218	FIGURE: 2



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### 3.2 Crash Analysis

The crash history of the study area was evaluated based on crash data provided by LADOTD for the 3-year period from 2010 through 2012. For the period of analysis, a total of 76 crashes are included in the LADOTD crash database for the study area. Although this is approximately 25 crashes per year, some yearly fluctuations are evident. Table 2 provides a summary of the annual crash frequency and segregates crashes by type. As shown in the table, during the 3-year period of analysis, the “rear-end” crashes with other vehicles were the most frequent, with a total of 38, followed by “right-angle” crashes with a total of 15. Ten were left-/right-turn crashes and 3 were head-on incidents. Roundabouts are expected to result in the greatest reduction of these types of correctable crashes (right angle, left/right turn, head on), which constitute approximately 37 percent of the total crashes in the study area.

**Table 2. Crash Type and Frequency on Garrett Road**

Crash Type	Year			
	2010	2011	2012	Total
Left/Right Turn	4	4	2	<b>10</b>
Right Angle	8	5	2	<b>15</b>
Head On	2	0	1	<b>3</b>
Not a Collision with a Motor Vehicle	1	2	0	<b>3</b>
Rear End	16	15	7	<b>38</b>
Sideswipe – Same Direction	0	0	0	<b>0</b>
Sideswipe – Opposite Direction	0	0	1	<b>1</b>
Other	3	2	1	<b>6</b>
<b>Total Crashes</b>	<b>34</b>	<b>28</b>	<b>14</b>	<b>76</b>

Due to the unavailability of intersection crash data, an intersection-level crash analysis was not performed.

### 3.3 Capacity Analysis for Existing Conditions

A capacity analysis is the primary method for evaluating the quality of service of highway and street facilities. Level of service (LOS) is a quality measure describing operational conditions of these facilities. The *Highway Capacity Manual 2010* (HCM



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2010), published by the Transportation Research Board, outlines capacity analysis procedures and criteria for defining LOS and the process for evaluating unsignalized and signalized intersections.

For signalized intersections, HCM methodology determines the capacity of each lane group approaching the intersection. The LOS is then defined based on average delay (in seconds per vehicle) for the various movements at the intersection.

Delay for unsignalized intersections is reported as the worst-approach total delay (measured in seconds per vehicle) experienced by motorists traveling through an intersection. Total delay is defined as the amount of time required for a driver to stop at the back of the queue, move to the first-in-queue position, and depart from the queue into the intersection.

Tables 3 and 4 show the relationship between LOS and control delay for unsignalized and signalized intersections, respectively. LOS A indicates the least delay, while LOS F indicates the greatest delay.

**Table 3. LOS Criteria for Unsignalized Intersections**

Control Delay Per Vehicle (in seconds)	Level of Service
0 – 10	A
> 10 – 15	B
> 15 – 25	C
> 25 – 35	D
> 35 – 50	E
> 50	F

**Table 4. LOS Criteria for Signal-Controlled Intersections**

Control Delay Per Vehicle (in seconds)	Level of Service
≤ 10	A
>10 – 20	B
>20 – 35	C
>35 – 55	D



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Control Delay Per Vehicle (in seconds)	Level of Service
>55 – 80	E
>80	F

Calculation of delay based on HCM 2010 methodologies requires several key inputs including signal timing, geometry, and volumes. The input volumes collected during the data collection process are normalized to reflect annual average daily traffic (AADT) patterns.

### 3.3.1 Existing Year (2013) Traffic Volumes Development

Calculations based on the collected data were performed to prepare inputs for analysis of the existing study corridor. Information to be calculated included the K-factor, truck percentage, and existing traffic volumes. LADOTD-provided daily, monthly, and axle factors were utilized in development of existing traffic volumes.

#### 3.3.1.1 K-Factor

Calculations of the K-factor were performed separately for the surface streets (Garrett Road, Millhaven Road [LA 594], and Kansas Lane) and the interstate roadway (I-20). The K-factor for this project was determined by calculating the ratio of the peak hour volumes to the daily volumes collected in the field via 7-day vehicle classification counts. A weighted average by total volume at the count locations was calculated, and a K-factor of 7.4 percent was determined for both the surface streets and the interstate highway.

#### 3.3.1.2 Truck Percentage (T%)

Calculations of truck percentages were also performed separately for the surface streets and the interstate roadway. Truck percentages were determined from the vehicle classification data as shown in Tables 5 and 6.



**Traffic Analysis/  
Roundabout Study**

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Connector and I-20  
Interchange Improvements,  
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**Table 5. 24-Hour Truck Percentages**

Roadway	Single Units	Combination Units	Total Trucks
Surface Streets	2.9	2.0	4.9
Interstate Ramps	3.3	1.6	4.9

**Table 6. Peak Hour Truck Percentages**

Roadway	A.M. Peak Hour			P.M. Peak Hour		
	Single Units	Combination Units	Total Trucks	Single Units	Combination Units	Total Trucks
Surface Streets	3.9	3.0	6.9	2.6	1.5	4.1
Interstate Ramps	2.9	1.7	4.6	2.9	1.7	4.6

*3.3.1.3 Daily, Monthly, and Axle Factors*

Adjustment factors were calculated and provided by LADOTD. The study area contains urban interstate, urban minor arterials, and local roads. Tables 7 and 8 show the adjustment factors that were used. The adjustment factors obtained from LADOTD are provided in Appendix D.

**Table 7. Vehicle Count Monthly Adjustment Factors**

Functional Road Classification	October 2013	November 2013
Urban Interstate	1.0181	0.9937
Urban Minor Arterial	1.0297	0.9293
Urban Local	1.0134	0.9862

**Table 8. Vehicle Count Daily Adjustment Factors**

Functional Road Classification	Tuesday	Wednesday	Thursday	Friday
Urban Interstate	1.0129	1.0312	1.0568	1.1537
Urban Minor Arterial	1.0485	1.0565	1.0726	1.1571
Urban Local	1.0192	1.0004	1.0331	1.1575



## Traffic Analysis/ Roundabout Study

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LADOTD's daily and seasonal factors were used to adjust the 24-hour count data to the AADT level. The adjusted AADT volumes were then used to verify the roadway segment ADT volumes converted based on the existing year (2013) peak period TMCs. ARCADIS developed a.m. and p.m. peak hour traffic volumes and AADT volumes for the analysis of intersections for the existing year (2013) condition. The existing year (2013) condition traffic volumes are presented on Figures 3 through 5.

### 3.3.2 Existing Year (2013) Analyses Results

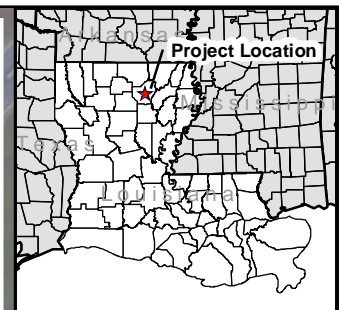
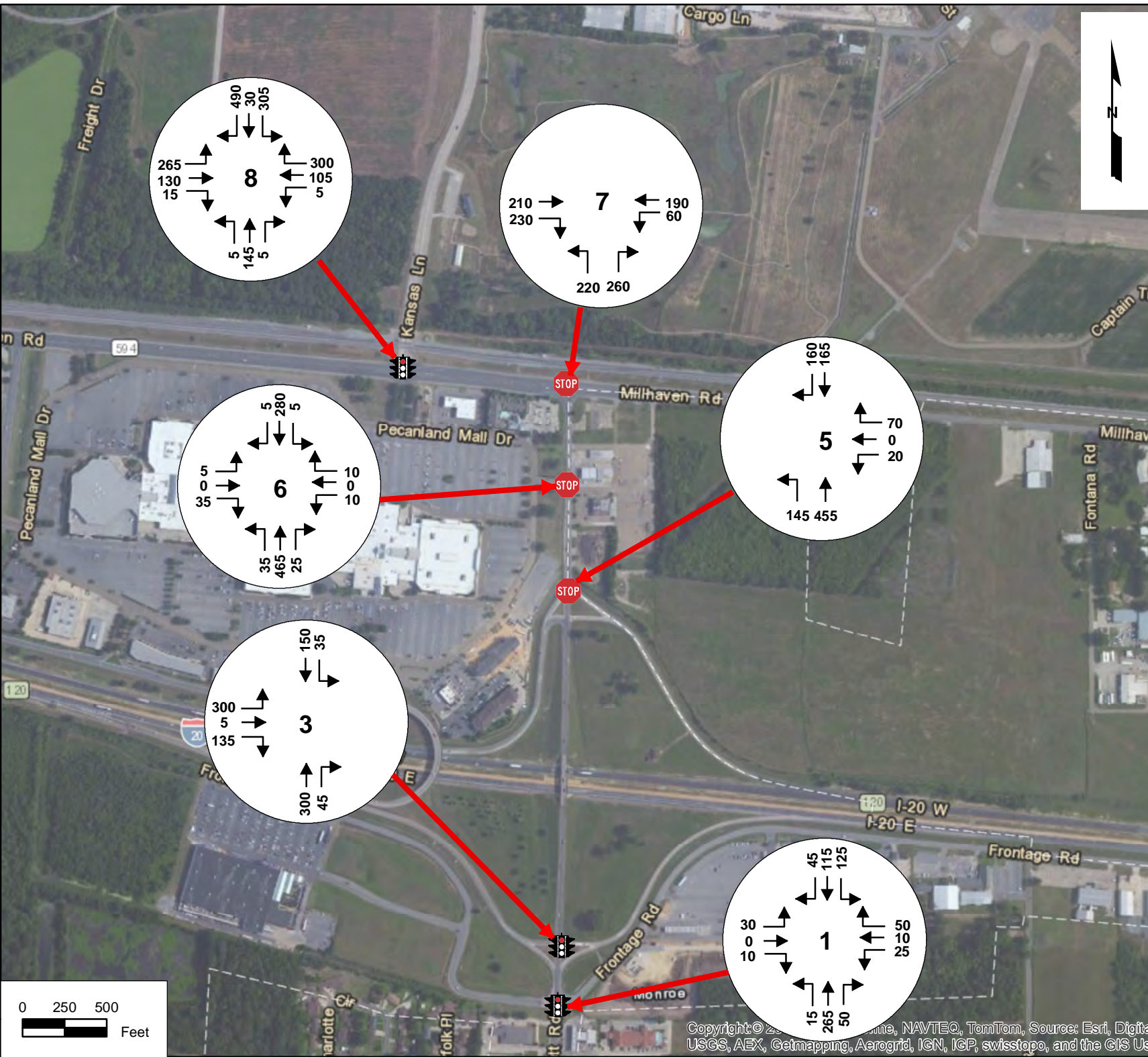
Capacity analyses were performed for a.m. and p.m. peak hours for existing conditions. The results for the signalized and unsignalized intersections are summarized in Tables 9 and 10, respectively. SIDRA 6 reports are provided in Appendix E.

**Table 9. Existing Condition Capacity Analysis for Signal-Controlled Intersections**

Intersection	Existing Year (2013)						
	Control Delay (seconds/vehicle)					LOS	v/c
	Intersection	NB	SB	EB	WB		
	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.
Garrett Road/ South Frontage Road	16/39	18/59	11/46	28/32	19/19	B/D	0.54/0.96
Garrett Road/ I-20 EB Ramps	23/141	23/44	18/7	24/433	-/-	C/F	0.59/2.66
Millhaven Road/ Kansas Lane	22/24	34/34	13/16	29/25	26/30	C/C	0.65/0.70

LOS Level of service.  
v/c Volume to capacity; reported value is the maximum approach v/c observed.  
– Movement is not applicable to the intersection.  
NB Northbound.  
SB Southbound.  
EB Eastbound.  
WB Westbound.





**EXISTING YEAR (2013)  
A.M. PEAK  
DESIGN HOUR VOLUMES  
(DHV)**

KANSAS LANE - GARRETT  
ROAD CONNECTOR AND  
I-20 INTERCHANGE  
IMPROVEMENTS

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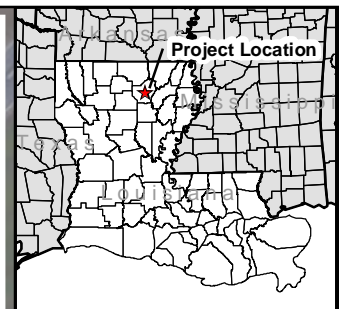
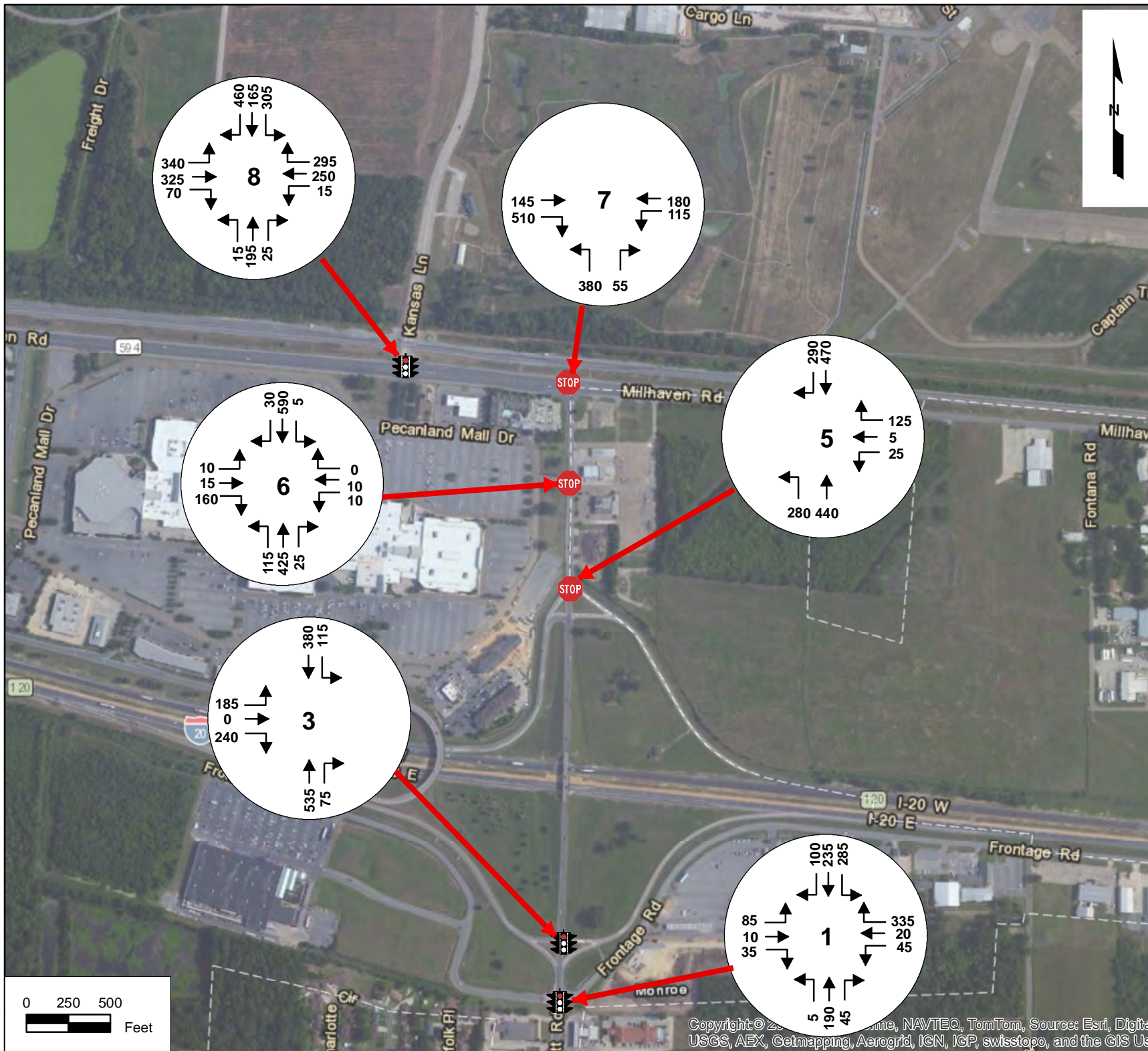


**SURFACE STREETS**  
A.M. SINGLE UNIT T. %: 3.9  
A.M. COMB. UNIT T. %: 3.0  
P.M. SINGLE UNIT T. %: 2.6  
P.M. COMB. UNIT T. %: 1.5

**RAMPS**  
A.M. SINGLE UNIT T. %: 2.9  
A.M. COMB. UNIT T. %: 1.7  
P.M. SINGLE UNIT T. %: 2.9  
P.M. COMB. UNIT T. %: 1.7

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**EXISTING YEAR (2013)  
P.M. PEAK  
DESIGN HOUR VOLUMES  
(DHV)**

KANSAS LANE - GARRETT  
ROAD CONNECTOR AND  
I-20 INTERCHANGE  
IMPROVEMENTS

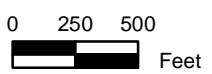
STATE PROJECT NO. H.004774.5  
F.A.P. NO. IM 3704(508)



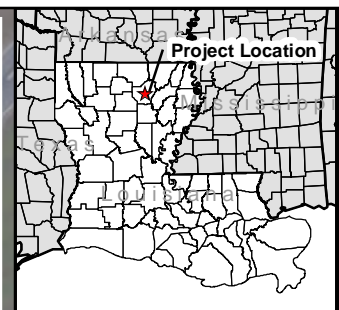
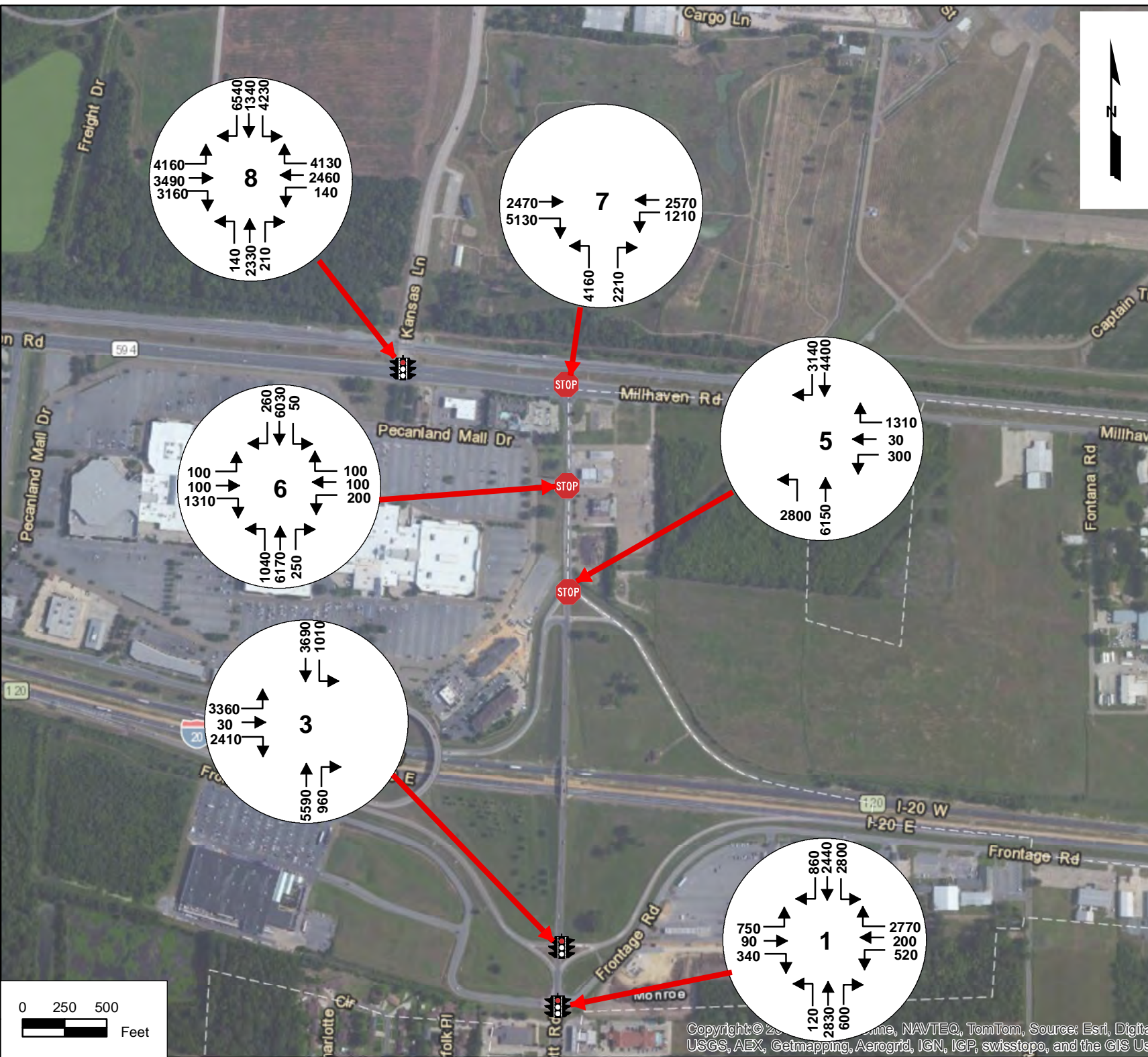
**SURFACE STREETS**  
A.M. SINGLE UNIT T. %: 3.9  
A.M. COMB. UNIT T. %: 3.0  
P.M. SINGLE UNIT T. %: 2.6  
P.M. COMB. UNIT T. %: 1.5

**RAMPS**  
A.M. SINGLE UNIT T. %: 2.9  
A.M. COMB. UNIT T. %: 1.7  
P.M. SINGLE UNIT T. %: 2.9  
P.M. COMB. UNIT T. %: 1.7

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PROJECT NUMBER: LA003218.0001	FIGURE: 4



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**EXISTING YEAR (2013)  
ANNUAL AVERAGE  
DAILY TRAFFIC (AADT)**

KANSAS LANE - GARRETT  
ROAD CONNECTOR AND  
I-20 INTERCHANGE  
IMPROVEMENTS

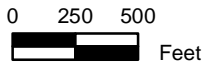
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SURFACE STREETS  
SINGLE UNIT TRUCK %: 2.9  
COMBINATION UNIT TRUCK %: 2.0

RAMPS  
SINGLE UNIT TRUCK %: 3.3  
COMBINATION UNIT TRUCK %: 1.6

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## Traffic Analysis/ Roundabout Study

Kansas Lane – Garrett Road  
Connector and I-20  
Interchange Improvements,  
Route I-20  
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Ouachita Parish, Louisiana

**Table 10. Existing Condition Capacity Analysis for Unsignalized Intersections**

Intersection	Measured Parameters	Existing Year (2013)			
		NB	SB	EB	WB
Garrett Road at I-20 WB Ramps	A.M. Delay (sec/veh)	4	4	-	25
	P.M. Delay (sec/veh)	11	7	-	164
	LOS (A.M./P.M.)	A/B	A/A	-	D/F
Garrett Road at Millhaven Road	A.M. Delay (sec/veh)	165	-	3	3
	P.M. Delay (sec/veh)	High	-	5	6
	LOS (A.M./P.M.)	F/F	-	A/A	A/A

– Movement is not applicable to the intersection.  
 NB Northbound.  
 SB Southbound.  
 EB Eastbound.  
 WB Westbound.  
 sec/veh Seconds per vehicle.

Results of capacity analysis for signalized intersections summarized in Table 9 indicate that the intersection of Garrett Road and the I-20 eastbound ramps currently operates at LOS F in the p.m. peak hours due to high delay for the eastbound left-turn movement. The other two signalized intersections operate at least at LOS D; however, the intersection of Garrett Road and South Frontage Road is operating at capacity (volume to capacity ratio  $[v/c] = 0.96$ ) because of high demand on the eastbound approach during the p.m. peak hours. SIDRA determines the intersection delay and LOS by averaging the intersection approach delay; however, the intersection  $v/c$  is set by the approach with the highest  $v/c$ .

Results of the capacity analysis for unsignalized intersections for existing conditions summarized in Table 10 indicate that the westbound approach to the intersection of Garrett Road and the I-20 westbound ramps currently operates at LOS F in the p.m. peak hour and the northbound approach of the Garrett Road and Millhaven Road intersection currently operates at LOS F in both the a.m. and p.m. peak hours.

#### 4. Design Year No-Build Conditions Analysis

The design year (2035) no-build analysis was conducted based on predicted future year volumes with existing roadway configurations. Tools developed for the existing condition analysis were used. Data development and results of the analysis are discussed below.



## Traffic Analysis/ Roundabout Study

Kansas Lane – Garrett Road  
Connector and I-20  
Interchange Improvements,  
Route I-20  
Environmental Assessment  
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Ouachita Parish, Louisiana

### 4.1 Background Ambient Growth Rate

When developing the design year (2035) traffic volumes for no-build conditions, ARCADIS considered an approved background traffic growth rate of 2 percent from the original 2011 EA. The background growth rate was approved by LADOTD.

### 4.2 Planned Land Use Developments

ARCADIS also took into consideration the planned developments in the vicinity of the study area. ARCADIS contacted the Monroe Chamber of Commerce, City of Monroe, and Ouachita Parish Permit Office to gather data for such developments. The following planned developments have been considered:

- A new nursing home that would have 171 private rooms and 99,760 square feet of gross floor area on Millhaven Road (LA 594) east of Delta Community College;
- An expansion of the FedEx facility to a 49,000-square-foot gross floor area on Millhaven Road (LA 594) east of Fontana Road; and
- An estimated student population of 6,600 in the year 2025 at Delta Community College.

Trips generated as a result of the nursing home and FedEx facility expansions were estimated using the Institute of Traffic Engineers Trip Generation Manual, and the data on trips generated from Delta Community College were obtained from the Traffic Impact Study conducted for the Proposed Delta Community College at Millhaven Road (LA 594).

The trips generated due to the student population growth at Delta Community College, the FedEx facility expansion, and a new nursing home were added to the design year (2035) traffic volumes.

### 4.3 Development of Design Year (2035) No-Build Traffic Volumes

ARCADIS developed a.m. and p.m. peak period traffic volumes and AADT volumes for the analysis of intersections for the design year (2035) no-build conditions. As discussed in previous sections, no-build volumes were developed by applying a 2 percent growth rate to the existing year volumes and including planned developments. Background growth in traffic, along with additional planned development traffic, results in an increase in traffic demand in the study area for 2035



## Traffic Analysis/ Roundabout Study

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no-build conditions. The projected a.m. peak hour, p.m. peak hour, and AADT volumes for 2035 no-build conditions are presented on Figures 6 through 8.

### 4.4 Design Year (2035) No-Build Condition Analysis Results

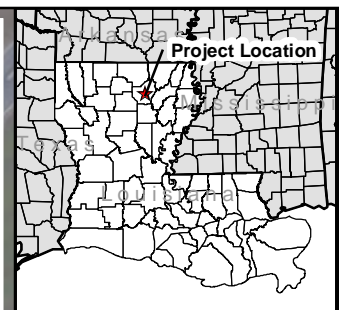
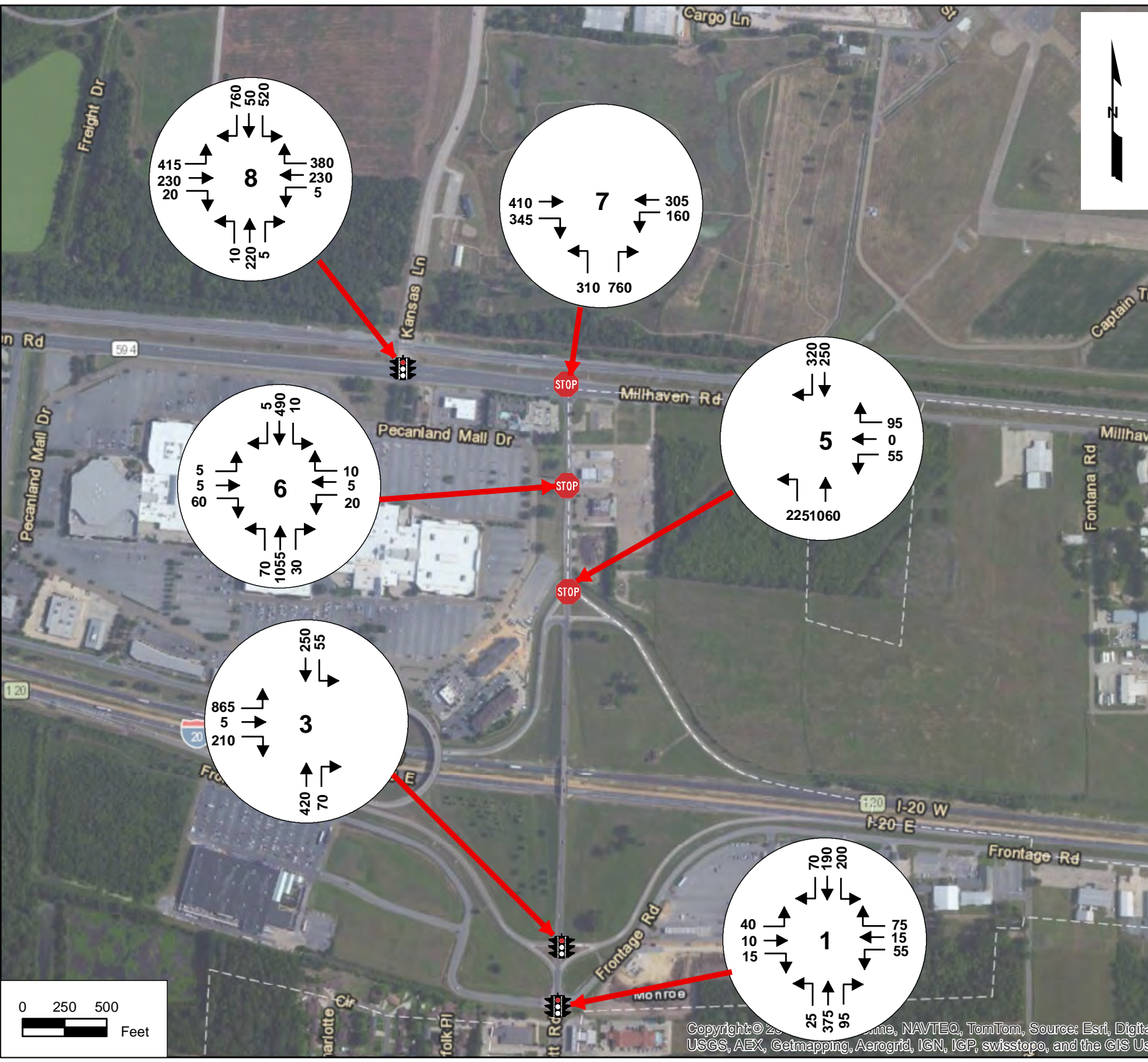
Capacity analyses were performed for a.m. and p.m. peak hours for the design year no-build condition. SYNCHRO software was used to estimate optimal timing plans for the study intersections. Appendix F provides detailed intersection timing reports from SYNCHRO software. The results for the signalized and unsignalized intersections are summarized in Tables 11 and 12, respectively. Tables 11 and 12 also include results from the existing condition analysis to allow for an easy comparison of the impact of growth in demand on intersection operations. SIDRA 6 reports are provided in Appendix E.

The design year no-build analysis indicates that the signalized intersections along Garrett Road operate at LOS F during both a.m. and p.m. peak hours with increased traffic volumes, as shown in Table 12. The high v/c ratio on the northbound approach of these intersections, as well as on the eastbound approach of the eastbound ramps intersection and westbound approach of the South Frontage Road intersection, supports this finding. Intersection v/c is greater than 4.0 at both of these intersections. On the other hand, the intersection of Kansas Lane and Millhaven Road operates at LOS C with an intersection v/c of less than 0.8.

As shown in Table 12, the design year no-build analysis of unsignalized intersections reveals that, as volume increases, the delays for stop-controlled approaches at both intersections increase and these approaches operate at LOS F in both peak hours. The southbound approach at the I-20 eastbound intersection also operates at LOS F.

### 5. Design Year Build Conditions Analysis

The design year build condition analysis was performed utilizing the analysis tools developed for the no-build condition scenarios. Differences between the no-build and build conditions include revised travel demand projections for build conditions to account for latent demand (defined in Section 5.1), along with inclusion of alternate roadway geometry for the various build alternatives. The following sections describe results of the analysis.



**DESIGN YEAR (2035)  
NO-BUILD A.M. PEAK  
DESIGN HOUR VOLUMES  
(DHV)**

KANSAS LANE - GARRETT  
ROAD CONNECTOR AND  
I-20 INTERCHANGE  
IMPROVEMENTS

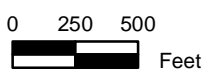
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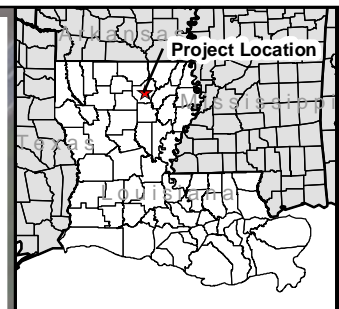
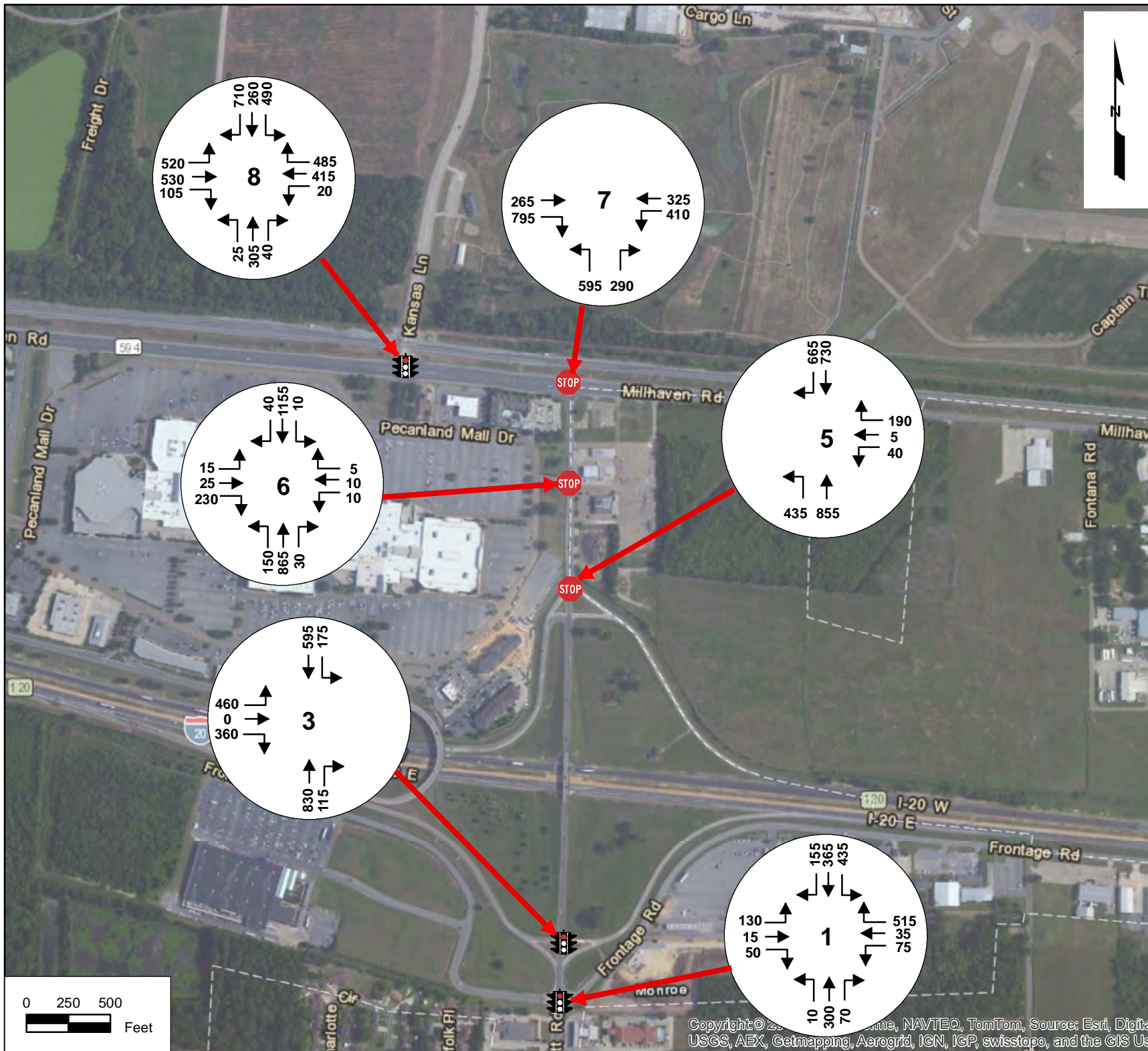
**SURFACE STREETS**  
A.M. SINGLE UNIT T. %: 3.9  
A.M. COMB. UNIT T. %: 3.0  
P.M. SINGLE UNIT T. %: 2.6  
A.M. COMB. UNIT T. %: 1.5

**RAMPS**  
A.M. SINGLE UNIT T. %: 2.9  
A.M. COMB. UNIT T. %: 1.7  
P.M. SINGLE UNIT T. %: 2.9  
P.M. COMB. UNIT T. %: 1.7

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**DESIGN YEAR (2035)  
NO-BUILD P.M. PEAK  
DESIGN HOUR VOLUMES  
(DHV)**

KANSAS LANE - GARRETT  
ROAD CONNECTOR AND  
I-20 INTERCHANGE  
IMPROVEMENTS

STATE PROJECT NO. H.004774.5  
F.A.P. NO. IM 3704(508)



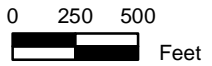
**SURFACE STREETS**  
A.M. SINGLE UNIT T. %: 3.9  
A.M. COMB. UNIT T. %: 3.0  
P.M. SINGLE UNIT T. %: 2.6  
P.M. COMB. UNIT T. %: 1.5

**RAMPS**  
A.M. SINGLE UNIT T. %: 2.9  
A.M. COMB. UNIT T. %: 1.7  
P.M. SINGLE UNIT T. %: 2.9  
P.M. COMB. UNIT T. %: 1.7

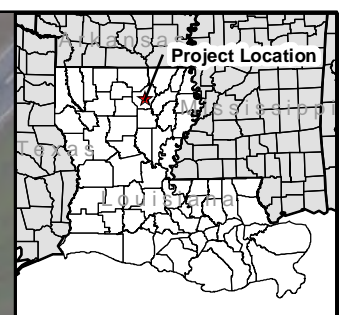
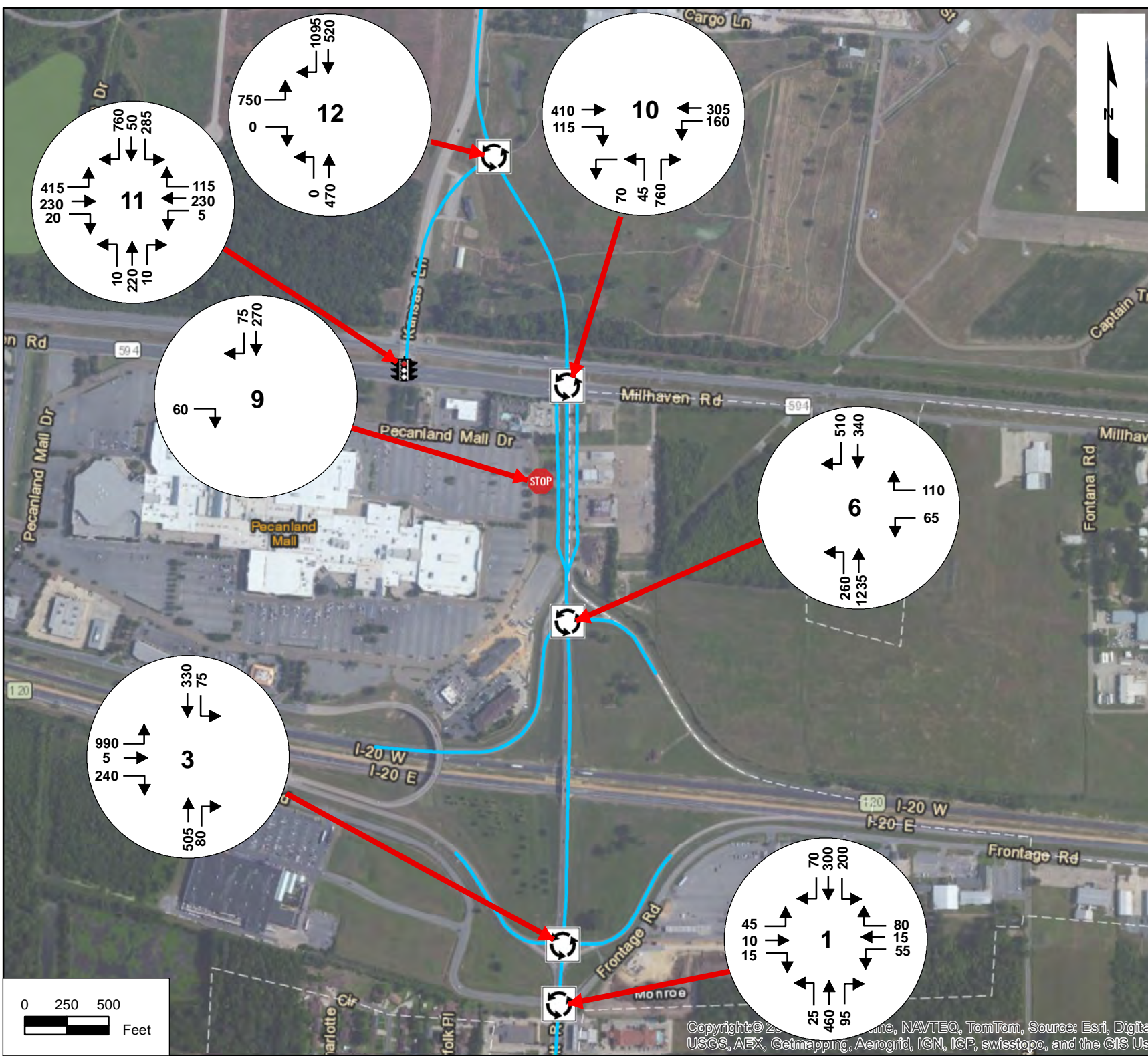
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PROJECT NUMBER: LA003218.0001  
FIGURE: 7







**DESIGN YEAR (2035)  
BUILD A.M. PEAK  
DESIGN HOUR VOLUMES (DHV)**

**KANSAS LANE - GARRETT  
ROAD CONNECTOR AND  
I-20 INTERCHANGE  
IMPROVEMENTS**

STATE PROJECT NO. H.004774.5  
F.A.P. NO. IM 3704(508)



**SURFACE STREETS**  
A.M. SINGLE UNIT T. %: 3.9  
A.M. COMB. UNIT T. %: 3.0  
P.M. SINGLE UNIT T. %: 2.6  
P.M. COMB. UNIT T. %: 1.5

**RAMPS**  
A.M. SINGLE UNIT T. %: 2.9  
A.M. COMB. UNIT T. %: 1.7  
P.M. SINGLE UNIT T. %: 2.9  
P.M. COMB. UNIT T. %: 1.7

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PROJECT NUMBER: LA003218.0001	FIGURE: 9
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**Traffic Analysis/  
Roundabout Study**

Kansas Lane – Garrett Road  
Connector and I-20  
Interchange Improvements,  
Route I-20  
Environmental Assessment  
Roundabout Study  
Ouachita Parish, Louisiana

**Table 11. No-Build Condition Capacity Analysis for Signal-Controlled Intersections**

Intersection	Design Year – No-Build (2035)						
	Control Delay (seconds/vehicle)					LOS	v/c
	Intersection	NB	SB	EB	WB	A.M./P.M.	A.M./P.M.
	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.		
Garrett Road/South Frontage Road	79/106	115/58	59/158	49/49	36/85	E/F	1.10/1.32
Garrett Road/I-20 EB Ramps	413/536	55/243	19/49	680/1184	-/-	F/F	2.58/4.51
Millhaven Road/Kansas Lane	36/59	41/46	30/37	49/108	30/38	D/E	1.10/1.40
Existing Year (2013)							
Garrett Road/South Frontage Road	16/39	18/59	11/46	28/32	19/19	B/D	0.54/0.96
Garrett Road/I-20 EB Ramps	23/141	23/44	18/7	24/433	-/-	C/F	0.59/2.66
Millhaven Road/Kansas Lane	22/24	34/34	13/16	29/25	26/30	C/C	0.65/0.70

LOS Level of service.  
v/c Volume to capacity.  
– Movement is not applicable to the intersection.  
NB Northbound.  
SB Southbound.  
EB Eastbound.  
WB Westbound.



**Traffic Analysis/  
Roundabout Study**

Kansas Lane – Garrett Road  
Connector and I-20  
Interchange Improvements,  
Route I-20  
Environmental Assessment  
Roundabout Study  
Ouachita Parish, Louisiana

**Table 12. No-Build Condition Capacity Analysis for Unsignalized Intersections**

Intersection	Measured Parameters	Design Year – No-Build (2035)				Existing Year (2013)			
		NB	SB	EB	WB	NB	SB	EB	WB
Garrett Road at I-20 WB Ramps	A.M. Delay (sec/veh)	32	7	-	High	4	4	-	25
	P.M. Delay (sec/veh)	191	343	-	High	11	7	-	164
	LOS (A.M./P.M.)	<b>F/F</b>	<b>A/F</b>	-	<b>F/F</b>	A/B	A/A	-	D/F
Garrett Road at Millhaven Road	A.M. Delay (sec/veh)	High	-	3	11	165	-	3	3
	P.M. Delay (sec/veh)	High	-	5	High	High	-	5	6
	LOS (A.M./P.M.)	<b>F/F</b>	-	A/A	B/F	<b>F/F</b>	-	A/A	A/A

- Movement is not applicable to the intersection.
- LOS Level of service.
- NB Northbound.
- SB Southbound.
- EB Eastbound.
- WB Westbound.
- sec/veh Seconds per vehicle.
- High Delay is estimated very high.



## **5.1 Development of Build Condition Traffic Volumes**

Implementation of capacity enhancements on roadway segments and intersections results in additional demand on these improved roadways. This additional demand is typically the dormant demand for travel that is desired but unrealized because of capacity constraints. This type of increase in additional traffic is referred to as latent demand. ARCADIS accounted for the latent demand created in the study area due to the Kansas Lane – Garrett Road Connector project while developing the volumes for 2035 build conditions through use of Ouachita Council of Governments Metropolitan Planning Organization base and future year travel demand models.

Build condition volume projections for year 2035 indicate that the Garrett Road and I-20 interchange will experience a 15 percent increase in traffic volumes as compared to no-build conditions. Similarly, Garrett Road will experience additional volumes of 31 to 38 percent in build conditions as compared to no-build conditions due to latent demand. Projected analysis volumes for year 2035 build conditions are shown on Figures 9 through 11.

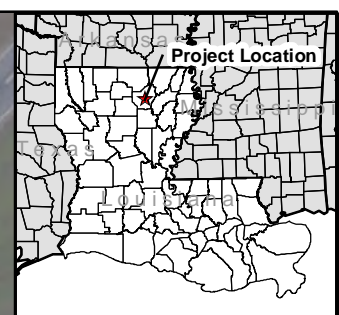
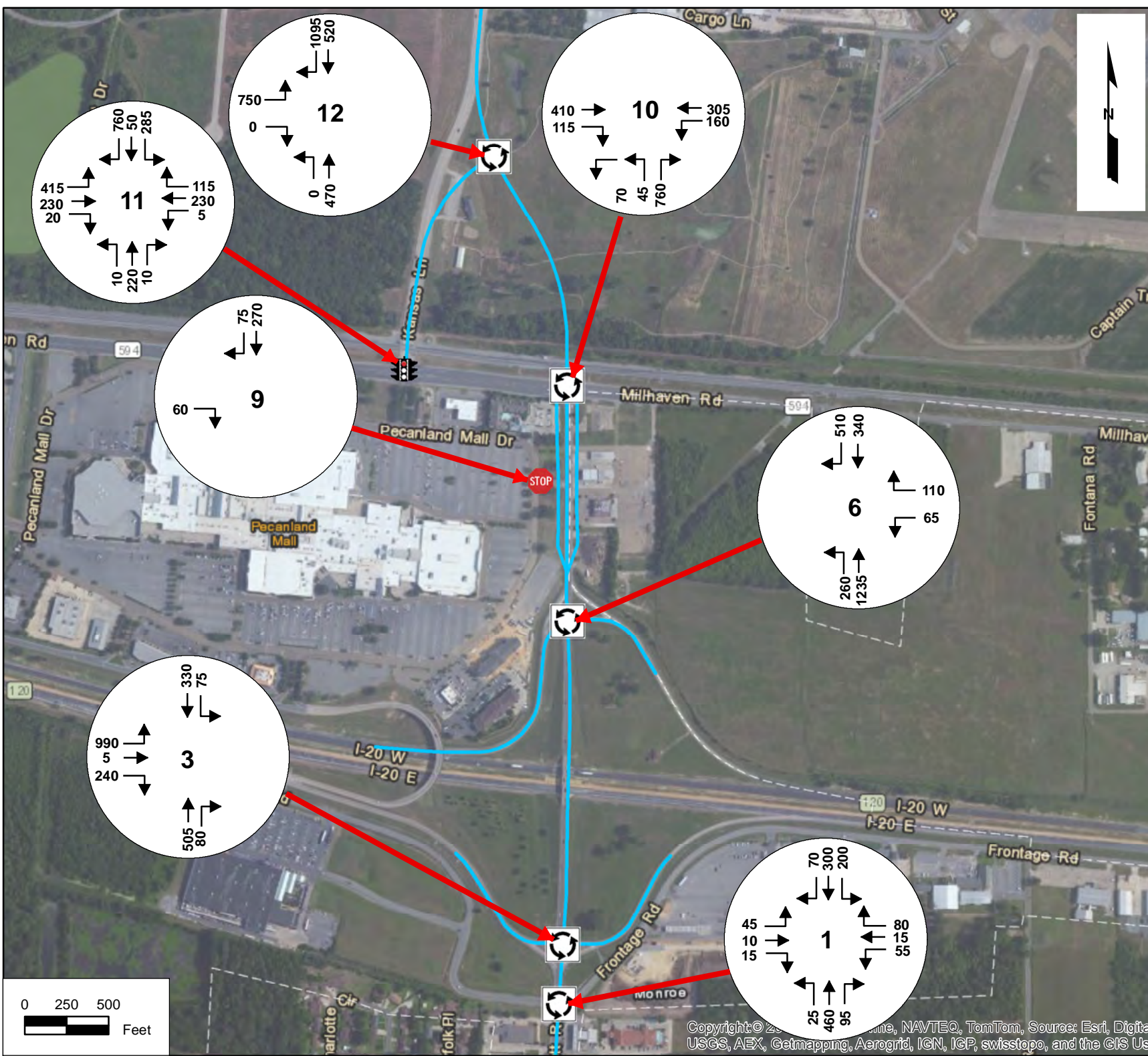
## **5.2 Definition of Roadway Configuration for Build Alternatives**

The proposed roadway improvements for the build alternative were derived from the recommendations for future year conditions in the 2011 EA. The 2011 EA recommended the following improvements in the study area:

1. Widen Garrett Road from two lanes to four lanes from Huntington Drive to Millhaven Road.
2. Tie Garrett Road into Kansas Lane via an elevated connector.
3. Provide one directional frontage road on each side of the connector that will connect Garrett Road to Millhaven Road.

The 2011 EA indicated that the following additional mitigation measures (shown on Figure 12) would be required to ensure adequate operations under a signal-controlled scenario for the intersection of Garrett Road and the I-20 westbound ramps:

1. Construction of a cloverleaf ramp for the westbound on-ramp to I-20 for traffic traveling north on Garrett Road.
2. Construction of an additional bypass lane for the I-20 westbound on-ramp for traffic traveling south on Garrett Road.



**DESIGN YEAR (2035)  
BUILD A.M. PEAK  
DESIGN HOUR VOLUMES (DHV)**

**KANSAS LANE - GARRETT  
ROAD CONNECTOR AND  
I-20 INTERCHANGE  
IMPROVEMENTS**

STATE PROJECT NO. H.004774.5  
F.A.P. NO. IM 3704(508)



**SURFACE STREETS**  
A.M. SINGLE UNIT T. %: 3.9  
A.M. COMB. UNIT T. %: 3.0  
P.M. SINGLE UNIT T. %: 2.6  
P.M. COMB. UNIT T. %: 1.5

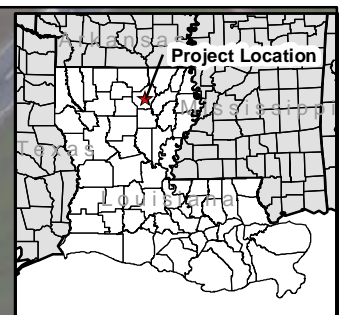
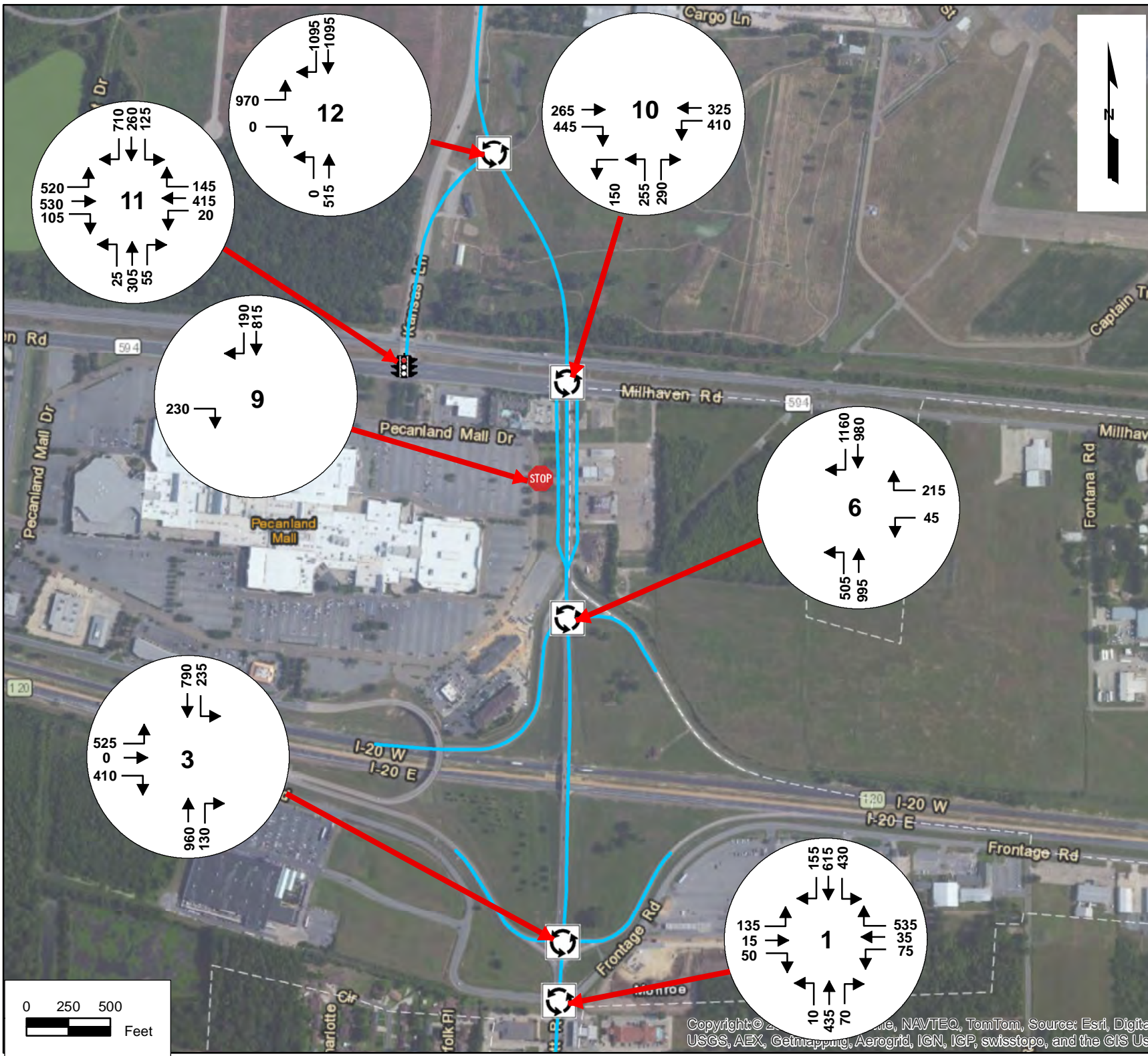
**RAMPS**  
A.M. SINGLE UNIT T. %: 2.9  
A.M. COMB. UNIT T. %: 1.7  
P.M. SINGLE UNIT T. %: 2.9  
P.M. COMB. UNIT T. %: 1.7

PROJECT MANAGER: AC	CHECKED BY: SB
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DRAWING BY: MK	DATE: 01.24.2014
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PROJECT NUMBER: LA003218.0001	FIGURE: 9
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**DESIGN YEAR (2035)**  
**BUILD P.M. PEAK**  
**DESIGN HOUR VOLUMES (DHV)**

KANSAS LANE - GARRETT ROAD CONNECTOR AND I-20 INTERCHANGE IMPROVEMENTS

STATE PROJECT NO. H.004774.5  
 F.A.P. NO. IM 3704(508)



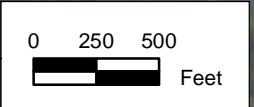
**SURFACE STREETS**  
 A.M. SINGLE UNIT T. %: 3.9  
 A.M. COMB. UNIT T. %: 3.0  
 P.M. SINGLE UNIT T. %: 2.6  
 P.M. COMB. UNIT T. %: 1.5

**RAMPS**  
 A.M. SINGLE UNIT T. %: 2.9  
 A.M. COMB. UNIT T. %: 1.7  
 P.M. SINGLE UNIT T. %: 2.9  
 P.M. COMB. UNIT T. %: 1.7

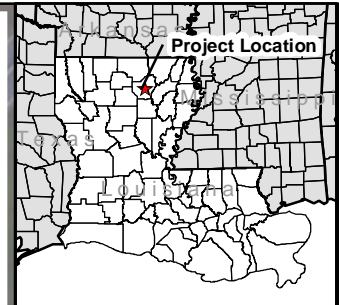
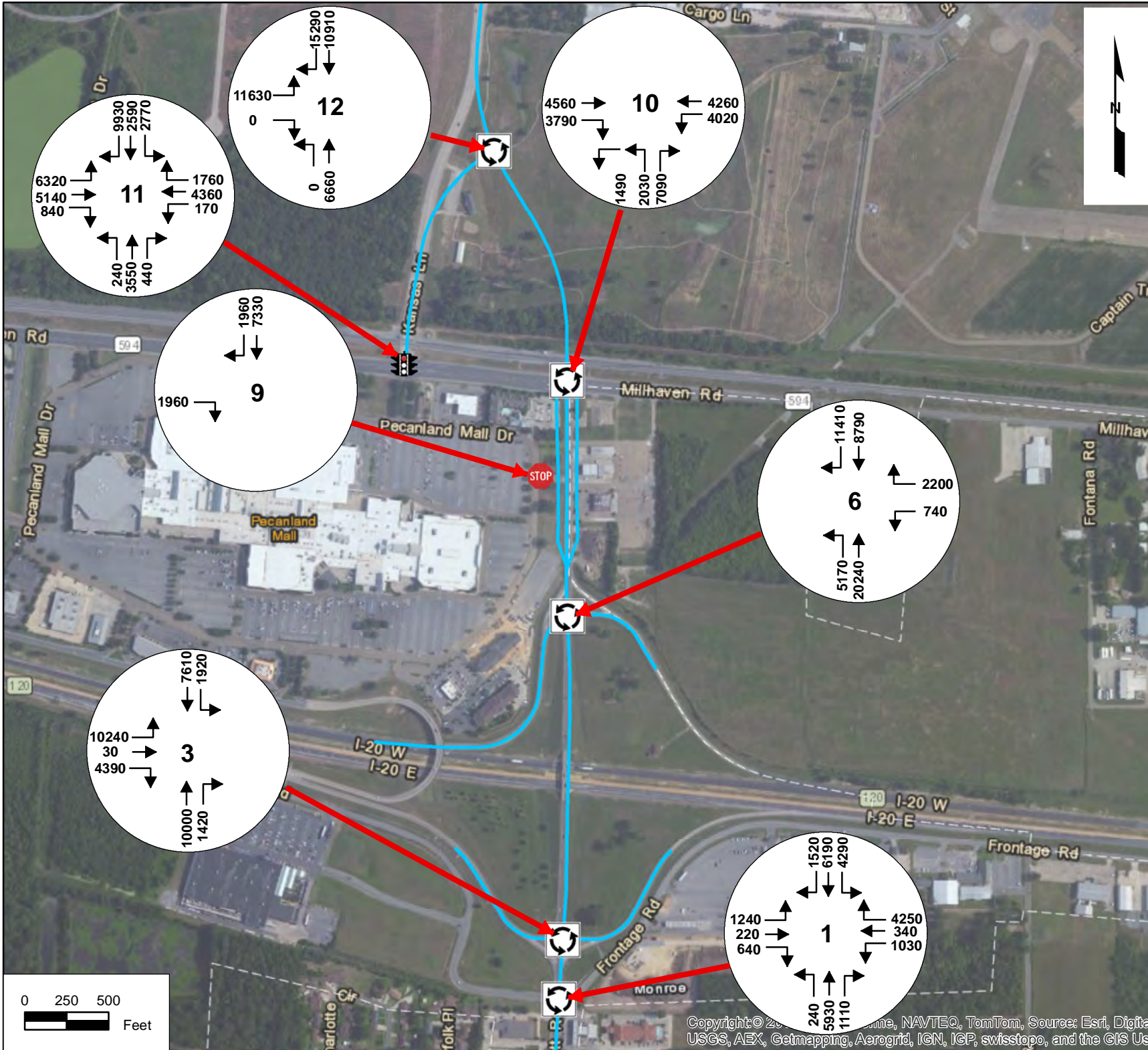
PROJECT MANAGER: AC	CHECKED BY: SB
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DRAWING BY: MK	DATE: 01.24.2014
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PROJECT NUMBER: LA003218.0001	FIGURE: 10
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**DESIGN YEAR (2035)  
BUILD  
ANNUAL AVERAGE  
DAILY TRAFFIC (AADT)**

KANSAS LANE - GARRETT  
ROAD CONNECTOR AND  
I-20 INTERCHANGE  
IMPROVEMENTS  
STATE PROJECT NO. H.004774.5  
F.A.P. NO. IM 3704(508)



SURFACE STREETS  
SINGLE UNIT TRUCK %: 2.9  
COMBINATION UNIT TRUCK %: 2.0

RAMPS  
SINGLE UNIT TRUCK %: 3.3  
COMBINATION UNIT TRUCK %: 1.6

PROJECT MANAGER: AC	CHECKED BY: SB
DRAWING BY: MK	DATE: 01.24.2014
PROJECT NUMBER: LA003218.0001	FIGURE: 11

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Roadway Configuration as Assumed in the 2011 EA Study

Kansas Lane - Garrett Road Connector and I-20 Interchange Improvements

Ouachita Parish, Louisiana

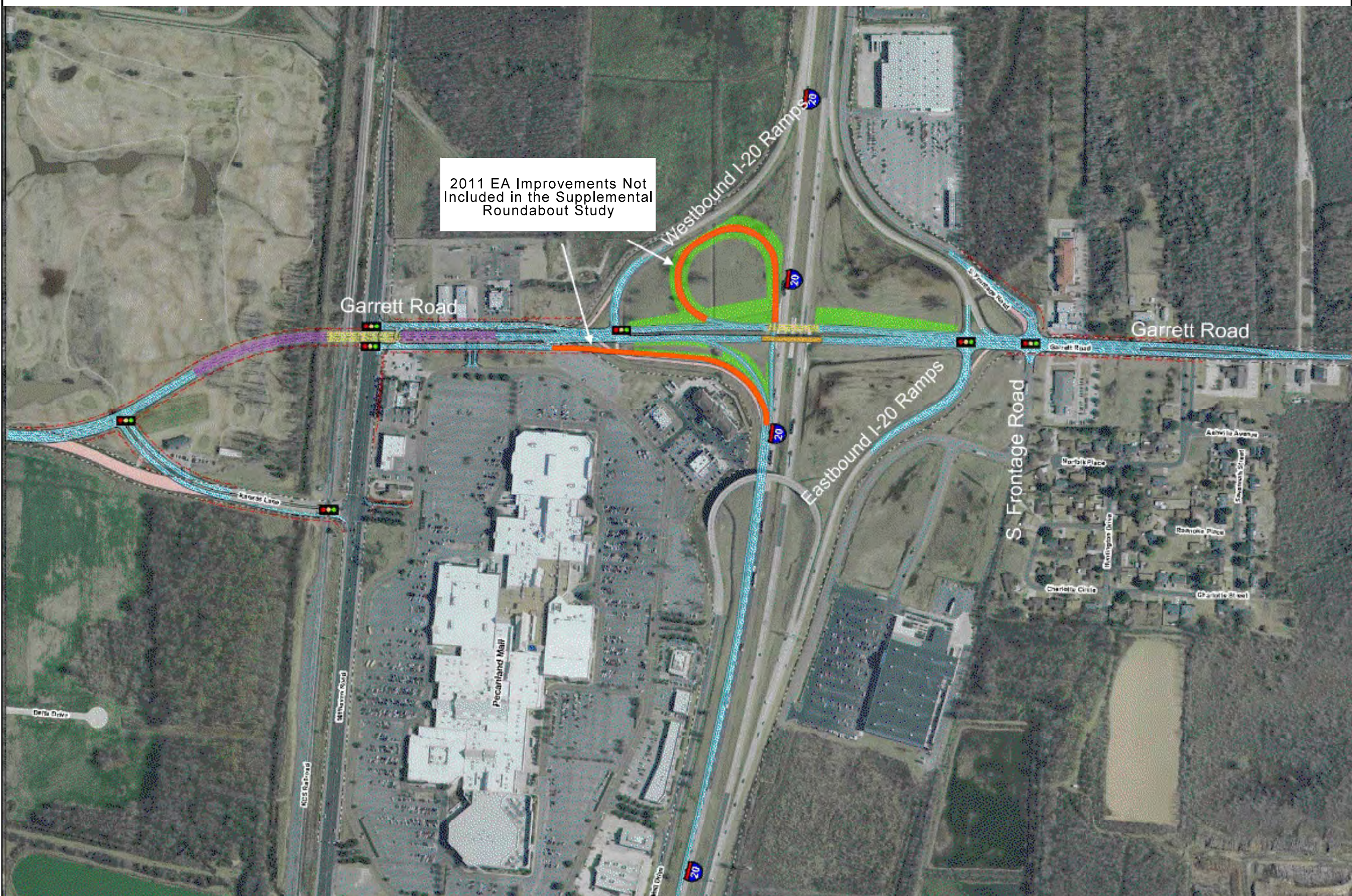
State Project No. H.004774.5  
F.A.P. No. IM 3704(508)



**Legend**

- Existing Features**
  - Pavement to be Removed
  - Bridge to Remain
  - Right-of-Way
- Proposed Features**
  - Right-of-Way
  - Earthen Embankment
  - Girder Span
  - Retaining Wall
  - Roadway
  - Traffic Signal

2011 EA Improvements Not Included in the Supplemental Roundabout Study



PROJECT MANAGER: SH	CHECKED BY: SB
DRAWING BY: MK	DATE: 06.20.2014
PROJECT NUMBER: LA003218.0001	FIGURE: 12

NOT TO SCALE





The focus of this supplemental study is to determine the suitability of a roundabout as an intersection control. Because roundabouts typically operate with less turn lanes than a traditional signal-controlled intersection for approaches with heavy turn volumes, this study analyzed the Garrett Road and I-20 westbound ramp intersection with its current configuration and a roundabout control. The Garrett Road and I-20 interchange was also modeled with its current diamond interchange configuration instead of the enhanced cloverleaf interchange proposed in the 2011 EA. The additional intersection improvements proposed in the 2011 EA (listed above) were not considered for the roundabout analysis.

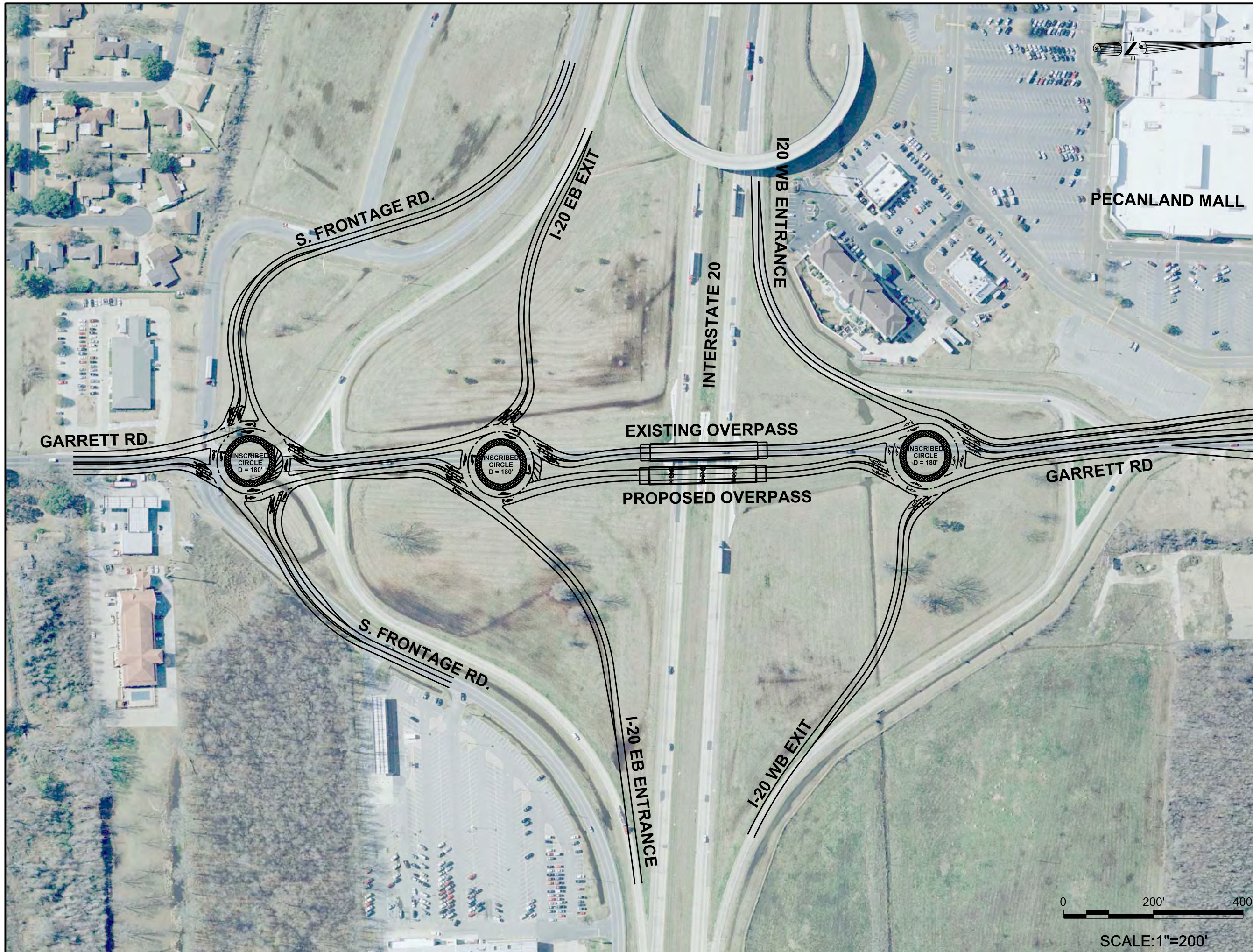
Figure 13 illustrates the conceptual layout of the proposed improvements for the Garrett Road and I-20 interchange.

As discussed above, the proposed build condition scenario includes roundabouts for intersection control at the following locations:

- Garrett Road at South Frontage Road;
- Garrett Road at I-20 Eastbound On- and Off-Ramps (Diamond Interchange configurations);
- Garrett Road at I-20 Westbound On- and Off-Ramps Ramps (Diamond Interchange configurations);
- Garrett Road at Millhaven Road; and
- Kansas Lane at the Proposed Connector (Railroad Overpass).

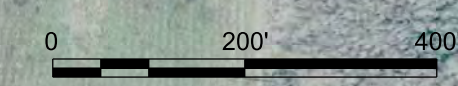
Alternative layouts were developed for the South Frontage Road and the I-20 eastbound ramp intersections along Garrett Road due to their relative proximity. The three alternatives that were studied are as follows:

- Build Alternative 1 – Separate roundabouts at the intersections of Garrett Road/ I-20 eastbound ramps and Garrett Road/South Frontage Road;
- Build Alternative 2 – A roundabout combining the intersections at Garrett Road/ I-20 eastbound ramps and Garrett Road/South Frontage Road; and
- Build Alternative 3 – A roundabout at the intersection of Garrett Road/ I-20 eastbound ramps and a U-turn roundabout south of the intersection of Garrett Road/South Frontage Road.



Roadway Configuration for the Garrett Road and I-20 Interchange for the Roundabout Study

Kansas Lane - Garrett Road Connector and I-20 Interchange Improvements  
 Ouachita Parish, Louisiana  
 State Project No. H.004774.5  
 F.A.P. No. IM 3704(508)



SCALE: 1"=200'

PROJECT MANAGER: SH	CHECKED BY: SB
DRAWING BY: MK	DATE: 06.20.2014
PROJECT NUMBER: LA003218.0001	FIGURE: 13



All three alternatives discussed above include roundabout treatments at the remaining study intersections north of I-20:

- Garrett Road at I-20 Westbound On- and Off-Ramps;
- Garrett Road at Millhaven Road; and
- Kansas Lane at the Connector.

### **5.3 Design Year (2035) Build Condition Analysis Results**

The roundabout study was performed for design year (2035) a.m. and p.m. peak hours in accordance with LADOTD EDSM VI.1.1.5. The operational performance of stop control, signal control, and roundabouts is compared for the study intersections.

#### **5.3.1 Stop-Controlled Analysis for Study Intersections**

The study intersections were modeled as two-way stop-controlled intersections with the stop sign assigned to the minor or lower-volume movements. The analysis was conducted using methodologies listed in 2010 HCM. The results of the analysis are summarized in Table 13.

As shown in Table 13, at the intersection of Garrett Road and South Frontage Road, both the eastbound and westbound approaches operate at LOS F in the design year.

The eastbound approach at the intersection of Garrett Road and the I-20 eastbound ramps operates at LOS F in the design year when the intersection has a stop control.

The westbound approach of the Garrett Road and I-20 westbound ramps intersection operates at LOS F for the design year with a stop control. The northbound approach of the Garrett Road and Millhaven Road intersection and the eastbound approach of the Kansas Lane and connector intersection also operate at LOS F with a stop control.

In summary, none of the study intersections operate at an acceptable LOS under stop-controlled conditions. These failing LOS are a result of high levels of delay experienced by the stop-controlled turning movements for the minor street.



**Table 13. Approach Delays and Level of Service for Stop-Controlled Study Intersections**

Intersection	Design Year (2035)				
		NB	SB	EB	WB
Garrett Road/South Frontage Road	A.M. Delay (veh/sec)	2	7	High	High
	P.M. Delay (veh/sec)	1	5	High	High
	A.M./P.M. LOS	A/A	A/A	F/F	F/F
Garrett Road/I-20 EB Ramps	A.M. Delay (veh/sec)	1	2	High	-
	P.M. Delay (veh/sec)	1	7	High	-
	A.M./P.M. LOS	A/A	A/A	F/F	-
Garrett Road/I-20 WB Ramps	A.M. Delay (veh/sec)	4	3	-	High
	P.M. Delay (veh/sec)	High	3	-	High
	A.M./P.M. LOS	A/F	A/A	-	F/F
Garrett Road/Millhaven Road	A.M. Delay (veh/sec)	130	-	1	6
	P.M. Delay (veh/sec)	High	-	4	178
	A.M./P.M. LOS	F/F	-	A/A	A/F
Kansas Lane/Connector	A.M. Delay (veh/sec)	40	5	High	-
	P.M. Delay (veh/sec)	105	3	High	-
	A.M./P.M. LOS	E/F	A/A	F/F	-

LOS Level of Service.  
 - Movement is not applicable to the intersection.  
 NB Northbound.  
 SB Southbound.  
 EB Eastbound.  
 WB Westbound.  
 High Delay is estimated very high.  
 veh/sec Vehicles per second.



### 5.3.2 Signal-Controlled Analysis for Study Intersections

The study intersections were analyzed as signalized intersections using HCM 2010 methodologies. Signal timing was optimized to achieve the best possible timing scenario for the projected travel conditions. SYNCHRO software was used to estimate optimal timing plans for the study intersections. Appendix F provides detailed intersection timing reports from SYNCHRO software. In addition, lane assignments and configuration were optimized to match anticipated future year build condition travel patterns. Results of the analysis are summarized in Table 14.

The Garrett Road and South Frontage Road intersection was analyzed with a signal that is coordinated with the Garrett Road and I-20 eastbound ramps intersection. As indicated in Table 14, the intersection will operate at LOS B with a v/c of 0.86 in the a.m. peak hour. The high v/c is mainly due to insufficient capacity to serve the demand in the northbound through lanes.

The Garrett Road and I-20 eastbound ramps intersection will operate at LOS D or better with an actuated-coordinated signal control; however, the intersection v/c is 1.09 in the a.m. peak hour, mainly due to high demand for the eastbound left-turn movement.

The Garrett Road and I-20 westbound ramps intersection and the Kansas Lane and connector intersection will both operate at LOS A or better in the design year with a v/c of 0.75 or lower as signalized intersections.

The Garrett Road and Millhaven Road intersection will operate at LOS D in the p.m. peak hour with an intersection v/c of 1.09 with signal control. Intersection delay and LOS are determined by averaging the intersection approach delays; however, the intersection v/c is set by the approach with the highest v/c. Therefore, an intersection v/c that exceeds 1.00 suggests that at least one of the approaches of the intersection operates at LOS F.

In summary, although the signal-controlled option offers better operations as compared to a stop-controlled option, most of the study intersections operate with high v/c ratios (between 0.75 and 1), with v/c ratios exceeding 1.0 at the I-20 eastbound ramps and the Millhaven Road intersection.



**Table 14. Intersection Delays and Volume to Capacity for Signal-Controlled Study Intersections**

Intersection	Design Year (2035)						
	Delay (seconds/vehicle)					LOS	v/c <sup>1</sup>
	NB	SB	EB	WB	Intersection	A.M./P.M.	A.M./P.M.
	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.		
Garrett Road/South Frontage Road	25/19	11/13	26/15	25/19	19/16	B/B	0.86/0.88
Garrett Road/I-20 EB Ramps	19/16	12/10	70/23	19/16	46/16	D/B	1.09/0.95
Garrett Road/I-20 WB Ramps	8/7	10/9	-/-	12/13	9/9	A/A	0.75/0.70
Garrett Road/Millhaven Road	32/44	-/-	27/27	28/75	30/60	C/D	0.82/1.09
Kansas Lane/Connector	9/12	8/9	20/25	-/-	12/14	B/B	0.90/0.93

<sup>1</sup> Highest approach v/c (volume to capacity)

LOS Level of service.  
 – Movement is not applicable to the intersection.  
 NB Northbound.  
 SB Southbound.  
 EB Eastbound.  
 WB Westbound.  
 High Delay is estimated very high.



### 5.3.3 Roundabout Analyses for Study Intersections

Analysis of roundabouts as the intersection control for the study intersections was conducted using SIDRA software and in conformance with LADOTD's EDSM VI.1.1.5. Conceptual layouts were developed for the preferred roundabout alternative to determine its feasibility. The suitability of an alternative was determined based on a comparative analysis of the three alternatives, which was conducted through review of the operational performance of each alternative. A brief discussion of the operations of each of the three alternatives follows. Note that roundabouts for intersections north of I-20 have the same layout for all three alternatives and as a result are only described under Alternative 1.

#### 5.3.3.1 Roundabout Analyses for Build Alternative 1

The configuration for Alternative 1 includes roundabout control at all five study intersections. The Garrett Road and South Frontage Road and the Garrett Road and the eastbound ramp intersections were analyzed as separate roundabouts. Results of the analysis are summarized in Table 15. Table 16 lists the projected queue length for each approach with a roundabout control.

Results of the analysis indicate that all study intersections function at LOS A, with average vehicle delays of less than 10 seconds per vehicle. These low delays are accompanied by low v/c ratios for most intersections during the a.m. and p.m. peak periods. The roundabout option also includes a lower number of total approach lanes for most study intersections as compared to a signal-controlled intersection.

Results of the analysis indicate that queues for a few approaches, including the southbound approach of the westbound ramp intersection and the southbound and eastbound approaches of the Kansas Lane/connector roundabout, show longer projected queues for build conditions. However, because average delays are less than 10 seconds per vehicle, these are "fast-moving" queues that pose minimal delays to drivers as compared to a queue at a signal that is static and causes noticeable vehicle delays.

In summary, Alternative 1, which includes roundabouts at all study intersections, provides significant operational benefits, with all intersections functioning with low delays and the highest LOS. In comparison to a signal control, the roundabout option also provides a compact footprint.



**Traffic Analysis/  
Roundabout Study**

Kansas Lane – Garrett Road  
Connector and I-20 Interchange  
Improvements, Route I-20  
Environmental Assessment  
Roundabout Study  
Ouachita Parish, Louisiana

**Table 15. Results of the Roundabout Analysis (Build Condition) for Alternative 1**

Intersection	Design Year (2035)						
	Delay (seconds/vehicle)					LOS	v/c <sup>1</sup>
	NB	SB	EB	WB	Intersection	A.M./P.M.	A.M./P.M.
	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.		
<b>Intersections South of I-20</b>							
Garrett Road/South Frontage Road	2/2	1/2	2/4	2/3	1/2	A/A	0.35/0.49
Garrett Road/I-20 EB Ramps	4/7	0/0	7/10	-/-	5/5	A/A	0.80/0.73
<b>Intersections North of I-20</b>							
Garrett Road/I-20 WB Ramps	0/0	1/7	-/-	7/6	1/4	A/A	0.62/0.69
Garrett Road/Millhaven Road	1/1	-/-	2/10	0/3	1/4	A/A	0.69/0.69
Kansas Lane/Connector	3/5	0/0	5/30	-/-	2/9	A/A	0.71/0.89

<sup>1</sup>v/c (volume to capacity) reported is the maximum of all approaches

- LOS Level of Service.
- Movement is not applicable to the intersection.
- NB Northbound.
- SB Southbound.
- EB Eastbound.
- WB Westbound.





**Table 16. Peak Hour 95<sup>th</sup> Percentile Queue Lengths for Alternative 1**

Intersection	95th Percentile Queue Length (feet) – A.M. and P.M. Peak Hour			
	NB A.M./P.M.	SB A.M./P.M.	EB A.M./P.M.	WB A.M./P.M.
<b>Intersections South of I-20</b>				
Garrett Road at I-20 EB Ramps	83/167	0/0	221/156	-/-
Garrett Road at I-20 South Frontage Road	46/33	44/104	8/29	12/71
<b>Intersections North of I-20</b>				
Garrett Road at I-20 WB Ramps	0/0	38/219	-/-	21/37
Garrett Road at Millhaven Road	24/83	-/-	83/232	32/154
Connector at Kansas Lane	46/75	296/360	84/382	-/-

- Movement is not applicable to the intersection.
- NB Northbound.
- SB Southbound.
- EB Eastbound.
- WB Westbound.

**5.3.3.2 Roundabout Analyses for Build Alternative 2**

Alternative 2 includes a larger roundabout south of I-20 along Garrett Road that combines the intersections of Garrett Road and South Frontage Road and Garrett Road and the eastbound ramps. The configurations for the remaining intersections remain the same as that proposed for Alternative 1. Results of the analysis are shown in Table 17 (delay/LOS) and Table 18 (95<sup>th</sup> percentile queues).

Results of the analysis indicate that the combined roundabout in Alternative 2 operates at LOS D or better. However, the intersection v/c is 1.15 in the a.m. peak hours, which is mainly due to insufficient capacity to serve the left-turn movement on the I-20 eastbound ramps approach. The higher delay for the eastbound approach from the eastbound off-ramp is accompanied by a significant queue that is projected to exceed 1,800 feet. As a result, operations are unacceptable for the combined roundabout.



## Traffic Analysis/ Roundabout Study

Kansas Lane – Garrett Road  
Connector and I-20 Interchange  
Improvements, Route I-20  
Environmental Assessment  
Roundabout Study  
Ouachita Parish, Louisiana

**Table 17. Results of the Roundabout Analysis (Build Condition) for Alternative 2**

Intersection	Design Year (2035)							
	Delay (seconds/vehicle)						LOS	v/c <sup>1</sup>
	NB	SB	SEB <sup>2</sup>	EB/NEB <sup>2</sup>	WB/NWB <sup>2</sup>	Intersection	A.M./P.M.	A.M./P.M.
	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.		
<b>Intersections South of I-20</b>								
Garrett Road/Combined (South Frontage Road and EB Ramp) Roundabout	30/18	0/1	64/14	14/22	18/38	41/16	D/B	1.15/0.87
<b>Intersections North of I-20</b>								
Garrett Road/I-20 WB Ramps	0/0	1/7	-/-	-/-	7/6	1/4	A/A	0.62/0.69
Garrett Road/Millhaven Road	1/1	-/-	-/-	2/10	0/3	1/4	A/A	0.69/0.69
Kansas Lane/Connector	3/5	0/0	-/-	5/30	-/-	2/9	A/A	0.71/0.89

<sup>1</sup> v/c (volume to capacity) reported is the maximum of all approaches

<sup>2</sup> Ordinal directions apply only to the combined roundabout

LOS Level of Service.  
 - Movement is not applicable to the intersection.  
 NB Northbound.  
 SB Southbound.  
 EB Eastbound.  
 WB Westbound.  
 SEB Southeastbound.  
 NEB Northeastbound.  
 NWB Northwestbound.



**Table 18. Peak Hour 95<sup>th</sup> Percentile Queue Lengths for Build Alternative 2**

Intersection	95th Percentile Queue Length (feet) – A.M. and P.M. Peak Hour				
	NB A.M./P.M.	SB A.M./P.M.	SEB <sup>2</sup> A.M./P.M.	EB/NEB <sup>2</sup> A.M./P.M.	WB/NWB <sup>2</sup> A.M./P.M.
<b>Intersections South of I-20</b>					
Garrett Road/Combined (South Frontage Road and EB Ramp) Roundabout	268/146	28/96	1833/230	35/88	62/352
<b>Intersections North of I-20</b>					
Garrett Road at I-20 WB Ramps	0	38/219	-	-	21/37
Garrett Road at Millhaven Road	24/83	-	-	83/232	32/154
Connector at Kansas Lane	46/75	296/360	-	84/382	-

<sup>1</sup> v/c (volume to capacity) reported is the maximum of all approaches

<sup>2</sup> Ordinal directions apply only to the combined roundabout

LOS Level of Service.

- Movement is not applicable to the intersection.

NB Northbound.

SB Southbound.

EB Eastbound.

WB Westbound.

SEB Southeastbound.

NEB Northeastbound.

NWB Northwestbound.

### 5.3.3.3 Roundabout Analyses for Build Alternative 3

#### Roundabout Analysis

Alternative 3 includes a roundabout for the intersection of Garrett Road and the eastbound ramps and a roundabout south of South Frontage Road to allow for U-turn movements. The South Frontage Road intersection with Garrett Road functions as a signalized intersection that prohibits left turns from South Frontage Road approaches. Instead, the left-turn movement has to perform a right turn at the South Frontage Road intersection, drive to the new U-turn roundabout south of the intersection, and perform a U-turn to travel north on Garrett Road. Results of the analysis are shown in Table 19 (delay and LOS) and Table 20 (95<sup>th</sup> percentile queues).



**Traffic Analysis/  
Roundabout Study**

Kansas Lane – Garrett Road  
Connector and I-20 Interchange  
Improvements, Route I-20  
Environmental Assessment  
Roundabout Study  
Ouachita Parish, Louisiana

**Table 19. Results of the Roundabout Analysis (Build Condition) for Alternative 3**

Intersection	Design Year (2035)						
	Delay (seconds/vehicle)					LOS	v/c <sup>1</sup>
	NB	SB	EB	WB	Intersection	A.M./P.M.	A.M./P.M.
	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.		
<b>Intersections South of I-20</b>							
Garrett Road/I-20 EB Ramps	5/6	0/0	8/13	-/-	6/6	A/A	0.84/0.80
U-turn Roundabout	2/3	0/	-/-	-/-	1/1	A/A	0.35/0.43
<b>Intersections North of I-20</b>							
Garrett Road/I-20 WB Ramps	0/0	1/7	-/-	7/6	1/4	A/A	0.62/0.69
Garrett Road/Millhaven Road	1/1	-/-	2/10	0/3	1/4	A/A	0.69/0.69
Kansas Lane/Connector	3/5	0/0	5/30	-/-	2/9	A/A	0.71/0.89

<sup>1</sup> v/c (volume to capacity) reported is the maximum of all approaches.

- LOS Level of Service.
- Movement is not applicable to the intersection.
- NB Northbound.
- B Southbound.
- EB Eastbound.
- WB Westbound.



**Table 20. Peak Hour 95<sup>th</sup> Percentile Queue Lengths for Build Alternative 3**

Intersection	95th Percentile Queue Length (feet) – A.M. and P.M. Peak Hour			
	NB A.M./P.M.	SB A.M./P.M.	EB A.M./P.M.	WB A.M./P.M.
<b>Intersections South of I-20</b>				
Garrett Road at I-20 EB Ramps	86/150	-/-	257/194	-/-
Garrett Road South of South Frontage Road	49/40	-/-	-/-	-/-
<b>Intersections North of I-20</b>				
Garrett Road at I-20 WB Ramps	0	38/219	-/-	21/37
Garrett Road at Millhaven Road	24/83	-/-	83/232	32/154
Connector at Kansas Lane	46/75	<b>296/360</b>	<b>84/382</b>	-/-

- Movement is not applicable to the intersection.
- NB Northbound.
- SB Southbound.
- EB Eastbound.
- WB Westbound.

If Build Alternative 3 is implemented, the intersection of Garrett Road and the I-20 eastbound ramps would operate at LOS A in both the a.m. and p.m. peak hours, with a v/c less than 0.85. The U-turn roundabout in Build Alternative 3 will operate at LOS A in the design year. Both the northbound and southbound approaches will operate with delays of less than 3 seconds per vehicle.

Signal Control Analysis

Alternative 3 was also analyzed as a signalized intersection because the U-turn configuration south of the South Frontage Road intersection was not included in the base signalized intersection scenario discussed in Section 5.3.2.

If Build Alternative 3 is implemented, the Garrett Road and South Frontage Road intersection will operate at LOS B in the p.m. peak hour, with an intersection v/c of 0.76, as shown in Table 21.

Table 22 shows the 95<sup>th</sup> percentile queues for the signalized option. When compared with the results for the no-build analysis for this intersection, shown in Table 11, the



intersection delay and v/c are significantly improved with the introduction of a U-turn roundabout and thus the elimination of left turns from South Frontage Road.

**Table 21. Intersection Delays and Volume to Capacity for Signal Control for Build Alternative 3**

Intersection	Design Year (2035)						
	Delay (seconds/vehicle)					LOS	v/c
	NB	SB	EB	WB	Int.	A.M./P.M.	A.M./P.M.
	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.		
Garrett Road/ South Frontage Road	8/13	4/12	8/15	12/6	7/10	A/B	0.64/0.76

v/c Volume to capacity.  
LOS Level of service.  
NB Northbound.  
SB Southbound.  
EB Eastbound.  
WB Westbound.

**Table 22. Peak Hour 95<sup>th</sup> Percentile Queue Lengths for Build Alternative 3 Signal Control**

Intersection	95th Percentile Queue Length (feet)			
	NB	SB	EB	WB
	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.
Garrett Road at I-20 South Frontage Road	336/223	160/291	43/80	54/84

NB Northbound  
SB Southbound  
EB Eastbound  
WB Westbound

5.3.3.4 Breakdown Year Analysis

It was acknowledged during the early stages of the study that the project may have to be deployed in a phased manner not only to maximize the effectiveness of the available funding but also to tailor the project to demand, hence ensuring a safe design. With this goal in mind, ARCADIS performed an analysis in SIDRA 6 to determine the breakdown year of single-lane roundabout at the study intersections. The v/c was used as a criterion to determine the breakdown year. A v/c ratio of 0.85 was used as the threshold for determination of the need for a multi-lane roundabout (less than 0.85 would be a single-lane roundabout).



The analysis assumed an annual 2 percent traffic growth rate without any planned developments. As shown in Table 23, at least one of the single-lane roundabouts in any of the three build alternatives requires upgrading to a multi-lane roundabout before the design year (2035). The roundabout at the I-20 eastbound ramps intersection in Build Alternative 1 operates at an acceptable performance longer than in Build Alternative 3. It should be noted that breakdown years may occur sooner than estimated in Table 23 when the impact of the Kansas Lane – Garrett Road Connector and the planned land-use developments in the area are taken into consideration.

**Table 23. Single-Lane Roundabout Breakdown Year**

<b>Garrett Road Roundabouts</b>	<b>Breakdown Year</b>
<i>Build Alternative 1</i>	
South Frontage Road	2028
I-20 Eastbound Ramps	2031
<i>Build Alternative 2</i>	
Combined Roundabout	2018
<i>Build Alternative 3</i>	
U-turn Roundabout	>2035
I-20 Eastbound Ramps	2027
<i>All Build Alternatives</i>	
I-20 Westbound Ramps	>2035

## 6. Concept Designs and Cost

Planning-level roundabout designs were developed consistent with LADOTD EDSM VI.1.1.6 (roundabout designs) and EDSM VI.1.1.5 (roundabout safety and approval). Figures G-1 through G-7 (Appendix G) illustrate these concepts. Construction costs from a 95 percent roundabout design project and a 2014 interchange roundabout project were reviewed to develop an assumed base roundabout construction cost for this study. These costs were combined with revised costs for the selected alternative of the 2011 Kansas Lane – Garrett Road Connector and I-20 Interchange Finding of No Significant Impact (FONSI). Costs are summarized in Table 24.



**Table 24. Revised FONSI Selected Alternative Construction, Contingency, and Engineering Costs**

Item No.	Item	Amount
2011 FONSI Preferred Alternative Costs		
1	Subtotal Construction Costs (2011\$)	\$23,300,000
2	Estimated Costs of Five Signalized Intersections (2011\$)	\$4,330,000
3	Estimated Costs of I-20 Westbound Loop Ramp (2011\$)	\$670,000
4	Partial Construction Costs (Items 2 and 3 Removed) (2011\$)	\$18,300,000
5	Partial Construction Costs Adjusted to 2014\$	\$19,500,000
2011 FONSI Selected Alternative Costs		
6	Assumed Roundabout Costs (2014\$)	\$5,870,000
Estimated 2014\$ Construction, Contingency, and Engineering Costs of Revised FONSI Selected Alternative		
7	Subtotal Revised Construction Costs (Item 5 + Item 6)	25,370,000
8	15% Contingency	3,800,000
9	Subtotal Revised Construction Cost + Contingency	29,200,000
10	Engineering Fees (10% of Subtotal Revised Construction + Contingency Cost)	2,900,000
11	<b>Subtotal Revised Construction, Contingency, and Engineering Fees</b>	<b>32,100,000</b>

*Notes:*

- Items 1-7 rounded to nearest \$10k; Items 8-11 rounded to nearest \$100k.
- Item 2 and 6 estimates of the construction cost for both the Roundabout and Signalized Intersection were based on Prevailing Unit Pricing and Parametric Quantity Takeoff. For the purpose of making a consistent comparison, these costs include all improvements at the intersection and along each approach to a distance set by the extents of the Roundabout approaches. The current LaDOTD Weighted Unit Price index, dated 4/16/2014, was used for establishing unit prices. For the Roundabout costs, the bid tabulations for 3 Roundabout projects were reviewed to determine if the prevailing unit prices of any items tended to be higher for Roundabout construction. The units prices for the Roundabout estimate were adjusted accordingly. The projects reviewed were LA 431 @ LA 42 (H.002371, Letting of 11/16/2011), U.S. 190 @ E. Jct. LA 434 (H.000504, Letting of 11/14/2012), and LA 16 @ LA 22 (H.002373, Letting of 6/11/2014).
- Item 5 adjusted using RS Means National Construction Historical Cost Index.
- Item 11 includes only items in the description. No other cost items are included (e.g., utilities relocation, right-of-way, relocations).

*Sources:*

- LADOTD. 2011. *Finding of No Significant Impact, Kansas Lane – Garrett Road Connector and I-20 Interchange Improvements Route I-20 Ouachita Parish, Louisiana State Project No. 700-37-0119 (H.004774.2), F.A.P. No. IM-3704(508)*; Opinion of Probable Cost for Preferred Alternative 1A-2 in Appendix E-3. January 28.
- RS Means. 2014. *Historical Cost*.

*Index:*

- <http://www.reedconstructiondata.com/rsmeans/chgnotice/456321>. Obtained in July.





## 7. Conclusions and Recommendations

Analyses of intersection capacity for future year conditions indicate the need for improvements along Garrett Road in the vicinity of the I-20 interchange to meet increased travel demand along the corridor. The no-build condition analysis for 2035 shows that all of the unsignalized intersections in the study area will operate at LOS F. The signalized intersections on Garrett Road south of I-20 will operate at LOS F in the design year.

Roundabouts were analyzed for improving traffic operations and safety on Garrett Road near the I-20 interchange, in addition to intersection lane improvements with signal control. Signalization of all study intersections requires widening of the approaches and does not result in acceptable operations at all locations. Roundabouts were considered for a comparative analysis of intersection control treatments due to the following three factors:

1. Enhanced safety.
2. Additional capacity as compared to other traditional intersection controls.
3. Potential for a reduced footprint for intersection approaches with heavy turning movements.

A crash analysis was performed based on crash data obtained from LADOTD for the period between 2010 and 2012. During the 3-year period of analysis, the “rear-end” crashes with other vehicles were the most frequent, with a total of 38, followed by “right-angle” crashes, with a total of 15. Ten were left-/right-turn crashes and 3 were head-on incidents. Roundabouts are expected to result in the greatest reduction in these types of correctable crashes (right angle, left/right turn, head on), which constitute approximately 37 percent of the total crashes in the study area<sup>1</sup>.

Proposed roundabout improvements on Garrett Road were also analyzed using crash modification factors (CMFs) available from the Federal Highway Administration’s (FHWA’s) clearinghouse. A CMF is a multiplicative factor used to compute the expected number of crashes after implementation of a safety improvement strategy. The FHWA CMF clearinghouse includes all CMFs listed in HCM 2010. Considering all area types, crash types, and crash severity types, a CMF to convert an

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<sup>1</sup> This report is prepared solely for the purpose of identifying, evaluating, and planning safety improvements on public roads and is therefore exempt from discovery or admission under 23 U.S.C. 409.



intersection with minor road stop control to a modern roundabout is 0.56, which represents a 44 percent reduction in crashes of all types and severities. The CMF for serious injury and minor injury is 0.18, which represents a reduction of 82 percent of such crashes. For the same conditions, a CMF to convert a signalized intersection to a modern roundabout is 0.52 for all crash and severity types (48 percent reduction) and 0.22 for serious and minor injury (78 percent reduction). Therefore, it is expected that the proposed roundabouts will greatly enhance safety on the Garrett Road corridor.

Capacity analyses was conducted for three build alternatives with roundabouts as the intersection control in accordance with LADOTD EDSM VI.1.1.5. Table 25 provides a comparison of the intersection operations under various control types and study alternatives.

Results of the capacity analyses indicate that the roundabout alternatives outperform the signal and stop control options. The stop control option functions unacceptably with very high delays at all locations, while the signal control option operates better than stop control with lower delays. However, the signal control option requires additional lane improvements to function adequately but with higher v/c ratios as compared to the proposed roundabout configurations.

Of the three study alternatives with roundabout control, Alternative 1 functions the best with the lowest intersection delay. In addition, a breakdown year analysis indicates that Alternative 1 would function acceptably as a single-lane roundabout for the longest period of time before it would require widening to a multi-lane roundabout. The roundabouts for Alternative 1 offer the best resilience and longevity of all alternatives in addition to the lowest operating delays. Alternative 3 includes additional delay for vehicles on South Frontage Road due to the elimination of the left turn. Most importantly, Alternative 3 includes an additional intersection/conflict area (U-turn roundabout) as compared to the roadway configuration for Alternative 1, which results in Alternative 1 being the best option from a safety perspective.



**Table 25. Comparison of Operations for the Various Build Alternatives (2035)**

Study Intersection	Stop Control <sup>1</sup> (A.M./P.M.)		Signal Control (A.M./P.M.)		Roundabout Control (A.M./P.M.)					
					Alternative 1		Alternative 2		Alternative 3	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Garrett Road/ South Frontage Road <sup>2</sup>	High <sup>3</sup>	F/F	19/16	B/B	1/2	A/A	41/16	D/B	7/10 <sup>4</sup>	A/B
U-Turn Roundabout	-	-	-	-	-	-	-	-	1/1	A/A
Garrett Road/I-20 Eastbound Ramps	High <sup>3</sup>	F/F	48/16	D/B	5/5	A/A	-/-	-/-	6/6	A/A
Garrett Road/I-20 Westbound Ramps	High <sup>3</sup>	F/F	9/9	A/A	1/4	A/A	1/4	A/A	1/4	A/A
Garrett Road at Millhaven Road	High <sup>3</sup>	F/F	30/60	C/D	1/4	A/A	1/4	A/A	1/4	A/A
Connector at Kansas Lane	High <sup>3</sup>	F/F	12/14	B/B	2/9	A/A	2/9	A/A	2/9	A/A

<sup>1</sup> Delay and LOS reported for the worst approach of the intersection.

<sup>2</sup> Denotes a combined roundabout for Alternative 2.

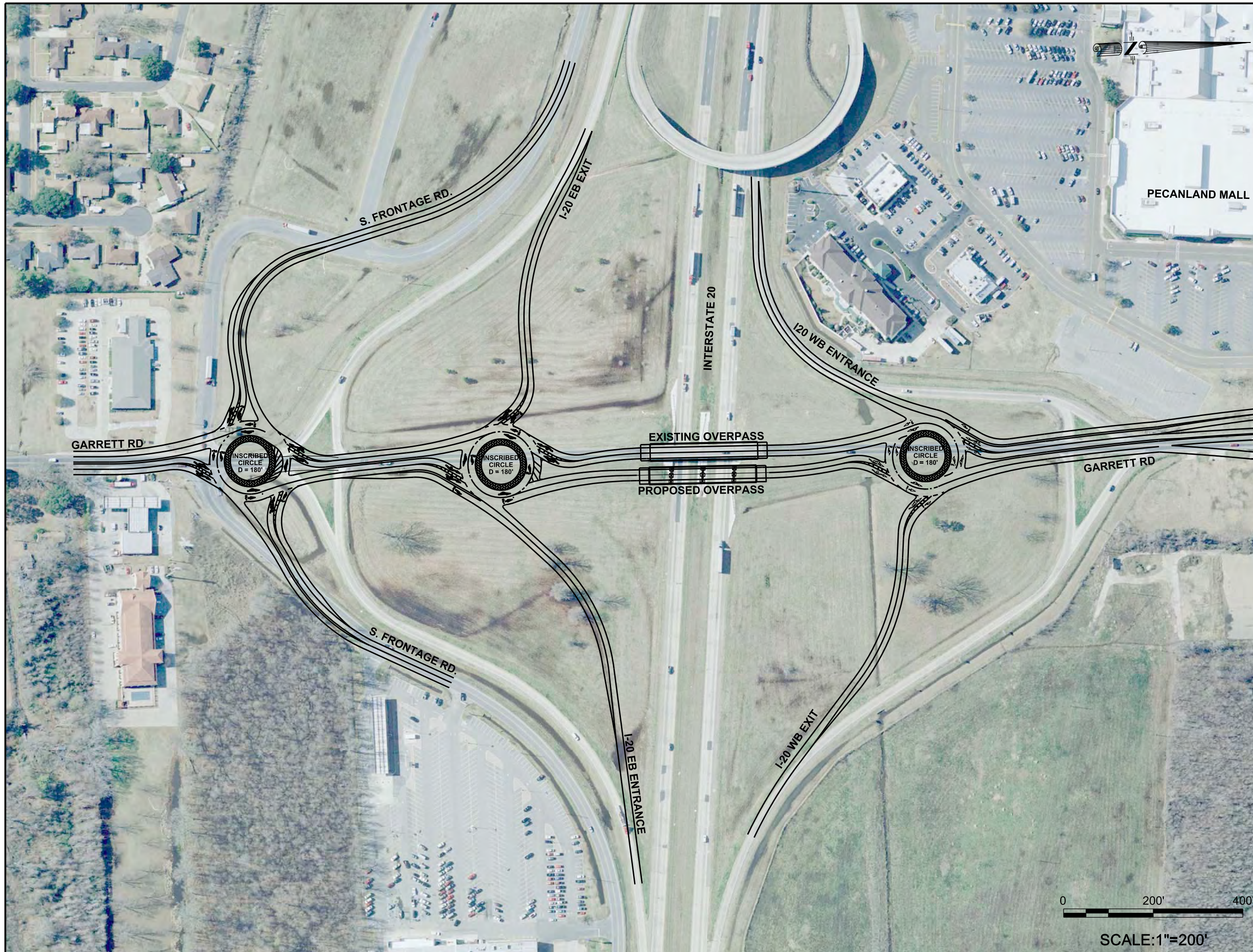
<sup>3</sup> Delay values exceed reporting limits of the analysis tool (typically >1000 seconds/vehicle).

<sup>4</sup> Intersection is a restricted movement signalized intersection for Alternative 3.

- Movement is not applicable to the intersection.

LOS Level of service.

Because Alternative 1 offers the highest safety benefit of the three roundabout alternatives, it is recommended that Alternative 1 be considered as the preferred option for the study area. The final recommended configuration is shown on Figures 14 and 15.



Roadway Configuration for  
Build Analysis -  
Preferred Alternative (Part 1)

Kansas Lane - Garrett Road  
Connector and I-20 Interchange  
Improvements

Ouachita Parish, Louisiana  
State Project No. H.004774.5  
F.A.P. No. IM 3704(508)



SCALE: 1"=200'

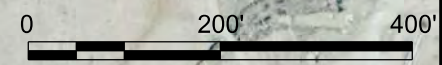
PROJECT MANAGER: SH	CHECKED BY: SB
DRAWING BY: MK	DATE: 06.20.2014
PROJECT NUMBER: LA003218.0001	FIGURE: 14



Roadway Configuration for  
Build Analysis -  
Preferred Alternative (Part 2)

Kansas Lane - Garrett Road  
Connector and I-20 Interchange  
Improvements

Ouachita Parish, Louisiana  
State Project No. H.004774.5  
F.A.P. No. IM 3704(508)



SCALE: 1"=200'

PROJECT MANAGER: SH	CHECKED BY: SB
DRAWING BY: MK	DATE: 06.20.2014
PROJECT NUMBER: LA003218.0001	FIGURE: 15



## **Appendix A**

Crash Data

Date	YEAR	Coll Type	Intersection	Pri Road Name	Num Fatal	Num Injury
2/1/2010	2010	Rear End	I-20 WEST	GARRETTE ROAD	0	0
2/26/2010	2010	Head on	FRONTAGE	GARRETT	0	1
2/26/2010	2010	Left Turn-f	MILLHAVEN ROAD	GARRETT	0	1
2/27/2010	2010	Non Coll		GARRETT	0	0
3/4/2010	2010	Rear End	LA-594	GARRETT	0	0
3/12/2010	2010	Rt Angle	MILLHAVEN	GARRETT	0	0
3/14/2010	2010	Rt Angle	I-20 ON RAMP	GARRETT	0	2
4/4/2010	2010	Rear End	FRONTAGE ROAD	GARRETT	0	3
4/5/2010	2010	Left Turn-g	MILLHAVEN RD	GARRETT ROAD	0	2
4/9/2010	2010	Rear End	MILLHAVEN	GARRETT	0	2
4/11/2010	2010	Z	MILLHAVEN ROAD	GARRETT	0	0
5/17/2010	2010	Rear End	LA-594 HIGHWAY	GARRETT	0	0
6/14/2010	2010	Rt Angle	FRONTAGE ROAD	GARRETT	0	0
7/7/2010	2010	Rear End	MILLHAVEN	GARRETT	0	0
7/10/2010	2010	Rear End	I-20	GARRETT	0	0
7/22/2010	2010	Rt Angle	I-20 OFF RAMP 120	GARRETT RD	0	0
7/22/2010	2010	Rear End	I-20 EAST RAMP	GARRETT ROAD	0	1
7/29/2010	2010	Rt Angle	FRONTAGE	GARRETT ROAD	0	1
8/5/2010	2010	Rt Angle	1-20 E EXIT 120	GARRETT ROAD	0	0
8/13/2010	2010	Z	FRONTAGE ROAD	GARRETT	0	1
8/19/2010	2010	Rear End	I 20 EX RAMP	GARRETT	0	0
8/30/2010	2010	Rear End	HWY 594	GARRETT	0	0
8/30/2010	2010	Rear End	20 EXIT RAMP 120	GARRETT	0	0
9/3/2010	2010	Rear End	FRONTAGE ROAD	GARRETT ROAD	0	7
9/20/2010	2010	Rear End	FRONTAGE ROAD	GARRETT	0	0
10/9/2010	2010	Left Turn-f	INTERSTATE 20 ON RAMP	GARRETT ROAD	0	0
10/16/2010	2010	Rt Angle	MILLHAVEN	GARRETT	0	0
10/17/2010	2010	Z	I-20	GARRETT	0	0
11/11/2010	2010	Rear End	MILLHAVEN 594	GARRETT	0	0
11/12/2010	2010	Rear End	FRONTASA	GARRETT RD.	0	1
11/20/2010	2010	Head on	I-20	GARRETT	0	2
12/2/2010	2010	Rear End	MILLHAVEN HWY 594	GARRETT ROAD	0	0
12/10/2010	2010	Left Turn-g	LA 594 MILLHAVEN	GARRETT	0	1
12/12/2010	2010	Rt Angle	LA 594 MILHAVEN	GARRETT	0	1
1/4/2011	2011	Rear End	594 (MILLHAVEN)	GARRETT ROAD	0	0
1/18/2011	2011	Non Coll	LA 594 MILHAVEN ROAD	GARRETT	0	0
1/29/2011	2011	Rear End	I-20	GARRETT ROAD	0	1
2/19/2011	2011	Rear End	MILHAVEN	GARRETT	0	0
2/28/2011	2011	Rear End	FRONTAGE ROAD	GARRETT	0	1
3/1/2011	2011	Non Coll	I-20 W/B EXIT	GARRETT	0	0
3/12/2011	2011	Z	MILLHAVEN	GARRETT	0	0
3/16/2011	2011	Rt Angle	MILLHAVEN ROAD	GARRETT	0	0
3/19/2011	2011	Left Turn-f	I-20 RAMP	GARRETT	0	0
3/20/2011	2011	Rear End	MILLHAVEN ROAD	GARRETT	0	0
3/23/2011	2011	Rear End	I-20 EXIT RAMP	GARRETT	0	0
3/29/2011	2011	Rear End	FRONTAGE ROAD	GARRETT ROAD	0	0
4/5/2011	2011	Rear End	I-20	GARRETT	0	0
4/12/2011	2011	Left Turn-g	EXIT 120 RAMP	GARRETT ROAD	0	0
4/29/2011	2011	Rear End	I-20 OFF RAMP	GARRETT	0	2
5/23/2011	2011	Left Turn-e	EXIT 120	GARRETT	0	1
6/1/2011	2011	Rear End	I-20	GARRETT	0	1
7/16/2011	2011	Rt Angle	I-20 WB RAMP	GARRETT	0	2
7/20/2011	2011	Rear End	594 MILLHAVEN ROAD	GARRETT	0	0
7/25/2011	2011	Rt Angle	I-20 WEST BOUND	GARRETT	0	0
7/28/2011	2011	Z	I-20 EXIT RAMP	GARRETT	0	0
8/22/2011	2011	Rear End	594 MILLHAVEN ROAD	GARRETT	0	0

Date	YEAR	Coll Type	Intersection	Pri Road Name	Num Fatal	Num Injury
8/23/2011	2011	Rear End	594 MILLHAVEN ROAD	GARRETT	0	0
9/10/2011	2011	Rt Angle	FRONTAGE	GARRETT	0	0
10/3/2011	2011	Rear End	594 / MILLHAVEN ROAD	GARRETT	0	2
11/27/2011	2011	Left Turn-f	FRONTAGE ROAD	GARRETT	0	4
12/18/2011	2011	Rt Angle	MILLHAVEN ROAD	GARRETT	0	0
12/27/2011	2011	Rear End	FRONTAGE ROAD	GARRETT	0	0
2/10/2012	2012	Rear End	FRONTAGE ROAD	GARRETT	0	0
3/4/2012	2012	Rear End	I-20 EXIT 120 GAR	GARRETT	0	2
4/13/2012	2012	Rt Angle	HWY 594	GARRETT RD	0	0
4/20/2012	2012	Rear End	MILLHAVEN ROAD	GARRETT	0	0
4/22/2012	2012	Z	20 INTERSTATE- EAST	GARRETT	0	0
5/2/2012	2012	Left Turn-e	MILLHAVEN RD	GARRETT RD	0	0
5/10/2012	2012	Rear End	FRONTAGE ROAD	GARRETT	0	2
5/21/2012	2012	Head on	FRONTAGE ROAD	GARRETT	0	3
6/2/2012	2012	Rear End	FRONTAGE	GARRETT	0	2
7/30/2012	2012	Rear End	I-20	GARRETT	0	0
7/30/2012	2012	Right Turn-h	594 MILLHAVEN RD	GARRETT	0	0
9/4/2012	2012	Rear End	W INTERSTATE 20 ON RAMP	GARRETT	0	0
9/12/2012	2012	Rt Angle	MILLHAVEN RD	GARRETT	0	0
11/23/2012	2012	S Swipe(od)	FRONTAGE RD	GARRETT	0	2





## **Appendix B**

Traffic Signal Inventory

# TRAFFIC SIGNAL INVENTORY

TSI NO. **107**  
SHEET: 1 OF 6

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT/ TRAFFIC SECTION District 05

**INTERSECTION:** LA 594 (MILLHAVEN) AT KANSAS LANE

**CITY:** MONROE **PARISH:** OUACHITA **INSTALLATION DATE:**

**TYPE SIGNAL:** Semi-Actuated, Isolated **LAST REVISION DATE:** 01/11/06

PHASES INTERVALS	I 5# # 9			I 7# # ;			I 4 + I 6											FL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
↑ SIGNAL FACES ↓	1	G	Y	R			G/G	G/Y←	G										Y
	2	G	Y	R				G	G	G									Y
	3	G	Y	R				G	G	G									Y
	4	G	Y	R															Y
	5	G	Y	R															Y
	6	G→	Y→	R															Y→
	7				G	Y	R												R
	8				G	Y	R												R
	9				G	Y	R												R
	10				G	Y	R												R
	11				G	Y	R	R/G→	RAY→	R									R
	12																		
	13																		
	14																		
	15																		
	16																		

Manual  
Hours of Flashing Operation:

TIME	SEC	25.0	5.0	1.0	25.0	5.0	1.0	7.0	5.0	1.0									Offset =
FO	SEC	Floating Force Offs																	0
YP	SEC																		sec

PLAN = CYCLE LENGTH = **75** TIMES OF OPERATION = M-F 8:15am-4pm, 6pm-10pm S&S 7am-10pm

TIME	SEC	25.0	5.0	1.0	35.0	5.0	1.0	12.0	5.0	1.0									Offset =
FO	SEC	Floating Force Offs																	0
YP	SEC																		sec

PLAN = CYCLE LENGTH = **90** TIMES OF OPERATION = M-F 7am - 8:15am, 4pm - 6pm

TIME	SEC																		Offset =
FO	SEC																		sec
YP	SEC																		

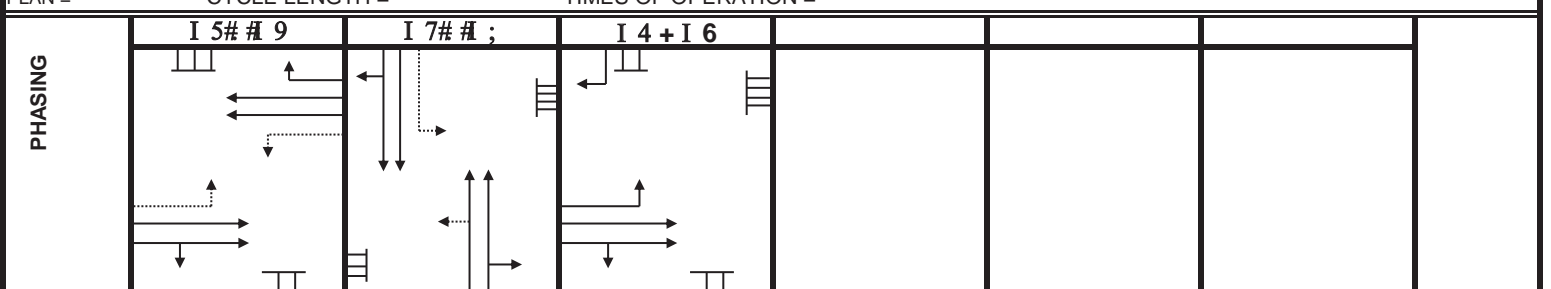
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TIME	SEC																		Offset =
FO	SEC																		sec
YP	SEC																		

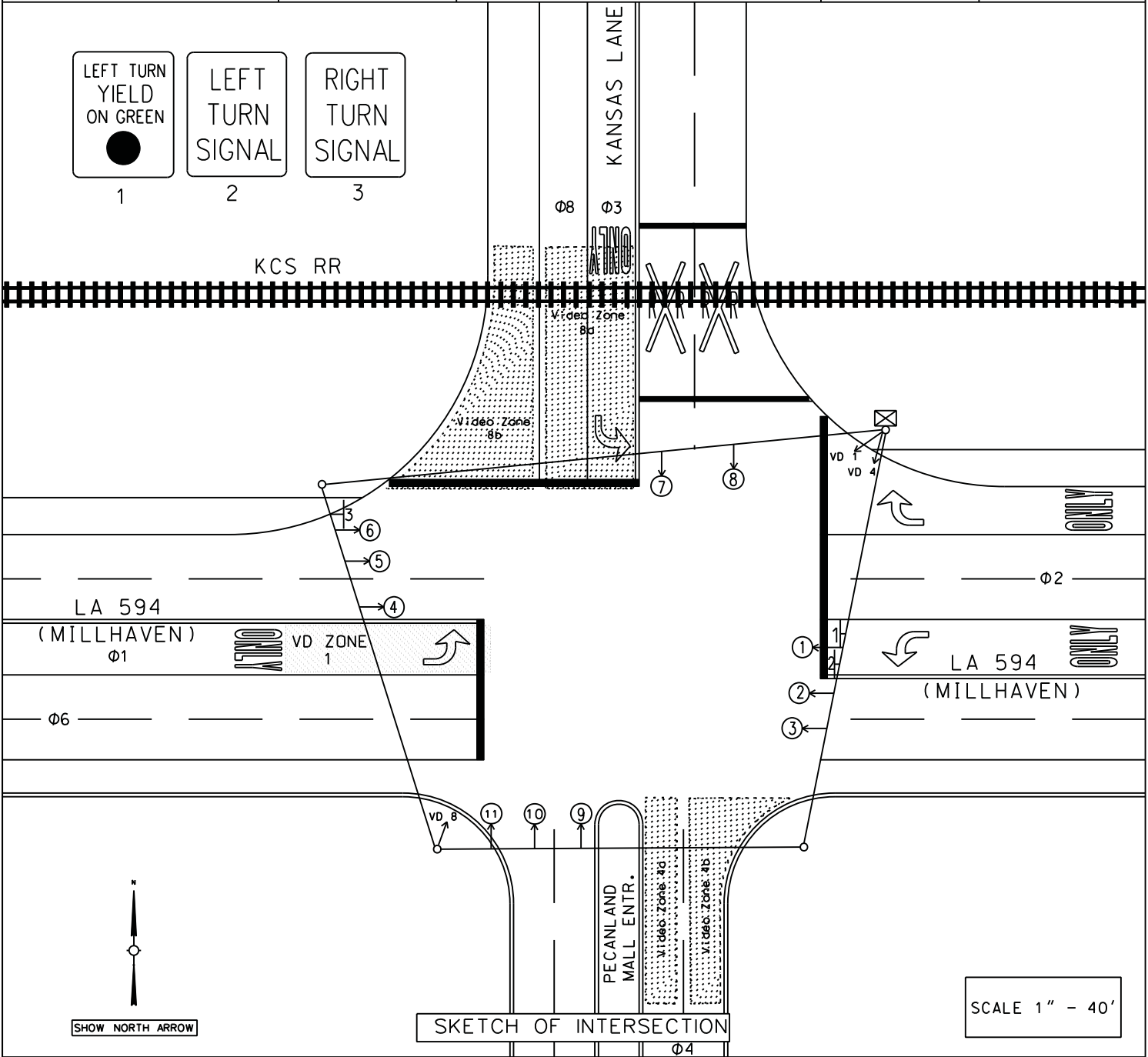
PLAN = CYCLE LENGTH = TIMES OF OPERATION =

TIME	SEC																		Offset =
FO	SEC																		sec
YP	SEC																		

PLAN = CYCLE LENGTH = TIMES OF OPERATION =



SIGNAL WARRANTS:	1	MAINTAINED BY:	2	CONTROLLER MANUF:	NAZTEC	SYSTEM #:	
MASTER/ SLAVE:	N/A	MASTER AT TSI #:	N/A	COORDINATED WITH TSI #S:	N/A		



- WOOD POLE
- METAL POLE
- SPAN WIRE
- ⊠ CONTROLLER
- ▬ STOP LINE
- ▬▬ PED CROSS WALK

- $\frac{1}{2}$  SPAN WIRE SIGN & NO.
- ⊠ GROUND MOUNT SIGN & NO.
- $\frac{1}{3}$  OVERHEAD SIGN & NO.
- \*4 LOOP DETECTOR & NO.

- ⊠-□ PEDESTAL MOUNT SIGNAL & NO.
- ⊠-← SIGNAL FACE & NO.
- ⊠-← PEDESTRIAN SIGNAL & NO.
- ⊙ PED BUTTON & SIGN
- ▬▬▬ PARALLEL PARKING

EXISTING SPEED LIMITS  
 LA 594 - 45 MPH  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNAL FACES	2-5	7, 8, 10	6			1, 9	11			
TOTALS	4	3	1			2	1			
R - RED Y - YELLOW G - GREEN ←G - GREEN ARROW ←Y - YELLOW ARROW DK - DARK 8" - 8" DIA. LENS 12" - 12" DIA. LENS WA - WALK DW - DON'T WALK FDW - FLASHING DON'T WALK										

# TRAFFIC SIGNAL INVENTORY

TSI NO. 107

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT/ TRAFFIC SECTION

SHEET: 3 OF 6

## SUPPLEMENTAL PHASING & TIMING RAILROAD PRE-EMPTION TIMING

PHASES	I 3+I 8			I 2+I 6															FL	
	INTERVALS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		18
↑ SIGNAL FACES ↓	1	R	R	R	R	R	R													
	2	R	R	R	G	Y	R													
	3	R	R	R	G	Y	R													
	4	R	R	R	G	Y	R													
	5	R	R	R	G	Y	R													
	6	R	R	R	R	R	R													
	7	R	R	R	R	R	R													
	8	R	R	R	R	R	R													
	9	←G/G	←Y/Y	R	R	R	R													
	10	G	Y	R	R	R	R													
	11	G	Y	R	R	R	R													
	12																			
	13																			
	14																			
	15																			
	16																			

Hours of Flashing Operation: Manual

TIME	SEC																				Offset =
FO	SEC																				sec
YP	SEC																				

PLAN = 1      CYCLE LENGTH =      TIMES OF OPERATION =

TIME	SEC																				Offset =
FO	SEC																				sec
YP	SEC																				

PLAN = 2      CYCLE LENGTH =      TIMES OF OPERATION =

TIME	SEC																				Offset =
FO	SEC																				sec
YP	SEC																				

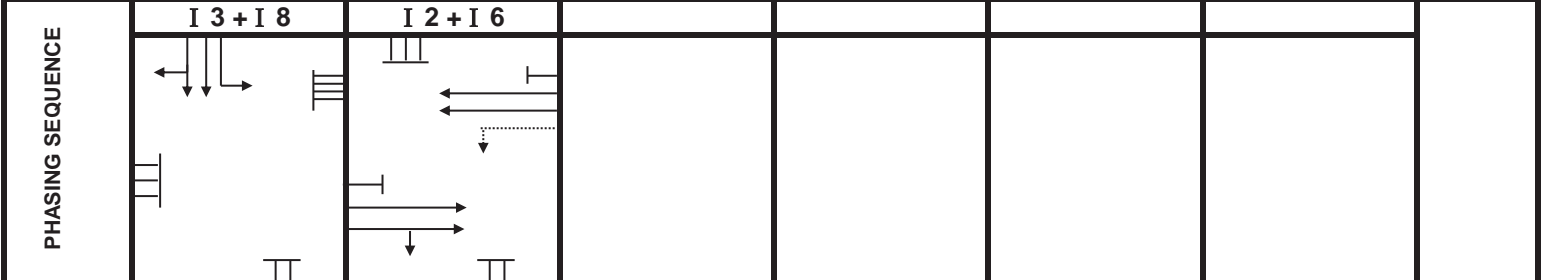
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TIME	SEC																				Offset =
FO	SEC																				sec
YP	SEC																				

PLAN =      CYCLE LENGTH =      TIMES OF OPERATION =

TIME	SEC																				Offset =
FO	SEC																				sec
YP	SEC																				

PLAN =      CYCLE LENGTH =      TIMES OF OPERATION =



**TRAFFIC SIGNAL INVENTORY**

TSI NO. 107







LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT/ TRAFFIC SECTION

SHEET: 4 OF 6

**CONTROL SECTION:** 326-01 **HIGHWAY:** LA 594 @ Kansas Lane

**PARISH:** Ouachita

Phase Timing Parameters

Phase Designation		1	2	3	4	5	6	7	8
Movement Description									
PARAMETER	RANGE								
MIN GREEN (MIN I)	0 - 99.0	3.0	5.0	30.0	3.0		5.0		3.0
PASSAGE TIME	0 - 9.9	3.0			3.0				3.0
MAX GREEN I (MAX I)	0 - 99.0	7.0	25.0		25.0		25.0		25.0
MAX GREEN II (MAX II)	0 - 99.0								
YELLOW CLEARANCE (YEL)	3 - 9.9	5.0	5.0	5.0	5.0		5.0		5.0
RED CLEARANCE (RED)	0 - 9.9	1.0	1.0	1.0	1.0		1.0		1.0
WALK (WALK)	0 - 99.0								
PED CLEARANCE (P CLR)	0 - 99.0								
ADDED INITIAL GREEN	0 - 9.9								
TIME TO REDUCE	0 - 99.0								
TIME BEFORE REDUCTION	0 - 99.0								
MIN GAP	0 - 9.9								
MAX INITIAL GREEN	0 - 99								
WALK 2	0 - 99.0								
PED CLEARANCE 2	0 - 99.0								
MAX 3	0 - 99.0								
MAX EXTENSION	0 - 99.0								
RECALL	CODES	MOF	MAX	preempt only	MOF		MAX		MOF
LOOP # - DELAY (in sec.)	0 - 99.0	1-10			4b-10				8b-10
LOOP # - EXTEND (in sec.)	0 - 9.9								

RECALL FUNCTIONS

MON	MEMORY ON
MOF	MEMORY OFF
MIN	MINIMUM
MAX	MAXIMUM
PMN	PEDESTRIAN AND MINIMUM
PMX	PEDESTRIAN AND MAXIMUM

Note 1: Logmile 3.29

Note 2: TBC w/GPS unit

Note 3: Phase 3 operates only during track clearance pre-emption.

Note 4: Free Operation (Max I) and Delays operate from 10pm -7am seven days a week

Note 5:

Note 6:

TRAFFIC SIGNAL INVENTORY

TSI NO. 107

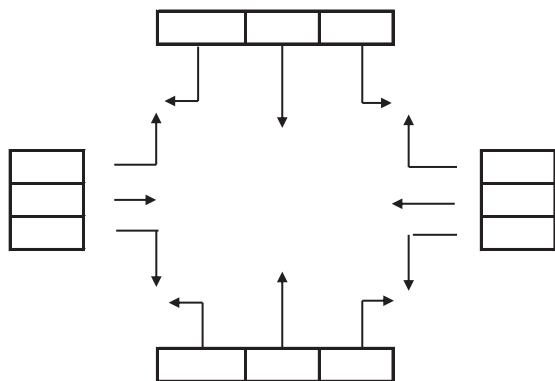
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT/ TRAFFIC SECTION

SHEET: 5 OF 6

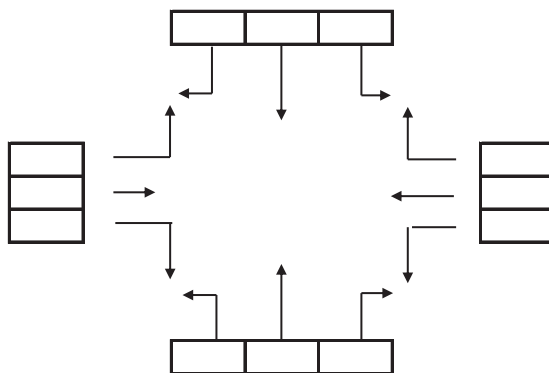
CONTROL SECTION: 326-01

HIGHWAY: LA 594 @ Kansas Lane

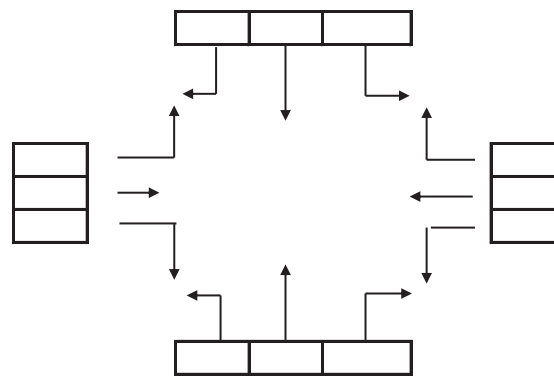
PARISH: OUCHITA



AM PEAK HOUR:



MIDDAY PEAK HOUR:



PM PEAK HOUR:



TRAFFIC VOLUMES - VPH

Peak Hour Factor ( )

VD ZONE #	COUNT & SIZE	PHASE #	MOVEMENT DESCRIPTION
1	60 feet	1	EB left
4a	60 feet	4	NB left & thru
4b	60 feet	4	NB thru & right
8a	110 feet	8	SB left & thru
8b	110 feet	8	SB thru & right



# TRAFFIC SIGNAL INVENTORY

TSI NO. **173**  
SHEET: **1** OF **4**

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT/ TRAFFIC SECTION District 05

**INTERSECTION:** I-20 S. Service Road @ Garrett Road

**CITY:** Monroe **PARISH:** Ouachita **INSTALLATION DATE:** 08/06/97

**TYPE SIGNAL:** Semi-Actuated, Coordinated **LAST REVISION DATE:**

PHASES	I 2+I 6			I 2+I 5			I 4+I 7		I 4+I 8									FL					
	INTERVALS	1	2	3	4	5	6	6	7	6	7	8	12	13	14	15	16		17	18			
↑ SIGNAL FACES ↓	1	G	G	G	←G/G	←Y/Y	R														Y		
	2	G	G	G	G	Y	R															Y	
	3	G	Y	R																			Y
	4	G	Y	R																			Y
	5							←G/G	←Y/G	G	Y	R											R
	6							G	G	G	Y	R											R
	7							G	G	G	Y	R											R
	8									G	Y	R											R
	9				R/G	R/Y	R			G	Y	R											
	10																						
	11																						
	12																						
	13																						
	14																						
	15																						
	16																						

Hours of Flashing Operation: Manual

TIME	SEC	42.0	4.0	1.0	5.0	4.0	1.0	5.0	4.0	9.0	4.0	1.0											Offset =	
FO	SEC																							76 sec
YP	SEC	<b>Fixed Force Offs/Coordinated Phase= I #6</b>																						

PLAN = 1 CYCLE LENGTH = 80 TIMES OF OPERATION = 6:30am - 10:00am M-F

TIME	SEC	38.0	4.0	1.0	10.0	4.0	1.0	5.0	4.0	8.0	4.0	1.0											Offset =	
FO	SEC																							15 sec
YP	SEC	<b>Fixed Force Offs/Coordinated Phase= I 6</b>																						

PLAN = 2 CYCLE LENGTH = 80 TIMES OF OPERATION = 10:00am - 10:00pm M-F

TIME	SEC	38.0	4.0	1.0	10.0	4.0	1.0	5.0	4.0	8.0	4.0	1.0											Offset =	
FO	SEC																							15 sec
YP	SEC	<b>Fixed Force Offs/Coordinated Phase= I #6</b>																						

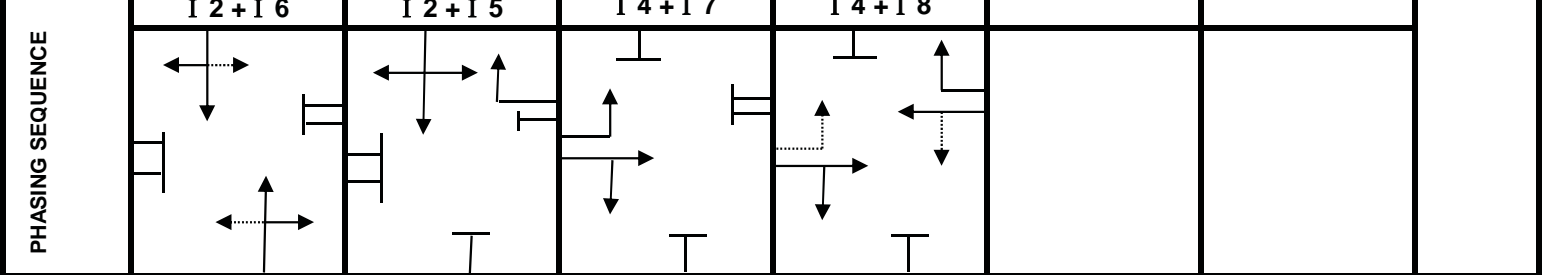
PLAN = 3 CYCLE LENGTH = 80 TIMES OF OPERATION = 6:30am - 10:00pm S & S

TIME	SEC																						Offset =
FO	SEC																						sec
YP	SEC																						

PLAN = CYCLE LENGTH = TIMES OF OPERATION =

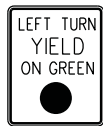
TIME	SEC																						Offset =
FO	SEC																						sec
YP	SEC																						

PLAN = CYCLE LENGTH = TIMES OF OPERATION =



SIGNAL WARRANTS: MAINTAINED BY: City CONTROLLER MANUF: Naztec TS2 SYSTEM #: MASTER/ SLAVE: MASTER AT TSI #: COORDINATED WITH TSI #S: 188





S-1



S-2

Vacant

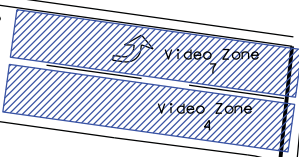
I-20 Control of Access

I-20 Control of Access

Lowe's Rd

Φ 7

Φ 4



9

8

VC-8

S-1

1

Φ 6

Garrett Rd

Garrett Rd

VC-5

S-1

5

6

7

VC-7

S-2

3

4

VC-7

VC-7

VC-7

VC-7

VC-7

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VC-7



Office Building

Gas Station

SCALE 1" = 40'

SKETCH OF INTERSECTION

- WOOD POLE
- METAL POLE
- SPAN WIRE
- ⊠ CONTROLLER
- ▬ STOP LINE
- ▬▬ PED CROSS WALK
- ② SPAN WIRE SIGN & NO.
- ⊠ GROUND MOUNT SIGN & NO.
- ⊙ PED BUTTON & SIGN
- ⊠ \*4 LOOP DETECTOR & NO.
- ② ⊠ PEDESTAL MOUNT SIGNAL & NO.
- ② ⊠ SIGNAL FACE & NO.
- ② ⊠ PEDESTRIAN SIGNAL & NO.
- ⊠ DETECTOR CAMERA
- OPTICOM EMITTER

EXISTING SPEED LIMITS  
 I-20 Service = 55mph  
 Garrett = 45mph  
 Lowe's = 10mph

SIGNAL FACES	2-4	6, 7, 8				1, 5	9			
TOTALS	3	2				2	1			
R • RED Y • YELLOW G • GREEN ↔ • GREEN ARROW ↔ • YELLOW ARROW DK • DARK 8" • 8" DIA. LENS 12" • 12" DIA. LENS WA • WALK DW • DON'T WALK FDW • FLASHING DON'T WALK	(R) 12" (Y) 12" (G) 12"	(R) 12" (Y) 12" (G) 12"	○ ○ ○	○ ○ ○	○ ○ ○	(R) 12" ↔ (Y) 12" ↔ (G) 12"	(R) 12" ↔ (Y) 12" ↔ (G) 12"	○ ○	○ ○	PED ▬ ▬

**TRAFFIC SIGNAL INVENTORY**

**TSI NO. 173**

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT/ TRAFFIC SECTION

SHEET: 3 OF 4

**CONTROL SECTION:** 451-06 **HIGHWAY:** I-20 EB ramps

**PARISH:** 37

**Phase Timing Parameters**

Phase Designation		1	2	3	4	5	6	7	8
Movement Description			↓		→	↙	↑	↖	←
PARAMETER	RANGE								
MIN GREEN (MIN I)	0 - 99.0		5.0		3.0	3.0	5.0	3.0	3.0
PASSAGE TIME	0 - 9.9				3.0	3.0		3.0	3.0
MAX GREEN I (MAX I)	0 - 99.0		30.0		10.0	5.0	30.0	5.0	10.0
MAX GREEN II (MAX II)	0 - 99.0								
YELLOW CLEARANCE (YEL)	3 - 9.9		4.0		4.0	4.0	4.0	4.0	4.0
RED CLEARANCE (RED)	0 - 9.9		1.0		1.0	1.0	1.0		1.0
WALK (WALK)	0 - 99.0								
PED CLEARANCE (P CLR)	0 - 99.0								
ADDED INITIAL GREEN	0 - 9.9								
TIME TO REDUCE	0 - 99.0								
TIME BEFORE REDUCTION	0 - 99.0								
MIN GAP	0 - 9.9								
MAX INITIAL GREEN	0 - 99								
WALK 2	0 - 99.0								
PED CLEARANCE 2	0 - 99.0								
MAX 3	0 - 99.0								
MAX EXTENSION	0 - 99.0								
RECALL	CODES		MAX		MOF	MOF	MAX	MOF	MOF
VIDEO # - DELAY (in sec.)	0 - 99.0					#5-30			#8b-10
VIDEO # - EXTEND (in sec.)	0 - 9.9								

RECALL FUNCTIONS	
MON	MEMORY ON
MOF	MEMORY OFF
MIN	MINIMUM
MAX	MAXIMUM
PMN	PEDESTRIAN AND MINIMUM
PMX	PEDESTRIAN AND MAXIMUM

Note 1: Logmile: 21.457

Note 2: Video Detection-AutoScope Solo Pro

Note 3: Free Operation and Delays only operate from 10:00pm - 6:30am every day

Note 4: During plans 1, 2, and 3, phases 5 and 7 operate on MOF recall and Phases 4 and 8 operate on MAX recall

Note 5: Interconnect Method: GPS

Note 6:

TRAFFIC SIGNAL INVENTORY

TSI NO. 173

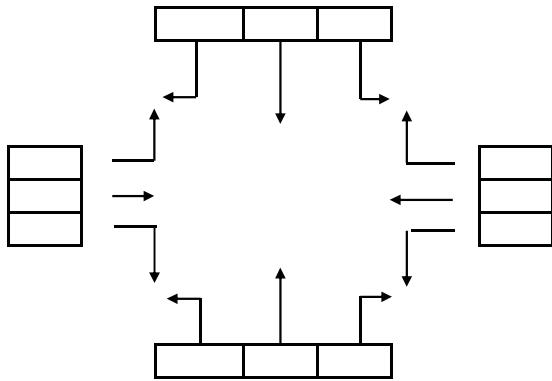
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT/ TRAFFIC SECTION

SHEET: 4 OF 4

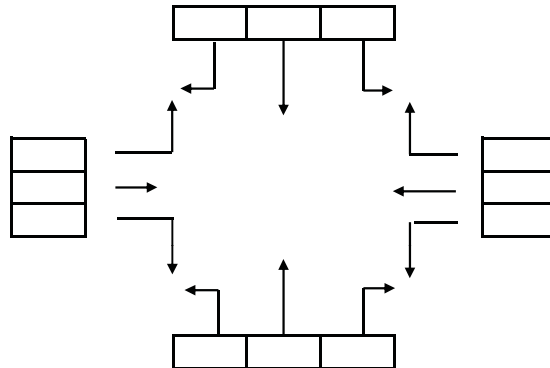
CONTROL SECTION: 451-06

HIGHWAY: I-20 EB ramps

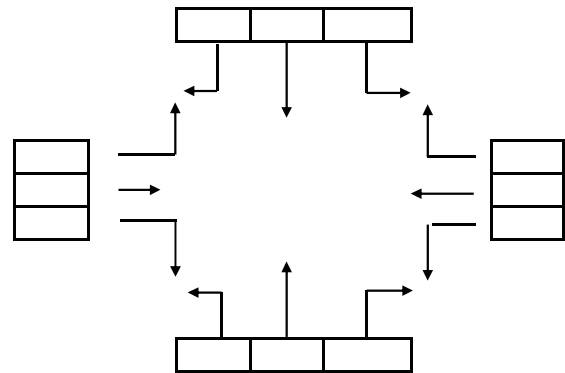
PARISH: Ouachita



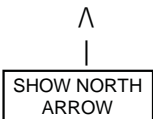
AM PEAK HOUR:



MIDDAY PEAK HOUR:



PM PEAK HOUR:



TRAFFIC VOLUMES - VPH

Peak Hour Factor ( )

VIDEO ZONE	COUNT & SIZE	PHASE #	MOVEMENT DESCRIPTION
4	60' x width of lane	4	EB thru & right
5	60' x width of lane	5	SB left
7	60' x width of lane	7	EB left
8a	60' x width of lane	8	WB left & thru
8b	60' x width of lane	8	WB right



## **Appendix C**

Traffic Counts





59	5/4/2011	02:30 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	0
60	5/4/2011	02:45 AM	0	6	0	0	1	0	0	0	0	0	0	0	0	0
61	5/4/2011	03:00 AM	1	3	0	0	0	0	0	0	0	0	0	0	0	0
62	5/4/2011	03:15 AM	1	2	0	0	1	0	0	0	0	0	0	0	0	0
63	5/4/2011	03:30 AM	0	4	1	0	0	0	0	0	0	0	0	0	0	0
64	5/4/2011	03:45 AM	1	2	2	0	0	0	0	0	0	0	0	0	0	0
65	5/4/2011	04:00 AM	2	3	3	0	0	0	0	0	0	0	0	0	0	0
66	5/4/2011	04:15 AM	3	15	3	0	0	0	0	0	0	0	0	0	0	0
67	5/4/2011	04:30 AM	0	5	2	0	0	0	0	0	0	0	0	0	0	0
68	5/4/2011	04:45 AM	2	5	2	0	2	0	0	0	0	0	0	0	0	0
69	5/4/2011	05:00 AM	2	3	0	0	0	0	0	0	0	0	0	0	0	0
70	5/4/2011	05:15 AM	1	8	0	0	0	1	0	0	0	0	0	0	0	0
71	5/4/2011	05:30 AM	3	12	3	0	1	0	0	0	0	0	0	0	0	0
72	5/4/2011	05:45 AM	2	20	13	0	1	0	0	0	1	0	0	0	0	0
73	5/4/2011	06:00 AM	3	12	5	0	1	0	0	1	0	0	0	0	0	0
74	5/4/2011	06:15 AM	5	31	10	0	6	0	0	1	0	0	0	0	0	0
75	5/4/2011	06:30 AM	3	25	10	0	2	0	0	1	0	0	0	0	0	0
76	5/4/2011	06:45 AM	4	60	15	0	3	0	0	0	0	0	0	0	0	0
77	5/4/2011	07:00 AM	2	28	16	0	1	0	0	0	0	0	0	0	0	0
78	5/4/2011	07:15 AM	3	50	18	1	0	0	0	1	0	0	0	0	0	0
79	5/4/2011	07:30 AM	4	55	24	0	1	0	0	0	1	1	0	0	0	0
80	5/4/2011	07:45 AM	3	63	17	1	3	0	0	1	0	0	1	0	0	0
81	5/4/2011	08:00 AM	6	35	10	0	7	0	0	0	0	0	0	0	0	0
82	5/4/2011	08:15 AM	5	30	12	1	1	0	0	0	0	0	0	0	0	0
83	5/4/2011	08:30 AM	3	36	7	0	0	0	0	0	1	0	0	0	0	0
84	5/4/2011	08:45 AM	0	41	7	0	6	0	0	0	1	0	0	0	0	0
85	5/4/2011	09:00 AM	5	30	13	0	5	1	0	2	0	0	0	0	0	0
86	5/4/2011	09:15 AM	4	40	13	0	4	1	0	1	0	0	0	0	0	0
87	5/4/2011	09:30 AM	1	32	19	2	0	0	0	0	0	0	0	0	0	0
88	5/4/2011	09:45 AM	1	26	11	0	2	1	0	2	0	0	0	0	0	0
89	5/4/2011	10:00 AM	1	25	10	0	2	0	0	0	0	0	0	0	0	0
90	5/4/2011	10:15 AM	7	37	13	0	5	0	0	0	0	0	0	0	0	0
91	5/4/2011	10:30 AM	3	37	15	1	8	0	0	2	1	0	0	0	0	0
92	5/4/2011	10:45 AM	1	40	18	0	1	0	0	0	0	0	0	0	0	0
93	5/4/2011	11:00 AM	6	28	14	0	2	0	0	0	1	0	0	0	0	0
94	5/4/2011	11:15 AM	4	32	18	0	3	0	0	2	0	0	0	0	0	0







167	5/5/2011	05:30 AM	2	16	4	0	1	0	0	0	0	0	0	0	0	0
168	5/5/2011	05:45 AM	3	18	9	0	0	0	0	0	1	0	0	0	0	0
169	5/5/2011	06:00 AM	2	16	11	0	2	0	0	0	0	0	0	0	0	0
170	5/5/2011	06:15 AM	4	28	8	0	2	0	0	1	0	0	0	0	0	0
171	5/5/2011	06:30 AM	3	44	13	0	5	0	0	0	1	0	0	0	0	0
172	5/5/2011	06:45 AM	7	50	14	0	3	0	0	0	1	0	0	0	0	0
173	5/5/2011	07:00 AM	2	36	18	0	2	1	0	0	0	0	0	0	0	0
174	5/5/2011	07:15 AM	4	51	24	1	2	0	0	0	0	0	1	0	0	0
175	5/5/2011	07:30 AM	2	58	21	0	2	0	0	2	0	0	0	0	0	0
176	5/5/2011	07:45 AM	4	60	25	0	6	0	0	2	0	0	1	0	0	0
177	5/5/2011	08:00 AM	4	33	14	0	1	0	0	1	2	0	0	0	0	0
178	5/5/2011	08:15 AM	3	23	14	2	2	0	0	0	0	0	0	0	0	0
179	5/5/2011	08:30 AM	5	44	13	0	4	0	0	1	0	0	0	0	0	0
180	5/5/2011	08:45 AM	3	35	9	0	3	1	0	0	1	0	0	0	0	0
181	5/5/2011	09:00 AM	2	37	8	0	2	0	0	0	0	0	0	0	0	0
182	5/5/2011	09:15 AM	1	45	14	0	9	2	0	0	0	0	0	0	0	0
183	5/5/2011	09:30 AM	5	37	13	0	4	0	0	0	0	0	0	0	0	0
184	5/5/2011	09:45 AM	9	47	18	0	2	0	0	0	0	0	0	0	0	0
185	5/5/2011	10:00 AM	4	42	17	0	3	0	0	0	0	0	0	0	0	0
186	5/5/2011	10:15 AM	3	32	14	1	1	0	0	1	1	0	0	0	0	0
187	5/5/2011	10:30 AM	4	54	19	1	1	0	0	0	0	0	0	0	0	0
188	5/5/2011	10:45 AM	4	37	16	0	2	0	0	0	1	0	0	0	0	0
189	5/5/2011	11:00 AM	2	38	15	0	3	0	0	0	0	0	0	0	0	0
190	5/5/2011	11:15 AM	4	29	20	0	1	0	0	0	0	0	0	0	0	0
191	5/5/2011	11:30 AM	1	43	17	0	2	0	0	0	1	0	0	0	0	0
192	5/5/2011	11:45 AM	6	38	16	0	2	0	0	0	0	0	0	0	0	0
193	5/5/2011	12:00 PM	2	42	9	0	3	1	0	1	0	0	0	0	0	0
194	5/5/2011	12:15 PM	5	38	17	0	1	1	0	1	0	0	0	0	0	0
195	5/5/2011	12:30 PM	4	38	7	0	4	0	0	0	0	0	0	0	0	0
196	5/5/2011	12:45 PM	0	34	16	0	3	0	0	0	0	0	0	0	0	0
197	5/5/2011	01:00 PM	3	33	13	0	2	0	0	0	0	0	0	0	0	0
198	5/5/2011	01:15 PM	4	37	11	0	1	0	0	0	0	0	0	0	0	0
199	5/5/2011	01:30 PM	2	35	15	0	0	0	0	1	0	0	0	0	0	0
200	5/5/2011	01:45 PM	3	33	18	0	3	0	0	0	0	0	0	0	0	0
201	5/5/2011	02:00 PM	3	38	16	0	4	0	0	0	0	0	0	0	0	0
202	5/5/2011	02:15 PM	5	40	17	0	3	0	0	1	0	0	0	0	0	0





275	5/6/2011	08:30 AM	3	45	18	0	2	0	0	1	0	0	0	0	0	0
276	5/6/2011	08:45 AM	2	42	26	0	5	0	0	0	0	0	0	0	0	0
277	5/6/2011	09:00 AM	2	29	14	0	1	0	0	0	0	0	0	0	0	0
278	5/6/2011	09:15 AM	3	30	13	1	2	0	0	2	1	0	0	0	0	0
279	5/6/2011	09:30 AM	5	38	10	0	4	1	0	0	1	0	0	0	0	0
280	5/6/2011	09:45 AM	3	42	9	0	5	1	0	1	1	0	0	0	0	0
281	5/6/2011	10:00 AM	5	34	16	0	1	1	0	0	0	0	0	0	0	0
282	5/6/2011	10:15 AM	6	44	19	1	4	0	0	1	0	0	0	0	0	0
283	5/6/2011	10:30 AM	7	41	18	0	5	0	0	0	0	0	0	0	0	0
284	5/6/2011	10:45 AM	4	35	13	0	4	0	0	0	0	0	0	0	0	0
285	5/6/2011	11:00 AM	3	36	15	0	4	0	0	0	0	0	0	0	0	0
286	5/6/2011	11:15 AM	2	40	19	0	3	0	0	0	0	0	0	0	0	0
287	5/6/2011	11:30 AM	4	40	20	0	5	0	0	0	0	0	0	0	0	0
288	5/6/2011	11:45 AM	4	45	15	0	7	0	0	0	0	0	0	0	0	0
289	5/6/2011	12:00 PM	8	46	24	1	2	0	0	0	0	0	0	0	0	0
290	5/6/2011	12:15 PM	7	33	17	0	1	0	0	1	2	0	0	0	0	0
291	5/6/2011	12:30 PM	4	57	17	0	2	0	0	0	0	0	0	0	0	0
292	5/6/2011	12:45 PM	6	29	15	0	5	0	0	0	0	0	0	0	0	0
293	5/6/2011	01:00 PM	4	40	19	0	2	0	0	0	0	0	0	0	0	0
294	5/6/2011	01:15 PM	6	47	16	0	5	0	0	0	0	0	0	0	0	0
295	5/6/2011	01:30 PM	2	40	21	0	2	0	0	3	0	0	0	0	0	0
296	5/6/2011	01:45 PM	4	35	19	0	5	0	0	0	1	0	0	0	0	0
297	5/6/2011	02:00 PM	10	41	19	0	3	0	0	1	1	0	0	0	0	0
298	5/6/2011	02:15 PM	2	31	19	0	4	0	0	0	0	0	0	0	0	0
299	5/6/2011	02:30 PM	2	56	8	0	2	0	0	0	0	0	0	0	0	0
300	5/6/2011	02:45 PM	2	52	19	1	1	0	0	1	1	0	0	0	0	0
301	5/6/2011	03:00 PM	2	49	17	0	3	0	0	0	0	0	0	0	0	0
302	5/6/2011	03:15 PM	4	51	17	0	3	0	0	0	0	0	0	0	0	0
303	5/6/2011	03:30 PM	2	45	18	0	2	0	0	1	1	0	0	0	0	0
304	5/6/2011	03:45 PM	4	47	21	0	2	0	0	0	0	0	1	0	0	0
305	5/6/2011	04:00 PM	4	53	17	0	5	0	0	0	0	0	0	1	0	0
306	5/6/2011	04:15 PM	1	40	19	0	7	0	0	1	1	0	0	0	0	0
307	5/6/2011	04:30 PM	4	54	19	0	3	0	0	0	0	0	0	0	0	0
308	5/6/2011	04:45 PM	4	56	18	0	4	0	0	0	0	0	0	0	0	0
309	5/6/2011	05:00 PM	3	48	15	0	2	0	0	2	0	0	0	0	0	0
310	5/6/2011	05:15 PM	6	55	12	0	4	0	0	0	1	0	0	0	0	0



347	5/7/2011	02:30 AM	1	2	2	0	0	0	0	0	0	0	0	0	0	0
348	5/7/2011	02:45 AM	0	5	1	0	0	0	0	0	0	0	0	0	0	0
349	5/7/2011	03:00 AM	2	9	2	0	0	0	0	0	0	0	0	0	0	0
350	5/7/2011	03:15 AM	0	5	0	0	0	0	0	0	1	0	0	0	0	0
351	5/7/2011	03:30 AM	0	4	2	0	0	0	0	0	0	0	0	0	0	0
352	5/7/2011	03:45 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0
353	5/7/2011	04:00 AM	3	7	3	0	0	0	0	0	0	0	0	0	0	0
354	5/7/2011	04:15 AM	1	5	1	0	0	0	0	0	0	0	0	0	0	0
355	5/7/2011	04:30 AM	1	9	3	0	0	0	0	0	0	0	0	0	0	0
356	5/7/2011	04:45 AM	0	6	2	0	1	0	0	0	0	0	0	0	0	0
357	5/7/2011	05:00 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0
358	5/7/2011	05:15 AM	0	6	1	0	0	0	0	0	0	0	0	0	0	0
359	5/7/2011	05:30 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0
360	5/7/2011	05:45 AM	0	9	3	0	0	0	0	0	0	0	0	0	0	0
361	5/7/2011	06:00 AM	0	9	1	0	2	0	0	0	0	0	0	0	0	0
362	5/7/2011	06:15 AM	1	11	6	0	0	0	0	0	0	0	0	0	0	0
363	5/7/2011	06:30 AM	1	15	9	0	0	0	0	0	0	0	0	0	0	0
364	5/7/2011	06:45 AM	2	18	8	0	2	0	0	0	0	0	0	0	0	0
365	5/7/2011	07:00 AM	0	15	1	0	2	0	0	0	0	0	0	0	0	0
366	5/7/2011	07:15 AM	4	16	8	0	4	0	0	0	0	0	0	0	0	0
367	5/7/2011	07:30 AM	2	16	10	0	0	0	0	0	0	0	0	0	0	0
368	5/7/2011	07:45 AM	4	26	11	0	1	0	0	0	0	0	0	0	0	0
369	5/7/2011	08:00 AM	2	29	10	0	1	0	0	1	0	0	0	0	0	0
370	5/7/2011	08:15 AM	3	34	15	0	3	0	0	0	0	0	0	0	0	0
371	5/7/2011	08:30 AM	2	40	14	0	1	0	0	1	0	0	0	0	0	0
372	5/7/2011	08:45 AM	4	31	13	0	2	0	0	0	0	0	0	0	0	0
373	5/7/2011	09:00 AM	10	33	11	0	6	0	0	0	0	0	0	0	0	0
374	5/7/2011	09:15 AM	6	38	12	0	5	0	0	0	0	0	0	0	0	0
375	5/7/2011	09:30 AM	7	32	14	0	4	0	0	0	0	0	0	0	0	0
376	5/7/2011	09:45 AM	4	50	9	0	1	0	0	0	0	0	0	0	0	0
377	5/7/2011	10:00 AM	4	56	15	0	2	0	0	0	0	0	0	0	0	0
378	5/7/2011	10:15 AM	2	43	30	1	1	0	0	0	0	0	0	0	0	0
379	5/7/2011	10:30 AM	4	30	13	0	4	0	0	0	0	0	0	0	0	0
380	5/7/2011	10:45 AM	5	49	12	0	3	0	0	0	0	0	0	0	0	0
381	5/7/2011	11:00 AM	3	42	20	0	4	0	0	0	0	0	0	0	0	0
382	5/7/2011	11:15 AM	5	40	16	0	4	0	0	1	0	0	0	0	0	0











527	5/8/2011	11:30 PM	0	15	1	0	1	0	0	0	0	0	0	0	0	0
528	5/8/2011	11:45 PM	1	5	2	0	0	0	0	0	0	0	0	0	0	0
529	5/9/2011	12:00 AM	0	3	3	0	1	0	0	0	0	0	0	0	0	0
530	5/9/2011	12:15 AM	0	5	2	0	0	0	0	0	0	0	0	0	0	0
531	5/9/2011	12:30 AM	0	6	2	0	1	1	0	0	0	0	0	0	0	0
532	5/9/2011	12:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0
533	5/9/2011	01:00 AM	2	7	3	0	0	0	0	0	0	0	0	0	0	0
534	5/9/2011	01:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0
535	5/9/2011	01:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0
536	5/9/2011	01:45 AM	0	3	0	0	1	0	0	0	0	0	0	0	0	0
537	5/9/2011	02:00 AM	1	3	1	0	2	0	0	0	0	0	0	0	0	0
538	5/9/2011	02:15 AM	0	1	3	0	0	0	0	0	0	0	0	0	0	0
539	5/9/2011	02:30 AM	1	6	1	0	0	0	0	0	0	0	0	0	0	0
540	5/9/2011	02:45 AM	0	2	1	0	1	0	0	0	0	0	0	0	0	0
541	5/9/2011	03:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	0
542	5/9/2011	03:15 AM	2	4	1	0	0	0	0	0	0	0	0	0	0	0
543	5/9/2011	03:30 AM	1	3	1	0	0	0	0	0	0	0	0	0	0	0
544	5/9/2011	03:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0
545	5/9/2011	04:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0
546	5/9/2011	04:15 AM	1	8	2	0	0	0	0	0	0	0	0	0	0	0
547	5/9/2011	04:30 AM	0	6	0	0	0	0	0	0	0	0	0	0	0	0
548	5/9/2011	04:45 AM	2	3	1	1	1	0	0	0	0	0	0	0	0	0
549	5/9/2011	05:00 AM	0	5	3	0	1	0	0	0	0	0	0	0	0	0
550	5/9/2011	05:15 AM	1	6	0	0	1	0	0	1	0	0	0	0	0	0
551	5/9/2011	05:30 AM	0	15	1	0	0	0	0	1	0	0	0	0	0	0
552	5/9/2011	05:45 AM	3	18	8	0	0	0	0	0	1	0	0	0	0	0
553	5/9/2011	06:00 AM	2	18	6	0	1	0	0	0	0	0	0	0	0	0
554	5/9/2011	06:15 AM	4	23	8	0	2	0	0	0	0	0	0	0	0	0
555	5/9/2011	06:30 AM	5	40	13	0	2	0	0	0	0	0	0	0	0	0
556	5/9/2011	06:45 AM	1	46	12	0	4	0	0	0	0	0	0	0	0	0
557	5/9/2011	07:00 AM	3	44	10	0	4	0	0	3	2	0	0	0	0	0
558	5/9/2011	07:15 AM	4	56	24	0	3	0	0	2	1	0	0	0	0	0
559	5/9/2011	07:30 AM	4	58	15	0	4	0	0	0	0	0	0	0	0	0
560	5/9/2011	07:45 AM	4	53	14	0	4	0	0	0	0	0	0	0	0	0
561	5/9/2011	08:00 AM	1	32	12	0	3	0	0	1	0	0	0	0	0	0
562	5/9/2011	08:15 AM	4	32	16	1	0	0	0	0	1	0	0	0	0	0

563	5/9/2011	08:30 AM	2	32	10	0	2	0	0	0	0	0	0	0	0	0
564	5/9/2011	08:45 AM	3	24	8	0	2	0	0	1	0	0	0	0	0	0
565	5/9/2011	09:00 AM	3	36	11	0	4	0	0	0	0	0	0	0	0	0
566	5/9/2011	09:15 AM	2	28	20	1	5	0	0	0	0	0	0	0	0	0
567	5/9/2011	09:30 AM	3	33	13	0	2	0	0	0	0	0	0	0	0	0
568	5/9/2011	09:45 AM	2	35	18	0	1	0	0	0	0	0	0	0	0	0
569	5/9/2011	10:00 AM	4	27	13	0	4	0	0	0	1	0	0	0	0	0
570	5/9/2011	10:15 AM	3	32	12	0	2	0	0	0	1	0	0	0	0	0
571	5/9/2011	10:30 AM	4	33	19	1	2	0	0	0	0	0	0	0	0	0
572	5/9/2011	10:45 AM	3	30	14	0	4	1	0	1	0	0	0	0	0	0
573	5/9/2011	11:00 AM	6	39	9	0	6	1	0	0	0	0	0	0	0	0
574	5/9/2011	11:15 AM	1	30	18	0	4	0	0	1	1	0	0	0	0	0
575	5/9/2011	11:30 AM	3	41	12	0	1	0	0	0	0	0	0	0	0	0
576	5/9/2011	11:45 AM	2	32	13	0	3	0	0	1	0	0	0	0	0	0
577	5/9/2011	12:00 PM	5	36	14	0	3	0	0	0	0	0	0	0	0	0
578	5/9/2011	12:15 PM	6	49	13	0	5	0	0	0	0	0	0	0	0	0
579	5/9/2011	12:30 PM	4	36	17	0	2	1	0	1	0	0	0	0	0	0
580	5/9/2011	12:45 PM	3	41	14	1	4	0	0	0	1	0	0	0	0	0
581	5/9/2011	01:00 PM	5	39	13	0	3	0	0	1	0	0	0	0	0	0
582	5/9/2011	01:15 PM	1	38	14	0	4	1	0	0	0	0	0	0	0	0
583	5/9/2011	01:30 PM	2	38	14	0	1	1	0	0	0	0	0	0	0	0
584	5/9/2011	01:45 PM	4	37	15	0	3	1	0	1	0	0	0	0	0	0
585	5/9/2011	02:00 PM	4	35	14	0	2	0	0	0	0	0	0	0	0	0
586	5/9/2011	02:15 PM	4	33	17	0	6	0	0	2	0	0	0	0	0	0
587	5/9/2011	02:30 PM	3	37	14	0	6	1	0	0	1	0	0	0	0	0
588	5/9/2011	02:45 PM	4	50	10	0	5	0	0	0	0	0	0	0	0	0
589	5/9/2011	03:00 PM	3	49	21	0	5	1	0	0	0	0	0	0	0	0
590	5/9/2011	03:15 PM	7	39	16	1	5	0	0	0	0	0	0	0	0	0
591	5/9/2011	03:30 PM	4	37	14	0	3	0	0	0	0	0	0	0	0	0
592	5/9/2011	03:45 PM	9	41	17	0	3	0	0	0	0	0	0	0	0	0
593	5/9/2011	04:00 PM	3	43	15	0	4	0	0	0	0	0	0	0	0	0
594	5/9/2011	04:15 PM	4	33	14	0	3	0	0	0	0	0	0	0	0	0
595	5/9/2011	04:30 PM	5	52	21	0	3	0	0	0	1	0	0	0	0	0
596	5/9/2011	04:45 PM	4	46	15	1	4	0	0	0	0	0	0	0	0	0
597	5/9/2011	05:00 PM	7	49	12	1	3	0	0	0	0	0	0	0	0	0
598	5/9/2011	05:15 PM	3	45	13	0	4	0	0	1	0	0	0	0	0	0





671 5/10/2011 11:30 AM	6	46	12	0	3	1	0	0	0	0	0	0	0	0	0
672 5/10/2011 11:45 AM	2	34	17	0	1	0	0	0	0	0	0	0	0	0	0
<b>ADT</b>	245	2576	902	7	165	9	0	16	9	0	2	1	0	0	0

Pass Cars  
3723

Trucks **TOTAL**  
209 **3932**  
5.3% 0.0%  
excludes Not \* Not  
Classed Classified



Garrett Road Southbound @ South Frontage Rd

Start Date: 5/3/2011

Start Time: 12:00:00 PM

Site Code: 000005311203

Station ID:

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	5/3/2011	12:00 PM	3	221	141	2	26	1	0	8	3	0	0	0	0	0
2	5/3/2011	01:00 PM	3	235	148	2	23	0	0	5	1	0	0	0	0	0
3	5/3/2011	02:00 PM	2	225	143	5	29	2	0	5	5	1	0	0	0	0
4	5/3/2011	03:00 PM	1	286	149	1	29	1	0	5	0	0	0	0	0	0
5	5/3/2011	04:00 PM	3	260	140	4	32	1	0	10	0	0	1	0	0	0
6	5/3/2011	05:00 PM	1	262	108	4	23	2	0	11	2	1	0	0	0	0
7	5/3/2011	06:00 PM	0	212	113	2	14	0	0	4	2	0	0	0	0	0
8	5/3/2011	07:00 PM	0	202	87	0	11	0	0	2	4	0	0	0	0	0
9	5/3/2011	08:00 PM	0	140	63	0	5	0	0	1	0	0	0	1	0	0
10	5/3/2011	09:00 PM	0	96	35	3	6	0	0	0	0	0	0	0	0	0
11	5/3/2011	10:00 PM	0	49	17	0	3	0	0	0	1	0	0	1	0	0
12	5/3/2011	11:00 PM	0	37	17	1	3	0	0	0	0	0	0	0	0	0
13	5/4/2011	12:00 AM	1	29	7	1	0	0	0	0	0	0	0	0	0	0
14	5/4/2011	01:00 AM	0	18	9	0	0	0	0	0	2	0	0	0	0	0
15	5/4/2011	02:00 AM	0	17	6	0	0	0	0	0	1	0	0	0	0	0
16	5/4/2011	03:00 AM	0	8	1	0	0	0	0	0	1	0	0	0	0	0
17	5/4/2011	04:00 AM	0	3	7	2	5	0	0	0	2	0	0	0	0	0
18	5/4/2011	05:00 AM	0	26	13	0	1	1	0	2	4	0	1	0	0	0
19	5/4/2011	06:00 AM	0	50	46	2	10	1	0	1	3	0	0	0	0	0
20	5/4/2011	07:00 AM	3	138	77	6	15	3	0	3	1	0	1	1	1	0
21	5/4/2011	08:00 AM	0	99	67	6	12	1	0	5	3	0	1	1	0	0
22	5/4/2011	09:00 AM	2	136	103	2	13	3	0	6	6	0	0	0	0	0

23	5/4/2011	10:00 AM	2	162	127	3	17	0	0	4	2	0	0	0	0	0
24	5/4/2011	11:00 AM	2	193	130	3	20	0	0	10	4	0	1	0	0	0
25	5/4/2011	12:00 PM	3	239	138	4	29	2	0	5	1	0	0	1	0	0
26	5/4/2011	01:00 PM	3	242	139	4	21	2	0	5	3	1	0	0	0	0
27	5/4/2011	02:00 PM	4	235	165	1	29	2	0	11	4	0	0	0	0	0
28	5/4/2011	03:00 PM	3	273	157	7	29	1	0	8	3	1	1	0	0	0
29	5/4/2011	04:00 PM	0	272	137	2	29	1	0	7	1	0	0	0	0	0
30	5/4/2011	05:00 PM	2	266	116	4	22	1	0	8	7	0	0	0	0	0
31	5/4/2011	06:00 PM	3	258	125	4	13	0	0	2	1	0	0	0	0	0
32	5/4/2011	07:00 PM	2	199	85	0	16	1	0	1	1	0	0	0	0	0
33	5/4/2011	08:00 PM	0	149	62	0	13	0	0	0	1	0	0	0	0	0
34	5/4/2011	09:00 PM	0	93	26	0	3	0	0	0	1	0	0	0	0	0
35	5/4/2011	10:00 PM	1	58	16	0	3	0	0	0	0	0	1	1	0	0
36	5/4/2011	11:00 PM	0	42	24	0	0	0	0	0	0	0	0	0	0	0
37	5/5/2011	12:00 AM	0	30	4	0	0	0	0	0	1	0	0	0	0	0
38	5/5/2011	01:00 AM	0	13	4	1	3	0	0	0	3	0	0	0	0	0
39	5/5/2011	02:00 AM	0	10	3	0	1	0	0	1	3	0	0	0	0	0
40	5/5/2011	03:00 AM	0	9	3	0	0	0	0	1	2	0	0	0	0	0
41	5/5/2011	04:00 AM	0	12	5	0	4	0	0	1	2	0	0	0	0	0
42	5/5/2011	05:00 AM	0	22	26	0	3	1	0	0	3	0	0	0	0	0
43	5/5/2011	06:00 AM	0	53	49	3	10	0	0	0	3	0	1	0	0	0
44	5/5/2011	07:00 AM	1	122	71	3	12	0	0	7	5	0	0	0	0	0
45	5/5/2011	08:00 AM	1	121	81	7	15	2	0	5	3	0	0	0	0	0
46	5/5/2011	09:00 AM	2	127	89	3	14	2	0	2	2	0	0	0	0	0
47	5/5/2011	10:00 AM	1	177	111	4	30	2	0	9	8	0	0	0	0	0
48	5/5/2011	11:00 AM	0	184	124	4	20	0	0	3	1	0	0	0	0	0
49	5/5/2011	12:00 PM	1	228	174	2	32	1	0	7	2	0	0	0	0	0
50	5/5/2011	01:00 PM	3	263	144	6	27	4	0	13	1	1	0	0	0	0
51	5/5/2011	02:00 PM	1	237	132	3	28	2	0	13	1	0	1	0	0	0
52	5/5/2011	03:00 PM	1	266	176	3	28	1	0	8	5	0	0	0	0	0
53	5/5/2011	04:00 PM	3	238	149	3	20	0	0	7	3	1	0	0	0	0
54	5/5/2011	05:00 PM	5	283	96	3	15	2	0	7	2	0	0	0	0	0
55	5/5/2011	06:00 PM	0	236	126	0	19	1	0	7	0	1	0	0	0	0
56	5/5/2011	07:00 PM	3	245	109	2	15	1	0	5	0	1	0	0	0	0
57	5/5/2011	08:00 PM	0	148	84	1	12	1	0	0	2	0	0	0	0	0
58	5/5/2011	09:00 PM	0	117	44	0	4	1	0	0	2	0	0	0	0	0

59	5/5/2011	10:00 PM	0	56	24	1	2	1	0	0	0	0	0	1	0	0
60	5/5/2011	11:00 PM	0	47	16	0	1	0	0	0	0	0	0	0	0	0
61	5/6/2011	12:00 AM	0	32	16	1	3	1	0	0	1	0	0	0	0	0
62	5/6/2011	01:00 AM	0	15	8	0	0	0	0	0	0	0	0	0	0	0
63	5/6/2011	02:00 AM	0	11	1	0	1	0	0	0	0	0	0	0	0	0
64	5/6/2011	03:00 AM	0	12	3	0	0	0	0	0	2	0	0	0	0	0
65	5/6/2011	04:00 AM	2	10	8	0	4	0	0	0	2	0	0	0	0	0
66	5/6/2011	05:00 AM	0	23	13	0	2	0	0	0	2	0	0	0	0	0
67	5/6/2011	06:00 AM	2	56	51	2	13	0	0	3	3	0	1	0	0	0
68	5/6/2011	07:00 AM	1	134	90	4	14	2	0	2	5	0	1	0	0	0
69	5/6/2011	08:00 AM	6	101	75	4	20	2	0	5	5	0	1	0	0	0
70	5/6/2011	09:00 AM	2	157	118	2	16	2	0	4	2	0	1	0	0	0
71	5/6/2011	10:00 AM	2	170	135	4	24	3	0	6	3	0	0	0	0	0
72	5/6/2011	11:00 AM	7	220	150	3	30	6	0	12	2	1	2	0	0	0
73	5/6/2011	12:00 PM	1	219	130	5	27	2	0	16	4	3	0	1	1	0
74	5/6/2011	01:00 PM	1	273	153	4	32	0	0	17	6	1	1	0	0	0
75	5/6/2011	02:00 PM	1	239	144	3	25	2	0	14	2	2	1	0	0	0
76	5/6/2011	03:00 PM	4	280	140	3	23	1	0	20	1	1	1	0	0	0
77	5/6/2011	04:00 PM	6	280	126	4	24	3	0	16	1	1	0	0	1	0
78	5/6/2011	05:00 PM	0	285	145	4	21	0	0	17	1	2	0	0	0	0
79	5/6/2011	06:00 PM	2	291	143	6	26	1	0	8	4	1	0	0	0	0
80	5/6/2011	07:00 PM	0	279	127	0	19	1	0	3	0	0	1	0	0	0
81	5/6/2011	08:00 PM	0	173	114	0	9	1	0	2	1	0	0	0	0	0
82	5/6/2011	09:00 PM	2	134	57	0	10	0	0	2	0	0	1	0	0	0
83	5/6/2011	10:00 PM	0	81	37	0	7	1	0	0	1	0	0	1	0	0
84	5/6/2011	11:00 PM	0	72	31	0	2	0	0	0	0	0	1	0	0	0
85	5/7/2011	12:00 AM	0	58	13	0	0	0	0	1	1	0	0	0	0	0
86	5/7/2011	01:00 AM	0	29	10	0	0	0	0	0	1	0	0	0	0	0
87	5/7/2011	02:00 AM	0	19	7	0	2	0	0	0	0	0	0	0	0	0
88	5/7/2011	03:00 AM	0	10	4	0	0	0	0	0	1	0	0	0	0	0
89	5/7/2011	04:00 AM	0	15	7	0	1	0	0	0	0	0	0	0	0	0
90	5/7/2011	05:00 AM	1	12	10	0	2	0	0	1	0	0	0	0	0	0
91	5/7/2011	06:00 AM	0	43	28	3	4	0	0	1	1	0	0	0	0	0
92	5/7/2011	07:00 AM	0	82	43	3	9	0	0	2	1	0	0	0	1	0
93	5/7/2011	08:00 AM	4	120	82	1	11	1	0	1	1	0	2	0	0	0
94	5/7/2011	09:00 AM	4	146	113	2	14	1	0	1	2	0	1	1	0	0



131	5/8/2011	10:00 PM	0	42	16	1	4	0	0	3	2	1	0	1	0	0
132	5/8/2011	11:00 PM	0	40	10	0	2	0	0	0	0	0	0	0	0	0
133	5/9/2011	12:00 AM	0	16	10	0	1	0	0	0	2	0	0	0	0	0
134	5/9/2011	01:00 AM	0	8	2	0	1	0	0	0	0	0	0	0	0	0
135	5/9/2011	02:00 AM	0	10	4	0	0	0	0	0	0	0	0	0	0	0
136	5/9/2011	03:00 AM	0	8	4	0	0	0	0	0	5	0	0	0	0	0
137	5/9/2011	04:00 AM	1	5	4	2	1	0	0	0	2	0	0	0	0	0
138	5/9/2011	05:00 AM	0	28	19	1	4	0	0	0	1	0	0	0	0	0
139	5/9/2011	06:00 AM	0	51	32	4	11	0	0	0	4	0	0	0	0	0
140	5/9/2011	07:00 AM	2	114	79	6	17	3	0	3	5	0	0	0	0	0
141	5/9/2011	08:00 AM	1	92	66	4	9	1	0	6	9	1	0	0	0	0
142	5/9/2011	09:00 AM	2	118	91	5	24	1	0	7	5	0	0	0	0	0
143	5/9/2011	10:00 AM	0	155	108	2	21	1	0	11	5	0	0	0	0	0
144	5/9/2011	11:00 AM	1	204	138	6	22	3	0	5	7	0	0	0	0	0
145	5/9/2011	12:00 PM	2	224	137	3	24	3	0	9	6	0	0	0	0	0
146	5/9/2011	01:00 PM	1	193	131	2	22	2	0	7	7	0	0	1	0	0
147	5/9/2011	02:00 PM	3	197	117	4	16	4	0	1	5	0	0	0	0	0
148	5/9/2011	03:00 PM	1	266	161	4	33	2	0	9	3	1	1	0	0	0
149	5/9/2011	04:00 PM	0	281	127	3	22	0	0	3	4	0	0	0	0	0
150	5/9/2011	05:00 PM	1	268	128	1	11	1	0	6	1	1	1	0	0	0
151	5/9/2011	06:00 PM	0	188	101	1	19	0	0	2	3	0	0	0	0	0
152	5/9/2011	07:00 PM	0	216	99	3	11	0	0	0	3	0	0	0	0	0
153	5/9/2011	08:00 PM	0	135	77	1	8	1	0	0	2	0	0	0	0	0
154	5/9/2011	09:00 PM	0	81	35	1	7	0	0	0	1	0	0	0	0	0
155	5/9/2011	10:00 PM	0	49	15	0	1	1	0	0	2	0	1	1	0	0
156	5/9/2011	11:00 PM	0	27	14	2	1	0	0	0	1	0	0	0	0	0
157	5/10/2011	12:00 AM	0	33	6	0	3	0	0	0	2	0	1	0	0	0
158	5/10/2011	01:00 AM	0	11	3	0	2	0	0	0	2	0	0	0	0	0
159	5/10/2011	02:00 AM	0	9	4	0	2	0	0	0	1	0	0	0	0	0
160	5/10/2011	03:00 AM	0	13	7	1	3	0	0	0	3	0	0	0	0	0
161	5/10/2011	04:00 AM	7	11	6	1	4	0	0	0	1	0	0	0	0	0
162	5/10/2011	05:00 AM	0	46	25	1	4	0	0	2	1	0	0	0	0	0
163	5/10/2011	06:00 AM	0	82	45	1	7	0	0	3	1	0	0	0	0	0
164	5/10/2011	07:00 AM	0	166	92	3	14	0	0	6	3	0	0	0	0	0
165	5/10/2011	08:00 AM	0	136	75	2	12	0	0	5	2	0	0	0	0	0
166	5/10/2011	09:00 AM	0	151	84	3	13	0	0	5	3	0	0	0	0	0

167 5/10/2011 10:00 AM	0	190	105	3	16	0	0	7	3	0	0	0	0	0
168 5/10/2011 11:00 AM	0	243	134	4	21	0	0	8	4	0	0	0	0	0
<b>ADT</b>	24	3252	1775	43	287	15	0	96	45	7	5	2	1	0

Pass Cars  
5051

Trucks **TOTAL**  
501 **5552**  
9.0% 0.0%  
excludes  
Not \* Not  
Classed Classified

South Frontage Rd Eastbound (Lowes) @ Garrett Rd.

Start Date: 5/3/2011

Start Time: 12:00:00 PM

Site Code: n 5311202

Station ID: SN:024680

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	5/3/2011	12:00 PM	1	84	77	0	11	1	0	1	0	0	0	1	0	0
2	5/3/2011	01:00 PM	1	78	93	0	13	0	0	2	0	0	0	0	0	0
3	5/3/2011	02:00 PM	0	92	72	1	14	0	0	5	1	0	0	0	0	0
4	5/3/2011	03:00 PM	0	87	74	0	15	0	0	3	1	0	0	0	0	0
5	5/3/2011	04:00 PM	1	72	80	0	16	0	0	1	0	0	0	0	0	0
6	5/3/2011	05:00 PM	0	74	64	0	12	0	0	1	0	0	0	0	0	0
7	5/3/2011	06:00 PM	0	68	46	0	9	0	0	1	0	0	0	0	0	0
8	5/3/2011	07:00 PM	0	60	38	0	5	0	0	1	0	0	0	0	0	0
9	5/3/2011	08:00 PM	0	36	32	0	8	0	0	1	0	0	0	0	0	0
10	5/3/2011	09:00 PM	0	12	10	0	0	0	0	0	0	0	0	0	0	0
11	5/3/2011	10:00 PM	0	5	7	0	0	0	0	0	0	0	0	0	0	0
12	5/3/2011	11:00 PM	0	5	2	0	0	0	0	0	0	0	0	0	0	0
13	5/4/2011	12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	5/4/2011	01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	5/4/2011	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	5/4/2011	03:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0
17	5/4/2011	04:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0
18	5/4/2011	05:00 AM	0	13	6	0	1	0	0	0	0	0	0	0	0	0
19	5/4/2011	06:00 AM	0	4	10	1	5	0	0	1	0	0	0	0	0	0
20	5/4/2011	07:00 AM	0	10	11	0	7	0	0	1	0	0	0	0	0	0
21	5/4/2011	08:00 AM	0	26	30	3	9	0	0	1	3	0	0	0	0	0
22	5/4/2011	09:00 AM	1	43	54	1	14	1	0	2	0	0	0	0	0	0

23	5/4/2011	10:00 AM	1	53	80	0	25	0	0	6	2	0	0	0	0
24	5/4/2011	11:00 AM	1	76	74	0	18	1	0	2	2	0	0	0	0
25	5/4/2011	12:00 PM	1	67	90	0	22	1	0	3	0	0	0	0	0
26	5/4/2011	01:00 PM	1	79	74	0	14	1	0	4	1	0	0	0	0
27	5/4/2011	02:00 PM	3	81	93	1	14	1	0	2	2	0	0	0	0
28	5/4/2011	03:00 PM	1	99	80	0	14	0	0	2	0	0	0	0	0
29	5/4/2011	04:00 PM	0	57	69	1	23	0	0	2	0	0	0	0	0
30	5/4/2011	05:00 PM	1	77	57	0	20	2	0	2	0	0	0	0	0
31	5/4/2011	06:00 PM	0	66	42	0	15	0	0	0	1	0	0	0	0
32	5/4/2011	07:00 PM	0	36	34	0	16	0	0	3	0	0	0	0	0
33	5/4/2011	08:00 PM	0	20	29	0	12	0	0	1	0	0	0	0	0
34	5/4/2011	09:00 PM	0	19	10	0	2	0	0	0	0	0	0	0	0
35	5/4/2011	10:00 PM	0	7	5	0	1	0	0	0	0	0	0	0	0
36	5/4/2011	11:00 PM	0	4	2	0	0	0	0	0	0	0	0	0	0
37	5/5/2011	12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
38	5/5/2011	01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
39	5/5/2011	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
40	5/5/2011	03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
41	5/5/2011	04:00 AM	0	8	5	0	0	0	0	0	0	0	0	0	0
42	5/5/2011	05:00 AM	0	3	3	0	1	0	0	0	0	0	0	0	0
43	5/5/2011	06:00 AM	0	3	7	0	3	0	0	0	0	0	0	0	0
44	5/5/2011	07:00 AM	0	8	19	1	11	0	0	0	0	0	0	0	0
45	5/5/2011	08:00 AM	0	18	34	1	16	0	0	2	4	0	0	0	0
46	5/5/2011	09:00 AM	2	41	52	0	23	0	0	3	1	0	0	0	0
47	5/5/2011	10:00 AM	1	61	79	2	20	1	0	4	1	0	0	0	0
48	5/5/2011	11:00 AM	2	93	91	0	24	1	0	5	1	0	0	0	0
49	5/5/2011	12:00 PM	0	72	88	2	21	0	0	4	0	0	1	0	0
50	5/5/2011	01:00 PM	0	97	87	1	24	0	0	1	0	0	0	0	0
51	5/5/2011	02:00 PM	0	77	70	0	16	0	0	4	0	0	0	0	0
52	5/5/2011	03:00 PM	0	77	76	0	13	0	0	3	1	0	0	0	0
53	5/5/2011	04:00 PM	0	69	67	0	21	1	0	3	0	0	0	0	0
54	5/5/2011	05:00 PM	2	64	62	0	14	0	0	2	0	0	0	0	0
55	5/5/2011	06:00 PM	0	72	48	0	18	0	0	0	1	0	0	0	0
56	5/5/2011	07:00 PM	0	44	38	0	20	0	0	1	0	0	0	0	0
57	5/5/2011	08:00 PM	1	39	29	0	16	0	0	0	0	0	0	0	0
58	5/5/2011	09:00 PM	0	21	7	0	4	0	0	1	0	0	0	0	0



59	5/5/2011	10:00 PM	0	4	4	0	2	0	0	0	0	0	0	0	0
60	5/5/2011	11:00 PM	0	3	1	0	0	0	0	0	0	0	0	0	0
61	5/6/2011	12:00 AM	1	0	0	0	0	1	0	0	0	0	0	0	0
62	5/6/2011	01:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0
63	5/6/2011	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
64	5/6/2011	03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
65	5/6/2011	04:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0
66	5/6/2011	05:00 AM	0	12	7	0	0	0	0	0	0	0	0	0	0
67	5/6/2011	06:00 AM	0	3	6	0	2	0	0	1	0	0	0	0	0
68	5/6/2011	07:00 AM	0	12	12	0	9	0	0	3	1	0	0	0	0
69	5/6/2011	08:00 AM	0	28	27	2	25	2	0	0	0	0	0	0	0
70	5/6/2011	09:00 AM	0	49	55	0	28	1	0	3	0	0	0	0	0
71	5/6/2011	10:00 AM	2	86	94	0	27	0	0	8	0	0	0	0	0
72	5/6/2011	11:00 AM	0	88	94	1	34	0	0	1	1	0	0	0	0
73	5/6/2011	12:00 PM	0	95	99	1	30	0	0	2	0	0	0	0	0
74	5/6/2011	01:00 PM	3	102	96	0	14	0	0	8	0	0	0	1	0
75	5/6/2011	02:00 PM	1	108	83	0	21	0	0	3	0	0	0	0	0
76	5/6/2011	03:00 PM	2	105	83	0	23	0	0	5	1	0	0	0	0
77	5/6/2011	04:00 PM	1	90	73	0	24	0	0	6	0	0	0	0	0
78	5/6/2011	05:00 PM	1	97	74	0	12	0	0	2	0	0	0	0	0
79	5/6/2011	06:00 PM	1	96	80	0	10	0	0	4	0	0	0	0	0
80	5/6/2011	07:00 PM	0	75	76	0	11	1	0	2	0	0	0	0	0
81	5/6/2011	08:00 PM	2	77	49	0	26	0	0	2	0	0	0	0	0
82	5/6/2011	09:00 PM	0	27	32	0	10	0	0	1	0	0	0	0	0
83	5/6/2011	10:00 PM	0	11	4	0	4	0	0	0	0	0	0	0	0
84	5/6/2011	11:00 PM	1	7	5	0	0	0	0	0	0	0	0	0	0
85	5/7/2011	12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
86	5/7/2011	01:00 AM	1	0	0	0	0	1	0	0	0	0	0	0	0
87	5/7/2011	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
88	5/7/2011	03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
89	5/7/2011	04:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
90	5/7/2011	05:00 AM	0	4	3	0	0	0	0	0	0	0	0	0	0
91	5/7/2011	06:00 AM	0	3	7	0	0	0	0	0	0	0	0	0	0
92	5/7/2011	07:00 AM	0	11	19	0	10	0	0	1	0	0	0	0	0
93	5/7/2011	08:00 AM	0	33	35	0	13	0	0	4	1	0	0	0	0
94	5/7/2011	09:00 AM	0	65	59	1	25	0	0	2	0	0	0	0	0

95	5/7/2011	10:00 AM	0	100	108	1	24	0	0	5	0	0	0	0	0
96	5/7/2011	11:00 AM	0	123	95	0	27	0	0	5	0	0	0	0	0
97	5/7/2011	12:00 PM	4	124	122	0	36	0	0	6	0	0	0	0	0
98	5/7/2011	01:00 PM	0	148	137	0	17	0	0	6	1	0	0	0	0
99	5/7/2011	02:00 PM	3	151	118	0	20	0	0	4	0	0	0	0	0
100	5/7/2011	03:00 PM	2	138	106	0	16	1	0	2	0	0	1	0	0
101	5/7/2011	04:00 PM	2	133	117	0	17	0	0	2	0	0	0	0	0
102	5/7/2011	05:00 PM	1	123	89	0	15	0	0	0	0	0	0	0	0
103	5/7/2011	06:00 PM	0	93	62	0	13	0	0	2	0	0	0	0	0
104	5/7/2011	07:00 PM	0	85	76	0	10	0	0	0	0	0	0	0	0
105	5/7/2011	08:00 PM	1	65	60	0	12	0	0	0	0	0	0	0	0
106	5/7/2011	09:00 PM	0	26	24	0	10	0	0	0	0	0	0	0	0
107	5/7/2011	10:00 PM	0	15	4	0	2	0	0	0	0	0	0	0	0
108	5/7/2011	11:00 PM	0	4	7	0	1	0	0	0	0	0	0	0	0
109	5/8/2011	12:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
110	5/8/2011	01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
111	5/8/2011	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
112	5/8/2011	03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
113	5/8/2011	04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
114	5/8/2011	05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
115	5/8/2011	06:00 AM	0	1	1	0	1	0	0	0	0	0	0	0	0
116	5/8/2011	07:00 AM	0	7	8	0	1	0	0	0	0	0	0	0	0
117	5/8/2011	08:00 AM	0	14	12	1	13	0	0	0	0	0	0	0	0
118	5/8/2011	09:00 AM	0	38	39	1	14	0	0	3	0	0	0	0	0
119	5/8/2011	10:00 AM	1	55	41	0	17	0	0	1	1	0	0	0	0
120	5/8/2011	11:00 AM	0	61	67	0	17	0	0	1	0	0	0	0	0
121	5/8/2011	12:00 PM	3	95	51	0	20	0	0	1	0	0	0	0	0
122	5/8/2011	01:00 PM	0	95	79	0	19	0	0	1	0	0	0	0	0
123	5/8/2011	02:00 PM	2	93	84	0	19	1	0	3	0	0	0	0	0
124	5/8/2011	03:00 PM	2	102	82	1	16	0	0	0	0	0	0	0	0
125	5/8/2011	04:00 PM	0	80	63	0	26	0	0	4	0	0	0	0	0
126	5/8/2011	05:00 PM	0	78	54	0	12	0	0	4	0	0	0	0	0
127	5/8/2011	06:00 PM	1	49	49	0	12	0	0	0	0	0	0	0	0
128	5/8/2011	07:00 PM	0	29	27	1	9	0	0	0	0	0	0	0	0
129	5/8/2011	08:00 PM	0	15	10	0	4	0	0	0	0	0	0	0	0
130	5/8/2011	09:00 PM	0	6	8	0	0	0	0	1	0	0	0	0	0

131	5/8/2011	10:00 PM	1	1	1	0	2	0	0	0	0	0	0	0	0
132	5/8/2011	11:00 PM	0	2	2	0	0	0	0	0	0	0	0	0	0
133	5/9/2011	12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
134	5/9/2011	01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
135	5/9/2011	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
136	5/9/2011	03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
137	5/9/2011	04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
138	5/9/2011	05:00 AM	0	4	6	0	0	0	0	0	0	0	0	0	0
139	5/9/2011	06:00 AM	0	11	8	0	1	0	0	0	0	0	0	0	0
140	5/9/2011	07:00 AM	0	10	10	0	6	0	0	2	2	0	0	0	1
141	5/9/2011	08:00 AM	1	15	36	1	12	1	1	4	2	0	0	0	0
142	5/9/2011	09:00 AM	0	29	49	0	24	0	0	7	0	0	0	0	0
143	5/9/2011	10:00 AM	1	46	58	2	33	0	0	5	0	0	1	0	0
144	5/9/2011	11:00 AM	0	80	99	0	25	0	0	3	1	0	0	0	0
145	5/9/2011	12:00 PM	1	83	79	0	20	0	0	6	1	0	0	0	0
146	5/9/2011	01:00 PM	0	78	62	2	25	0	0	5	1	0	0	0	0
147	5/9/2011	02:00 PM	1	83	91	0	27	0	0	5	2	0	0	0	0
148	5/9/2011	03:00 PM	2	85	73	0	33	0	0	4	1	0	0	0	0
149	5/9/2011	04:00 PM	1	67	58	0	21	0	0	2	0	0	0	0	0
150	5/9/2011	05:00 PM	0	74	67	0	24	0	0	3	0	0	0	0	0
151	5/9/2011	06:00 PM	1	62	58	0	10	0	0	1	1	0	0	0	0
152	5/9/2011	07:00 PM	0	42	33	0	7	0	0	1	0	0	0	0	0
153	5/9/2011	08:00 PM	0	33	36	0	8	0	0	2	0	0	0	0	0
154	5/9/2011	09:00 PM	0	17	11	0	0	0	0	1	0	0	0	0	0
155	5/9/2011	10:00 PM	0	5	4	0	0	0	0	0	0	0	0	0	0
156	5/9/2011	11:00 PM	0	2	5	0	0	0	0	0	0	0	0	0	0
157	5/10/2011	12:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0
158	5/10/2011	01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
159	5/10/2011	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
160	5/10/2011	03:00 AM	0	1	2	0	0	0	0	0	0	0	0	0	0
161	5/10/2011	04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
162	5/10/2011	05:00 AM	0	8	7	0	1	0	0	0	0	0	0	0	0
163	5/10/2011	06:00 AM	0	4	2	1	1	0	0	1	0	0	0	0	0
164	5/10/2011	07:00 AM	0	13	17	0	11	0	0	1	0	0	0	0	0
165	5/10/2011	08:00 AM	0	17	21	0	16	0	0	4	4	0	0	0	0
166	5/10/2011	09:00 AM	1	30	45	2	24	0	0	1	2	0	0	0	0

167 5/10/2011 10:00 AM	0	51	72	1	29	0	0	2	1	0	0	0	0	0
168 5/10/2011 11:00 AM	2	73	85	0	19	0	0	3	2	0	0	0	0	0
<b>ADT</b>	<b>10</b>	<b>978</b>	<b>913</b>	<b>5</b>	<b>251</b>	<b>3</b>	<b>0</b>	<b>36</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Pass Cars  
1901

Trucks **TOTAL**  
303 **2204**  
13.7% 0.0%  
excludes  
Not \* Not  
Classed Classified

South Frontage Rd Westbound (Sams) @ Garrett Rd

Start Date: 5/3/2011

Start Time: 12:00:00 PM

Site Code: n 5311204

Station ID: SN:024679

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	5/3/2011	12:00 PM	1	220	112	0	21	3	0	8	3	1	0	0	0	0
2	5/3/2011	01:00 PM	4	230	120	1	26	3	0	9	1	0	0	0	0	0
3	5/3/2011	02:00 PM	0	208	102	2	28	1	0	7	1	0	0	0	0	0
4	5/3/2011	03:00 PM	3	206	92	0	20	2	0	6	4	1	0	0	0	0
5	5/3/2011	04:00 PM	1	244	107	1	17	2	0	3	1	0	0	0	0	0
6	5/3/2011	05:00 PM	3	224	120	0	28	0	0	2	0	1	0	0	0	0
7	5/3/2011	06:00 PM	3	150	79	1	5	1	0	1	0	0	0	0	0	0
8	5/3/2011	07:00 PM	1	150	39	0	6	0	0	0	0	0	0	0	0	0
9	5/3/2011	08:00 PM	1	101	33	0	7	0	0	0	0	0	0	1	0	0
10	5/3/2011	09:00 PM	0	22	5	1	0	0	0	0	0	0	0	1	0	0
11	5/3/2011	10:00 PM	0	13	2	0	1	0	0	0	0	0	0	0	0	0
12	5/3/2011	11:00 PM	0	2	1	0	0	0	0	0	0	0	0	1	0	0
13	5/4/2011	12:00 AM	0	3	4	0	0	0	0	0	1	0	0	0	0	0
14	5/4/2011	01:00 AM	0	6	3	1	0	0	0	0	1	0	0	0	0	0
15	5/4/2011	02:00 AM	0	6	0	0	0	0	0	0	0	0	0	0	0	0
16	5/4/2011	03:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0
17	5/4/2011	04:00 AM	0	8	1	0	0	0	0	1	0	0	0	0	0	0
18	5/4/2011	05:00 AM	0	18	5	0	3	0	0	0	2	0	0	1	0	0
19	5/4/2011	06:00 AM	0	17	18	2	8	1	0	1	1	0	0	1	0	0
20	5/4/2011	07:00 AM	0	36	37	3	20	1	0	2	3	0	0	0	0	0
21	5/4/2011	08:00 AM	0	61	39	0	22	4	0	2	2	1	0	0	1	0
22	5/4/2011	09:00 AM	0	87	48	0	13	2	0	5	2	1	0	0	0	0

23	5/4/2011	10:00 AM	2	127	83	1	23	2	0	3	2	0	0	0	0
24	5/4/2011	11:00 AM	6	183	110	0	17	1	0	1	2	0	0	0	0
25	5/4/2011	12:00 PM	2	210	88	1	23	1	0	4	1	1	0	0	0
26	5/4/2011	01:00 PM	3	193	112	3	16	1	0	8	4	1	0	0	0
27	5/4/2011	02:00 PM	2	191	89	2	18	1	0	1	0	1	0	0	0
28	5/4/2011	03:00 PM	2	191	86	0	15	1	0	5	2	0	0	0	0
29	5/4/2011	04:00 PM	4	233	104	0	13	0	0	6	5	0	0	0	0
30	5/4/2011	05:00 PM	6	243	94	0	14	0	0	4	1	0	0	0	0
31	5/4/2011	06:00 PM	2	171	55	0	13	0	0	3	2	0	0	0	0
32	5/4/2011	07:00 PM	1	133	36	0	10	2	0	0	0	0	0	0	0
33	5/4/2011	08:00 PM	0	231	72	0	14	0	0	2	1	0	0	1	0
34	5/4/2011	09:00 PM	0	12	4	1	1	0	0	0	0	0	0	1	0
35	5/4/2011	10:00 PM	0	10	2	0	2	0	0	0	1	0	0	1	0
36	5/4/2011	11:00 PM	0	4	0	0	0	0	0	0	0	0	0	0	0
37	5/5/2011	12:00 AM	0	3	2	0	0	0	0	0	0	0	0	0	0
38	5/5/2011	01:00 AM	0	10	0	0	0	0	0	0	0	0	0	0	0
39	5/5/2011	02:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0
40	5/5/2011	03:00 AM	0	4	1	0	0	0	0	1	2	0	0	0	0
41	5/5/2011	04:00 AM	0	8	1	0	1	0	0	1	2	0	0	0	0
42	5/5/2011	05:00 AM	0	20	7	1	4	0	0	0	2	0	0	0	0
43	5/5/2011	06:00 AM	1	16	16	3	10	3	0	2	1	0	0	1	0
44	5/5/2011	07:00 AM	0	49	34	1	16	2	0	2	2	0	0	0	0
45	5/5/2011	08:00 AM	1	69	47	2	23	2	0	0	4	0	0	0	0
46	5/5/2011	09:00 AM	0	89	59	1	23	4	0	2	5	0	0	0	0
47	5/5/2011	10:00 AM	1	129	89	2	22	3	0	4	3	0	0	0	0
48	5/5/2011	11:00 AM	0	169	76	0	23	1	0	1	2	0	0	0	0
49	5/5/2011	12:00 PM	7	193	114	0	23	4	0	2	1	0	0	0	0
50	5/5/2011	01:00 PM	0	203	102	0	22	1	0	5	1	0	0	0	0
51	5/5/2011	02:00 PM	3	209	112	0	10	1	0	6	1	0	0	0	0
52	5/5/2011	03:00 PM	4	189	87	0	15	4	0	3	4	0	0	0	1
53	5/5/2011	04:00 PM	6	239	120	1	23	0	0	0	4	0	0	0	0
54	5/5/2011	05:00 PM	5	227	95	0	18	1	0	0	2	0	0	0	0
55	5/5/2011	06:00 PM	5	179	62	0	9	0	0	1	0	0	0	0	0
56	5/5/2011	07:00 PM	0	129	47	0	5	0	0	2	1	0	0	0	0
57	5/5/2011	08:00 PM	1	97	41	0	9	0	0	1	0	0	0	1	0
58	5/5/2011	09:00 PM	0	20	15	1	0	0	0	1	0	0	0	1	0

59	5/5/2011	10:00 PM	0	5	4	1	2	0	0	1	0	0	0	0	0
60	5/5/2011	11:00 PM	0	5	0	0	0	0	0	0	0	0	0	0	0
61	5/6/2011	12:00 AM	0	2	1	0	1	0	0	0	0	0	0	0	0
62	5/6/2011	01:00 AM	0	5	1	0	0	0	0	0	1	0	0	0	0
63	5/6/2011	02:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0
64	5/6/2011	03:00 AM	0	2	0	0	0	0	0	0	2	0	0	0	0
65	5/6/2011	04:00 AM	1	16	3	0	0	1	0	0	1	0	0	0	0
66	5/6/2011	05:00 AM	0	6	9	1	4	1	0	0	1	0	0	0	0
67	5/6/2011	06:00 AM	1	17	12	2	7	0	0	0	0	0	0	1	0
68	5/6/2011	07:00 AM	1	41	35	1	18	1	0	1	0	0	0	0	0
69	5/6/2011	08:00 AM	2	62	50	0	32	3	0	4	4	0	0	0	0
70	5/6/2011	09:00 AM	4	102	60	0	18	4	0	3	5	1	0	0	1
71	5/6/2011	10:00 AM	1	140	100	1	18	1	0	4	4	0	0	0	0
72	5/6/2011	11:00 AM	7	180	109	0	27	3	0	5	3	0	0	0	0
73	5/6/2011	12:00 PM	5	232	120	0	19	2	0	5	2	0	0	0	0
74	5/6/2011	01:00 PM	6	235	113	0	27	2	0	4	1	0	0	0	0
75	5/6/2011	02:00 PM	10	242	122	1	23	3	0	3	1	0	0	0	1
76	5/6/2011	03:00 PM	7	227	100	0	15	0	0	6	2	0	0	0	0
77	5/6/2011	04:00 PM	8	277	118	0	20	1	0	2	0	0	0	0	0
78	5/6/2011	05:00 PM	9	283	112	0	15	0	0	3	0	0	0	0	0
79	5/6/2011	06:00 PM	6	227	78	0	11	0	0	0	0	0	0	0	0
80	5/6/2011	07:00 PM	1	226	64	1	10	1	0	0	1	0	0	0	0
81	5/6/2011	08:00 PM	1	170	63	0	8	0	0	1	1	0	0	0	0
82	5/6/2011	09:00 PM	0	32	9	2	7	0	0	1	1	0	0	1	0
83	5/6/2011	10:00 PM	0	5	4	0	0	0	0	0	0	0	0	0	0
84	5/6/2011	11:00 PM	0	9	1	0	2	0	0	0	1	0	0	1	0
85	5/7/2011	12:00 AM	0	14	1	0	0	0	0	0	1	0	0	0	0
86	5/7/2011	01:00 AM	0	7	0	0	1	0	0	0	1	0	0	0	0
87	5/7/2011	02:00 AM	1	3	0	0	0	1	0	0	0	0	0	0	0
88	5/7/2011	03:00 AM	0	2	4	0	0	0	0	1	1	0	0	0	0
89	5/7/2011	04:00 AM	0	4	0	0	0	0	0	0	1	0	0	0	0
90	5/7/2011	05:00 AM	0	14	5	0	1	0	0	0	0	0	0	0	0
91	5/7/2011	06:00 AM	1	14	8	0	8	0	0	1	1	0	0	1	0
92	5/7/2011	07:00 AM	1	33	25	0	11	2	0	2	1	0	0	0	0
93	5/7/2011	08:00 AM	0	67	45	0	13	1	0	3	3	0	0	0	0
94	5/7/2011	09:00 AM	3	111	61	0	24	1	0	2	0	0	0	0	0





131	5/8/2011	10:00 PM	1	9	4	0	2	0	0	0	0	0	0	0	0
132	5/8/2011	11:00 PM	0	11	4	0	2	0	0	0	0	0	0	0	0
133	5/9/2011	12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
134	5/9/2011	01:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
135	5/9/2011	02:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
136	5/9/2011	03:00 AM	0	11	5	0	1	0	0	0	0	0	0	0	0
137	5/9/2011	04:00 AM	0	7	3	0	1	0	0	0	1	0	0	0	0
138	5/9/2011	05:00 AM	0	17	9	1	3	1	0	2	0	0	0	0	0
139	5/9/2011	06:00 AM	1	31	16	0	5	1	0	0	0	0	0	0	0
140	5/9/2011	07:00 AM	6	80	42	0	18	0	1	2	1	0	0	0	0
141	5/9/2011	08:00 AM	6	75	50	1	16	1	0	3	1	0	0	0	0
142	5/9/2011	09:00 AM	5	132	69	0	19	0	0	2	1	0	0	0	0
143	5/9/2011	10:00 AM	9	208	109	0	23	1	0	3	4	0	1	0	0
144	5/9/2011	11:00 AM	9	254	119	0	26	0	0	9	3	0	0	0	0
145	5/9/2011	12:00 PM	12	288	155	0	26	3	0	4	4	0	0	0	0
146	5/9/2011	01:00 PM	12	273	130	0	29	1	0	5	3	0	0	0	0
147	5/9/2011	02:00 PM	12	249	106	0	22	1	0	4	2	0	0	0	0
148	5/9/2011	03:00 PM	9	265	127	0	24	1	0	5	3	0	0	0	0
149	5/9/2011	04:00 PM	20	322	146	0	26	0	0	3	4	0	0	0	0
150	5/9/2011	05:00 PM	19	295	136	1	30	0	0	4	3	0	0	0	0
151	5/9/2011	06:00 PM	8	205	80	0	17	0	0	3	2	0	0	0	0
152	5/9/2011	07:00 PM	6	185	75	0	14	0	0	2	2	0	0	0	0
153	5/9/2011	08:00 PM	6	111	51	0	8	1	0	1	1	0	0	0	0
154	5/9/2011	09:00 PM	1	21	9	0	2	0	0	0	1	0	0	0	0
155	5/9/2011	10:00 PM	0	12	5	0	1	0	0	0	0	0	0	0	0
156	5/9/2011	11:00 PM	0	6	1	0	0	0	0	0	0	0	0	0	0
157	5/10/2011	12:00 AM	1	6	3	0	1	0	0	0	0	0	0	0	0
158	5/10/2011	01:00 AM	0	7	3	0	1	0	0	0	0	0	0	0	0
159	5/10/2011	02:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
160	5/10/2011	03:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
161	5/10/2011	04:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0
162	5/10/2011	05:00 AM	3	32	12	1	3	0	0	0	0	0	0	0	0
163	5/10/2011	06:00 AM	1	33	21	2	5	0	0	0	1	0	0	0	0
164	5/10/2011	07:00 AM	2	82	44	2	16	0	0	1	1	0	0	0	1
165	5/10/2011	08:00 AM	11	127	72	0	22	1	0	2	4	0	0	0	0
166	5/10/2011	09:00 AM	7	156	85	1	25	0	0	6	4	0	0	0	0

167 5/10/2011	10:00 AM	12	213	117	0	20	1	0	8	4	0	0	0	0	
168 5/10/2011	11:00 AM	13	247	121	1	32	1	0	4	6	0	0	0	0	
<b>ADT</b>		<b>68</b>	<b>2567</b>	<b>1170</b>	<b>8</b>	<b>243</b>	<b>14</b>	<b>0</b>	<b>40</b>	<b>27</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>
				<i>Pass Cars</i>										<i>Trucks</i>	<b>TOTAL</b>
				3805										339	<b>4144</b>
														8.2%	0.0%
														<i>exclude</i>	
														<i>s Not</i>	<i>* Not</i>
														<i>Classe</i>	<i>Classified</i>

Garrett Rd. Northbound @ I-20 EB OFF Ramp

Start Date: 4/30/2013

Start Time: 11:00:00 AM

Site Code: 120430131

Station ID:

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	4/30/2013	11:00 AM	16	381	22	5	8	4	0	2	2	0	0	1	0	47
2	4/30/2013	12:00 PM	14	407	27	5	2	4	0	1	0	0	0	0	0	39
3	4/30/2013	01:00 PM	11	444	33	2	0	2	0	0	0	2	2	0	0	36
4	4/30/2013	02:00 PM	10	383	28	2	3	3	1	1	1	0	0	0	0	30
5	4/30/2013	03:00 PM	13	350	27	3	1	8	1	2	0	0	2	0	0	29
6	4/30/2013	04:00 PM	6	390	19	2	2	2	0	2	0	0	0	1	0	28
7	4/30/2013	05:00 PM	12	383	36	2	3	0	0	2	3	0	1	0	0	32
8	4/30/2013	06:00 PM	8	307	20	2	1	1	0	1	0	0	0	0	0	19
9	4/30/2013	07:00 PM	3	234	19	0	1	0	0	0	0	0	0	0	0	11
10	4/30/2013	08:00 PM	1	167	10	0	0	0	0	0	0	0	0	0	0	7
11	4/30/2013	09:00 PM	0	100	1	0	1	0	0	0	0	0	0	0	0	1
12	4/30/2013	10:00 PM	0	54	2	0	0	0	0	0	0	1	0	0	0	2
13	4/30/2013	11:00 PM	0	47	6	1	0	0	0	0	0	0	0	0	0	0
14	5/1/2013	12:00 AM	0	40	2	0	1	0	0	0	0	0	0	0	0	0
15	5/1/2013	01:00 AM	0	20	0	0	0	0	0	0	0	0	0	0	0	2
16	5/1/2013	02:00 AM	0	23	1	0	0	1	0	0	0	0	0	0	0	1
17	5/1/2013	03:00 AM	0	19	1	1	0	0	0	0	0	0	0	0	0	0
18	5/1/2013	04:00 AM	0	27	4	0	0	0	0	1	0	0	0	0	0	1
19	5/1/2013	05:00 AM	1	71	7	0	1	0	0	0	1	0	0	0	0	1
20	5/1/2013	06:00 AM	2	132	15	0	3	0	0	0	0	0	0	0	0	1
21	5/1/2013	07:00 AM	5	257	20	1	4	2	0	1	0	0	0	0	0	11
22	5/1/2013	08:00 AM	4	219	23	0	6	1	0	0	0	0	0	0	0	19
23	5/1/2013	09:00 AM	8	226	27	3	5	1	0	3	0	1	0	0	0	12
24	5/1/2013	10:00 AM	10	278	39	2	7	0	0	1	0	0	0	0	0	34
25	5/1/2013	11:00 AM	14	338	35	3	3	0	0	2	0	0	0	0	0	38
26	5/1/2013	12:00 PM	11	359	41	1	7	0	2	6	2	0	0	0	0	51

2p-5p Tuesday  
TOTAL  
1350

27	5/1/2013	01:00 PM	6	360	27	1	1	0	0	1	1	0	0	0	0	34
28	5/1/2013	02:00 PM	11	352	35	2	5	0	0	7	3	0	0	0	0	32
29	5/1/2013	03:00 PM	10	351	45	1	2	0	0	3	1	1	0	0	1	45
30	5/1/2013	04:00 PM	17	347	48	0	4	1	0	6	2	0	1	0	0	67
31	5/1/2013	05:00 PM	13	345	47	3	6	0	0	4	3	0	0	0	2	56
32	5/1/2013	06:00 PM	4	321	38	2	2	0	0	7	1	0	0	0	0	29
33	5/1/2013	07:00 PM	9	223	24	1	5	2	0	4	1	0	0	0	0	13
34	5/1/2013	08:00 PM	4	277	21	2	0	0	0	2	1	0	1	0	0	12
35	5/1/2013	09:00 PM	3	89	10	0	0	1	0	1	0	0	0	0	0	2
36	5/1/2013	10:00 PM	1	59	8	0	1	0	0	0	0	0	0	0	0	0
37	5/1/2013	11:00 PM	0	30	3	0	0	0	0	0	0	0	0	0	0	0
38	5/2/2013	12:00 AM	0	33	4	0	2	0	0	0	0	0	0	0	0	0
39	5/2/2013	01:00 AM	0	25	1	0	1	0	0	0	1	0	0	0	0	0
40	5/2/2013	02:00 AM	2	21	3	0	1	0	0	0	0	0	0	0	0	2
41	5/2/2013	03:00 AM	0	25	1	1	0	1	0	1	1	0	0	1	0	2
42	5/2/2013	04:00 AM	1	27	1	0	2	0	0	2	0	0	0	0	0	3
43	5/2/2013	05:00 AM	2	68	5	0	2	1	0	1	1	0	0	0	0	6
44	5/2/2013	06:00 AM	2	138	19	0	3	2	0	1	2	0	0	0	0	5
45	5/2/2013	07:00 AM	7	251	29	0	3	2	0	4	0	1	0	1	0	11
46	5/2/2013	08:00 AM	8	240	42	2	6	1	0	7	0	0	0	0	1	35
47	5/2/2013	09:00 AM	14	251	31	2	4	2	0	5	0	0	1	0	0	31
48	5/2/2013	10:00 AM	13	313	50	4	2	1	0	9	1	0	0	0	0	33
49	5/2/2013	11:00 AM	20	360	54	3	7	1	0	11	1	0	1	0	0	36
50	5/2/2013	12:00 PM	17	384	45	8	7	1	0	8	2	1	0	0	0	38
51	5/2/2013	01:00 PM	20	367	57	1	1	0	0	3	0	0	2	0	0	47
52	5/2/2013	02:00 PM	13	419	35	1	5	1	1	3	2	2	0	0	0	52
53	5/2/2013	03:00 PM	15	402	31	4	3	0	0	3	0	0	0	0	1	39
<b>ADT</b>			163	5314	534	33	61	21	2	53	15	4	5	2	2	490

Pass Cars  
6011

Trucks	<b>TOTAL</b>	2p-5p	2p-5p
198	<b>6699</b>	Max	Min
3.2%	7.3%	1400	1350
exclude	* Not		
s Not	Classifie	On	On
Classes	d	Wednesday	Tuesday

1350 on Tuesday or 96% of Max , compare to manual counts

2p-5p  
TOTAL  
1400  
Wednesday

54	5/2/2013	04:00 PM	0	416	0	0	0	0	0	0	0	0	0	0	0	0
55	5/2/2013	05:00 PM	0	389	0	0	0	0	0	0	0	0	0	0	0	0
56	5/2/2013	06:00 PM	0	344	0	0	0	0	0	0	0	0	0	0	0	0
57	5/2/2013	07:00 PM	0	279	0	0	0	0	0	0	0	0	0	0	0	0
58	5/2/2013	08:00 PM	0	186	0	0	0	0	0	0	0	0	0	0	0	0
59	5/2/2013	09:00 PM	0	110	0	0	0	0	0	0	0	0	0	0	0	0
60	5/2/2013	10:00 PM	0	64	0	0	0	0	0	0	0	0	0	0	0	0
61	5/2/2013	11:00 PM	0	52	0	0	0	0	0	0	0	0	0	0	0	0
62	5/3/2013	12:00 AM	0	32	0	0	0	0	0	0	0	0	0	0	0	0
63	5/3/2013	01:00 AM	0	18	0	0	0	0	0	0	0	0	0	0	0	0
64	5/3/2013	02:00 AM	0	30	0	0	0	0	0	0	0	0	0	0	0	0
65	5/3/2013	03:00 AM	0	27	0	0	0	0	0	0	0	0	0	0	0	0
66	5/3/2013	04:00 AM	0	32	0	0	0	0	0	0	0	0	0	0	0	0
67	5/3/2013	05:00 AM	0	79	0	0	0	0	0	0	0	0	0	0	0	0
68	5/3/2013	06:00 AM	0	146	0	0	0	0	0	0	0	0	0	0	0	0
69	5/3/2013	07:00 AM	0	260	0	0	0	0	0	0	0	0	0	0	0	0
70	5/3/2013	08:00 AM	0	266	0	0	0	0	0	0	0	0	0	0	0	0
71	5/3/2013	09:00 AM	0	307	0	0	0	0	0	0	0	0	0	0	0	0
72	5/3/2013	10:00 AM	2	356	0	0	0	0	0	0	0	0	0	0	0	0
73	5/3/2013	11:00 AM	0	384	0	0	0	0	0	0	0	0	0	0	0	0
74	5/3/2013	12:00 PM	0	399	0	0	0	0	0	0	0	0	0	0	0	0
75	5/3/2013	01:00 PM	0	428	0	0	0	0	0	0	0	0	0	0	0	0
76	5/3/2013	02:00 PM	0	413	0	0	0	0	0	0	0	0	0	0	0	0
77	5/3/2013	03:00 PM	0	404	0	0	0	0	0	0	0	0	0	0	0	0
78	5/3/2013	04:00 PM	0	428	0	0	0	0	0	0	0	0	0	0	0	0
79	5/3/2013	05:00 PM	0	438	0	0	0	0	0	0	0	0	0	0	0	0
80	5/3/2013	06:00 PM	0	390	0	0	0	0	0	0	0	0	0	0	0	0
81	5/3/2013	07:00 PM	0	338	0	0	0	0	0	0	0	0	0	0	0	0
82	5/3/2013	08:00 PM	0	259	0	0	0	0	0	0	0	0	0	0	0	0
83	5/3/2013	09:00 PM	0	148	0	0	0	0	0	0	0	0	0	0	0	0
84	5/3/2013	10:00 PM	0	70	0	0	0	0	0	0	0	0	0	0	0	0
85	5/3/2013	11:00 PM	0	75	0	0	0	0	0	0	0	0	0	0	0	0
86	5/4/2013	12:00 AM	0	44	0	0	0	0	0	0	0	0	0	0	0	0
87	5/4/2013	01:00 AM	0	23	0	0	0	0	0	0	0	0	0	0	0	0
88	5/4/2013	02:00 AM	0	26	0	0	0	0	0	0	0	0	0	0	0	0

2p-5p  
TOTAL  
672









Garrett Rd Southbound @ I-20 Eastbound Ramp

Start Date: 11/4/2013

Start Time: 11:00:00 AM

Site Code: 120114133

Station ID:

Location 1: Garrett Rd. Southbound @ EB Off Ramps

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	
14	11/5/2013	12:00 AM	0	44	9	0	0	0	0	0	0	0	0	0	0	0	
15	11/5/2013	01:00 AM	0	5	2	1	0	0	0	0	2	0	0	0	0	0	
16	11/5/2013	02:00 AM	0	11	4	0	0	0	0	0	2	0	0	0	0	0	
17	11/5/2013	03:00 AM	0	14	1	0	0	1	0	0	3	0	0	0	0	0	
18	11/5/2013	04:00 AM	0	12	6	0	0	1	0	1	2	0	1	0	0	0	
19	11/5/2013	05:00 AM	0	30	9	0	2	0	0	0	1	0	0	0	0	0	
20	11/5/2013	06:00 AM	0	62	35	1	4	1	0	1	0	0	1	0	0	0	
21	11/5/2013	07:00 AM	0	117	46	1	9	1	0	6	1	0	1	0	0	0	
22	11/5/2013	08:00 AM	1	99	48	1	11	1	0	3	6	1	0	0	0	0	
23	11/5/2013	09:00 AM	2	155	67	1	5	2	0	6	5	0	1	0	0	0	
24	11/5/2013	10:00 AM	0	201	66	0	9	1	0	5	5	1	0	0	0	4	
25	11/5/2013	11:00 AM	2	203	71	0	7	1	0	4	2	0	0	0	0	1	
26	11/5/2013	12:00 PM	3	255	68	0	4	1	0	5	1	0	0	0	0	1	
27	11/5/2013	01:00 PM	1	284	86	0	4	0	0	3	6	0	0	0	0	1	
28	11/5/2013	02:00 PM	9	307	74	0	8	2	0	2	4	2	0	0	0	0	
29	11/5/2013	03:00 PM	3	331	82	0	8	2	0	4	3	0	1	0	0	0	
30	11/5/2013	04:00 PM	3	338	62	0	7	0	0	3	3	0	0	0	0	0	
31	11/5/2013	05:00 PM	1	311	47	0	5	0	0	3	1	0	0	0	0	0	
32	11/5/2013	06:00 PM	0	214	54	0	3	0	0	2	4	0	0	0	0	1	
33	11/5/2013	07:00 PM	0	137	37	0	4	1	0	0	2	0	0	1	0	0	
34	11/5/2013	08:00 PM	0	99	20	0	2	0	0	0	0	0	0	0	0	0	
35	11/5/2013	09:00 PM	0	89	17	0	0	0	0	0	1	0	0	1	0	0	
36	11/5/2013	10:00 PM	0	31	8	0	0	0	0	0	0	0	0	0	0	0	
																<i>2p-5p</i>	<i>Tuesday</i>
																<i>TOTAL</i>	
																<i>1258</i>	

37	11/5/2013	11:00 PM	0	23	5	2	0	0	0	1	3	0	0	0	0	0		
38	11/6/2013	12:00 AM	0	37	6	0	0	0	0	0	0	0	0	0	0	0		
39	11/6/2013	01:00 AM	0	21	1	0	0	0	0	0	1	0	0	0	0	0		
40	11/6/2013	02:00 AM	0	9	1	0	1	0	0	0	1	0	0	0	0	0		
41	11/6/2013	03:00 AM	0	11	2	0	1	0	0	0	0	0	0	0	0	0		
42	11/6/2013	04:00 AM	0	9	5	0	0	1	0	0	2	0	0	0	0	0		
43	11/6/2013	05:00 AM	0	23	7	0	2	0	0	1	2	0	0	0	0	0		
44	11/6/2013	06:00 AM	0	67	30	0	9	0	0	0	2	0	1	0	0	0		
45	11/6/2013	07:00 AM	0	116	46	1	8	0	0	5	3	0	1	0	0	0		
46	11/6/2013	08:00 AM	0	114	55	1	10	2	0	4	1	0	0	0	0	0		
47	11/6/2013	09:00 AM	1	155	57	0	8	2	0	5	3	1	0	0	0	0		
48	11/6/2013	10:00 AM	0	161	78	0	8	2	0	0	1	0	0	0	1	0		
49	11/6/2013	11:00 AM	1	213	78	0	9	1	0	3	4	0	0	0	1	1		
50	11/6/2013	12:00 PM	1	265	79	2	5	3	0	3	6	0	0	0	0	0		
51	11/6/2013	01:00 PM	0	269	77	1	10	0	0	3	3	0	0	0	0	0		
52	11/6/2013	02:00 PM	1	248	75	1	7	0	0	1	2	0	0	0	0	0	2p-5p	Wednesday
53	11/6/2013	03:00 PM	2	297	73	0	12	0	0	3	1	1	0	0	0	0	TOTAL	
54	11/6/2013	04:00 PM	0	233	42	1	8	0	0	3	3	0	0	0	0	0	1014	
55	11/6/2013	05:00 PM	2	231	63	0	8	1	0	3	1	0	1	0	0	0		
56	11/6/2013	06:00 PM	0	220	60	1	3	0	0	0	0	0	0	0	0	0		
57	11/6/2013	07:00 PM	0	134	35	1	5	0	0	0	2	0	0	0	0	0		
58	11/6/2013	08:00 PM	0	95	31	0	3	0	0	0	1	0	0	0	0	0		
59	11/6/2013	09:00 PM	1	62	9	0	1	0	0	0	0	0	0	0	0	0		
60	11/6/2013	10:00 PM	1	32	7	0	1	0	0	0	2	0	0	1	0	0		
61	11/6/2013	11:00 PM	1	36	6	0	0	0	0	0	1	0	0	0	0	0		
62	11/7/2013	12:00 AM	0	35	7	0	1	0	0	0	0	0	0	0	0	0		
63	11/7/2013	01:00 AM	0	12	0	0	0	0	0	0	2	0	0	0	0	0		
64	11/7/2013	02:00 AM	0	12	3	0	0	1	0	0	1	0	0	0	0	0		
65	11/7/2013	03:00 AM	0	8	4	0	0	0	0	0	1	0	0	0	0	0		
66	11/7/2013	04:00 AM	0	6	2	1	0	0	0	1	1	0	0	0	0	0		
67	11/7/2013	05:00 AM	0	27	12	0	1	1	0	1	2	0	0	0	0	0		
68	11/7/2013	06:00 AM	0	61	23	2	6	1	0	0	1	0	0	0	0	0		
69	11/7/2013	07:00 AM	1	94	47	1	11	1	0	1	1	0	1	0	0	0		
70	11/7/2013	08:00 AM	4	113	54	1	10	1	0	6	1	0	0	0	0	0		
71	11/7/2013	09:00 AM	0	137	62	0	12	1	0	1	5	0	0	0	0	0		
72	11/7/2013	10:00 AM	1	191	69	0	10	1	0	4	3	0	0	0	0	0		



109	11/8/2013	11:00 PM	0	60	8	0	0	0	0	1	1	0	0	0	0	0		
110	11/9/2013	12:00 AM	0	43	7	0	0	0	0	0	0	0	0	0	0	0		
111	11/9/2013	01:00 AM	0	18	8	0	0	0	0	0	0	0	0	0	0	0		
112	11/9/2013	02:00 AM	0	14	4	0	0	0	0	0	0	0	0	0	0	0		
113	11/9/2013	03:00 AM	0	10	1	0	0	0	0	0	1	0	0	0	0	0		
114	11/9/2013	04:00 AM	0	18	9	0	0	0	0	0	0	0	1	0	0	0		
115	11/9/2013	05:00 AM	1	20	10	0	1	1	0	0	0	0	0	0	0	0		
116	11/9/2013	06:00 AM	0	35	10	0	1	0	0	0	0	0	0	0	0	0		
117	11/9/2013	07:00 AM	1	59	26	1	4	1	0	1	1	0	1	0	0	0		
118	11/9/2013	08:00 AM	0	117	41	3	4	0	0	3	1	0	1	0	0	0		
119	11/9/2013	09:00 AM	1	197	76	1	4	0	0	3	0	0	1	0	0	0		
120	11/9/2013	10:00 AM	0	270	75	1	7	0	0	9	1	0	0	0	0	0		
121	11/9/2013	11:00 AM	1	333	78	0	5	0	0	4	1	0	1	0	0	0		
122	11/9/2013	12:00 PM	1	355	69	0	5	0	0	7	0	0	0	0	0	0		
123	11/9/2013	01:00 PM	1	348	45	1	6	0	0	10	2	2	0	2	0	2		
124	11/9/2013	02:00 PM	2	413	54	1	1	0	0	6	0	1	0	0	0	0	1	2p-5p Saturday
125	11/9/2013	03:00 PM	1	349	68	1	1	1	0	2	0	0	0	0	0	0	0	TOTAL
126	11/9/2013	04:00 PM	2	359	68	0	3	0	0	2	2	0	1	0	0	0	0	1339
127	11/9/2013	05:00 PM	2	350	74	0	1	2	0	2	1	0	0	0	0	0		
128	11/9/2013	06:00 PM	0	233	58	1	5	0	0	0	1	0	0	0	0	0	1	
129	11/9/2013	07:00 PM	0	208	46	0	2	0	0	2	0	0	0	0	0	0	0	
130	11/9/2013	08:00 PM	0	139	38	0	3	0	0	0	1	0	0	0	0	0	0	
131	11/9/2013	09:00 PM	0	109	27	0	3	0	0	0	0	0	0	0	0	0	0	
132	11/9/2013	10:00 PM	0	56	13	0	1	0	0	1	0	0	0	0	0	0	0	
133	11/9/2013	11:00 PM	0	48	13	2	1	0	0	0	1	0	0	0	0	0	0	
134	11/10/2013	12:00 AM	0	28	6	0	0	0	0	0	0	0	0	0	0	0	0	
135	11/10/2013	01:00 AM	0	12	5	0	0	0	0	0	1	0	0	0	0	0	0	
136	11/10/2013	02:00 AM	0	14	4	0	0	0	0	0	0	0	0	0	0	0	0	
137	11/10/2013	03:00 AM	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	
138	11/10/2013	04:00 AM	0	9	2	0	0	0	0	0	0	0	0	0	0	0	0	
139	11/10/2013	05:00 AM	0	17	5	0	2	0	0	0	0	0	0	0	0	0	0	
140	11/10/2013	06:00 AM	0	17	8	0	2	0	0	0	0	0	0	0	0	0	0	
141	11/10/2013	07:00 AM	0	26	8	0	2	0	0	0	0	0	0	0	0	0	0	
142	11/10/2013	08:00 AM	0	59	24	0	2	1	0	0	0	0	0	0	0	0	0	
143	11/10/2013	09:00 AM	0	126	41	2	3	0	0	1	0	0	0	0	0	0	0	
144	11/10/2013	10:00 AM	0	153	64	0	1	0	0	0	1	0	1	0	0	0	0	

145	11/10/2013	11:00 AM	0	166	63	0	2	0	0	1	0	0	0	0	0	0		
146	11/10/2013	12:00 PM	1	244	67	1	3	0	0	2	2	0	0	0	0	0		
147	11/10/2013	01:00 PM	0	292	70	0	1	0	0	5	0	0	0	0	0	0		
148	11/10/2013	02:00 PM	3	285	82	0	3	0	0	1	1	0	0	0	0	0	2p-5p	Sunday
149	11/10/2013	03:00 PM	1	305	65	1	3	1	0	4	0	0	0	0	0	0	TOTAL	
150	11/10/2013	04:00 PM	2	259	75	1	2	0	0	5	0	0	0	0	0	0	1099	
151	11/10/2013	05:00 PM	0	279	57	0	3	1	0	0	4	0	0	0	0	0		
152	11/10/2013	06:00 PM	1	158	34	0	4	0	0	1	0	0	0	0	0	0		
153	11/10/2013	07:00 PM	0	102	20	0	0	0	0	1	2	0	0	0	0	0		
154	11/10/2013	08:00 PM	0	54	11	0	1	0	0	0	0	0	0	0	0	0		
155	11/10/2013	09:00 PM	0	47	13	0	1	0	0	0	0	0	0	0	0	0		
156	11/10/2013	10:00 PM	0	24	16	0	0	0	0	0	1	0	0	0	0	0		
157	11/10/2013	11:00 PM	0	30	4	0	0	0	0	0	1	0	0	0	0	0		
158	11/11/2013	12:00 AM	1	15	2	0	0	0	0	0	0	0	0	0	0	0		
159	11/11/2013	01:00 AM	0	13	2	0	0	0	0	1	0	0	1	0	0	0		
160	11/11/2013	02:00 AM	0	2	2	0	0	0	0	0	0	0	1	0	0	0		
161	11/11/2013	03:00 AM	0	10	2	0	0	0	0	0	2	0	0	0	0	0		
162	11/11/2013	04:00 AM	0	16	4	0	1	1	0	0	3	0	0	0	0	0		
163	11/11/2013	05:00 AM	0	17	14	0	3	1	0	1	1	0	0	0	0	0		
164	11/11/2013	06:00 AM	0	37	18	1	2	1	0	3	0	0	0	0	0	0		
165	11/11/2013	07:00 AM	0	70	27	0	3	0	0	1	4	0	0	0	0	0		
166	11/11/2013	08:00 AM	0	93	46	0	8	3	0	4	4	0	0	0	0	0		
167	11/11/2013	09:00 AM	1	121	58	0	2	2	0	2	3	0	0	0	0	1		
168	11/11/2013	10:00 AM	2	176	63	0	8	1	0	1	4	0	0	0	0	1		
169	11/11/2013	11:00 AM	0	208	73	0	7	2	0	4	2	0	0	0	0	1		
170	11/11/2013	12:00 PM	2	265	91	0	15	0	0	4	3	1	0	0	0	0		
171	11/11/2013	01:00 PM	4	343	85	2	8	0	0	2	1	0	0	1	0	0		
172	11/11/2013	02:00 PM	2	331	84	0	4	1	0	3	1	0	0	1	0	0	2p-5p	Monday
173	11/11/2013	03:00 PM	1	343	74	0	8	2	0	6	5	0	0	0	0	1	TOTAL	
174	11/11/2013	04:00 PM	3	297	80	0	1	1	0	2	2	0	1	0	0	0	1254	
175	11/11/2013	05:00 PM	1	360	58	0	2	1	0	5	1	0	0	0	0	1		
176	11/11/2013	06:00 PM	2	214	47	0	6	0	0	0	1	0	0	0	0	0		
177	11/11/2013	07:00 PM	1	171	26	0	3	0	0	1	0	0	1	0	0	0		
178	11/11/2013	08:00 PM	0	109	24	0	2	0	0	1	2	0	0	0	0	0		
179	11/11/2013	09:00 PM	0	76	14	0	3	0	0	1	0	0	1	0	0	0		
180	11/11/2013	10:00 PM	0	41	2	0	1	0	0	0	2	0	0	0	0	0		

181	11/11/2013	11:00 PM	0	24	4	0	0	0	0	0	1	0	0	0	0	
182	11/12/2013	12:00 AM	0	22	4	0	0	0	0	0	2	0	0	0	0	
183	11/12/2013	01:00 AM	0	14	1	0	0	0	0	0	0	0	0	0	0	
184	11/12/2013	02:00 AM	0	5	5	0	1	0	0	0	3	0	0	0	0	
185	11/12/2013	03:00 AM	0	11	0	0	0	1	0	0	2	0	2	0	0	
186	11/12/2013	04:00 AM	0	9	3	0	1	0	0	0	2	0	1	0	0	
187	11/12/2013	05:00 AM	0	27	14	0	1	0	0	0	4	0	0	0	0	
188	11/12/2013	06:00 AM	0	45	27	0	5	0	0	3	1	0	0	0	0	
189	11/12/2013	07:00 AM	0	92	33	0	5	1	0	0	3	0	1	0	0	
190	11/12/2013	08:00 AM	1	90	47	1	11	3	0	1	2	0	0	0	0	
191	11/12/2013	09:00 AM	2	110	52	0	8	1	0	1	2	0	0	0	0	
192	11/12/2013	10:00 AM	0	181	68	0	10	0	0	4	4	0	0	0	1	
193	11/12/2013	11:00 AM	0	206	71	0	6	1	0	2	4	0	0	0	0	
194	11/12/2013	12:00 PM	0	260	90	0	6	0	0	2	2	1	0	0	1	
195	11/12/2013	01:00 PM	1	255	92	0	7	1	0	2	1	0	1	0	0	
196	11/12/2013	02:00 PM	2	252	100	0	9	1	0	5	4	0	0	0	0	
197	11/12/2013	03:00 PM	2	296	77	2	8	3	0	3	0	0	0	0	0	
198	11/12/2013	04:00 PM	0	310	74	0	3	0	0	4	2	0	0	0	0	
199	11/12/2013	05:00 PM	4	334	61	0	10	0	0	12	2	0	1	0	1	
200	11/12/2013	06:00 PM	1	214	45	0	5	1	0	0	3	0	0	0	0	
201	11/12/2013	07:00 PM	0	156	31	0	0	0	0	1	0	0	0	0	0	
202	11/12/2013	08:00 PM	1	104	31	0	3	0	0	0	0	0	0	0	0	
203	11/12/2013	09:00 PM	0	80	13	0	3	0	0	0	1	0	0	0	0	
204	11/12/2013	10:00 PM	1	29	5	0	1	0	0	0	1	0	0	0	0	
205	11/12/2013	11:00 PM	0	26	5	0	1	1	0	0	0	0	0	0	0	
<b>ADT</b>			16	3411	918	7	90	12	0	46	34	3	4	2	1	5

Pass Cars  
4345

Trucks	<b>TOTAL</b>	2p-5p	2p-5p
200	<b>4550</b>	Max	Min
4.4%	0.1%	1378	1014
exclude	* Not		
s Not	Classifie	On	On
Classes	d	Friday	Wednesday

1157 on Tuesday or 84% of Max , compare to manual counts

I-20 Eastbound OFF Northbound @ Garrett Rd

Start Date: 4/30/2013

Start Time: 10:00:00 AM

Site Code: 1204301321

Station ID:

Location 1: Garrett Rd. @ I-20 Eastbound Off Ramp (Ramp NB)

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
15	5/1/2013	12:00 AM	0	16	1	0	0	1	1	0	0	0	0	0	0	1
16	5/1/2013	01:00 AM	0	9	1	0	0	0	0	0	0	0	0	0	0	0
17	5/1/2013	02:00 AM	0	5	3	0	1	0	0	0	0	0	0	0	0	1
18	5/1/2013	03:00 AM	0	7	4	0	0	0	0	0	0	0	0	0	0	2
19	5/1/2013	04:00 AM	1	31	3	0	1	1	0	0	0	0	0	0	0	0
20	5/1/2013	05:00 AM	1	59	10	0	1	0	0	0	0	0	0	0	0	4
21	5/1/2013	06:00 AM	2	114	11	0	3	1	0	2	1	0	0	0	0	6
22	5/1/2013	07:00 AM	2	167	16	0	1	2	0	0	0	0	0	0	0	5
23	5/1/2013	08:00 AM	4	166	20	1	0	2	0	1	0	0	0	0	0	11
24	5/1/2013	09:00 AM	7	142	12	1	2	4	0	1	0	0	0	0	0	13
25	5/1/2013	10:00 AM	2	113	12	0	1	3	0	0	0	0	0	0	0	4
26	5/1/2013	11:00 AM	4	94	9	0	2	2	0	0	0	0	0	0	0	10
27	5/1/2013	12:00 PM	3	118	11	0	0	1	0	0	0	0	0	0	0	17
28	5/1/2013	01:00 PM	2	86	14	0	0	1	0	0	0	0	0	0	1	11
29	5/1/2013	02:00 PM	2	103	15	0	2	0	0	0	0	0	0	0	0	8
30	5/1/2013	03:00 PM	4	119	20	0	0	1	0	0	0	0	0	0	0	10
31	5/1/2013	04:00 PM	0	104	13	0	2	3	0	1	0	0	0	0	0	8
32	5/1/2013	05:00 PM	3	102	13	1	0	0	0	1	0	0	0	0	0	3
33	5/1/2013	06:00 PM	2	79	10	0	0	0	0	1	1	0	0	0	1	6
34	5/1/2013	07:00 PM	1	53	6	0	0	0	0	0	0	0	0	0	0	3
35	5/1/2013	08:00 PM	3	59	4	0	0	0	0	0	0	0	0	0	0	3
36	5/1/2013	09:00 PM	1	51	4	0	0	1	0	0	0	0	0	0	0	1
37	5/1/2013	10:00 PM	0	31	3	0	0	1	0	0	0	0	0	0	0	2

2p-5p Wednesday  
**TOTAL**  
**415**

38	5/1/2013	11:00 PM	1	19	5	0	0	2	0	0	0	0	0	0	0
39	5/2/2013	12:00 AM	0	16	2	0	0	0	0	0	0	0	0	0	1
40	5/2/2013	01:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0
41	5/2/2013	02:00 AM	0	9	3	0	0	0	0	0	0	0	0	0	0
42	5/2/2013	03:00 AM	1	9	4	0	0	1	0	0	0	0	0	0	0
43	5/2/2013	04:00 AM	0	23	5	0	0	1	0	0	0	0	0	0	1
44	5/2/2013	05:00 AM	1	56	17	0	1	2	0	0	0	0	0	1	3
45	5/2/2013	06:00 AM	4	107	19	0	0	6	0	1	0	0	0	0	12
46	5/2/2013	07:00 AM	2	164	12	0	1	2	0	0	0	0	0	0	17
47	5/2/2013	08:00 AM	2	123	22	0	1	1	0	0	0	0	0	0	20
48	5/2/2013	09:00 AM	4	113	11	1	4	1	0	0	0	0	0	0	15
49	5/2/2013	10:00 AM	4	130	15	0	1	0	0	1	0	0	0	0	19
50	5/2/2013	11:00 AM	3	106	12	0	3	0	0	1	0	0	0	0	10
51	5/2/2013	12:00 PM	3	105	13	0	0	3	0	1	2	0	0	0	11
52	5/2/2013	01:00 PM	3	109	8	0	1	1	0	0	0	0	0	0	6
53	5/2/2013	02:00 PM	7	96	14	0	0	1	0	0	0	0	0	0	19
54	5/2/2013	03:00 PM	2	111	12	0	0	1	0	1	0	0	0	0	13
55	5/2/2013	04:00 PM	6	123	8	2	1	0	0	1	0	0	0	0	2
56	5/2/2013	05:00 PM	5	101	16	0	1	0	0	1	0	0	0	0	7
57	5/2/2013	06:00 PM	0	79	9	0	0	1	0	1	0	0	0	0	4
58	5/2/2013	07:00 PM	2	60	9	0	1	0	0	0	0	0	0	0	1
59	5/2/2013	08:00 PM	1	51	6	0	0	1	0	0	0	0	0	0	3
60	5/2/2013	09:00 PM	2	52	4	1	1	1	0	0	1	0	0	0	3
61	5/2/2013	10:00 PM	1	31	5	0	0	2	0	0	0	0	0	0	2
62	5/2/2013	11:00 PM	1	16	4	0	0	1	0	0	0	0	0	0	2
63	5/3/2013	12:00 AM	1	12	3	0	0	1	0	0	0	0	0	0	0
64	5/3/2013	01:00 AM	0	9	0	0	0	0	0	0	0	0	0	0	0
65	5/3/2013	02:00 AM	0	9	2	0	0	0	0	0	0	0	0	0	1
66	5/3/2013	03:00 AM	1	9	4	0	0	1	0	0	0	0	0	0	2
67	5/3/2013	04:00 AM	0	29	5	0	0	1	0	0	0	0	0	0	0
68	5/3/2013	05:00 AM	0	58	13	0	1	1	0	0	0	1	0	0	3
69	5/3/2013	06:00 AM	2	88	19	1	1	1	0	3	0	0	0	0	8
70	5/3/2013	07:00 AM	2	143	17	1	0	1	0	0	0	0	0	1	6
71	5/3/2013	08:00 AM	3	137	10	0	0	2	0	1	0	0	0	0	3
72	5/3/2013	09:00 AM	2	106	11	0	0	4	0	0	0	0	0	0	7
73	5/3/2013	10:00 AM	3	109	13	1	1	2	0	2	0	0	0	0	6

2p-5p Thursday  
TOTAL 420



74	5/3/2013	11:00 AM	4	118	15	0	2	2	0	0	0	0	0	0	4
75	5/3/2013	12:00 PM	2	102	13	0	0	0	0	0	0	1	0	0	2
76	5/3/2013	01:00 PM	4	97	9	0	0	1	0	0	1	0	0	0	6
77	5/3/2013	02:00 PM	9	95	13	1	0	2	0	1	0	0	0	0	6
78	5/3/2013	03:00 PM	3	100	14	0	1	1	0	0	0	0	0	0	14
79	5/3/2013	04:00 PM	2	103	12	0	0	0	0	1	0	0	0	0	4
80	5/3/2013	05:00 PM	1	100	10	0	0	0	0	1	0	0	0	0	6
81	5/3/2013	06:00 PM	1	85	6	0	1	1	0	0	0	0	0	0	0
82	5/3/2013	07:00 PM	1	69	11	0	0	0	0	0	0	0	0	0	1
83	5/3/2013	08:00 PM	0	49	8	0	0	0	0	0	0	0	0	0	0
84	5/3/2013	09:00 PM	1	57	6	0	1	0	0	0	0	0	0	0	7
85	5/3/2013	10:00 PM	2	47	7	0	1	2	0	0	0	0	0	0	0
86	5/3/2013	11:00 PM	1	22	1	0	0	0	0	0	0	0	0	0	1
87	5/4/2013	12:00 AM	0	24	6	0	0	0	0	0	0	0	0	0	0
88	5/4/2013	01:00 AM	2	11	3	0	0	0	0	0	0	0	0	0	4
89	5/4/2013	02:00 AM	0	12	0	0	0	0	0	0	0	0	0	0	0
90	5/4/2013	03:00 AM	0	11	1	0	0	0	0	0	0	0	0	0	0
91	5/4/2013	04:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0
92	5/4/2013	05:00 AM	0	23	1	0	1	0	0	0	0	0	0	0	0
93	5/4/2013	06:00 AM	2	83	11	0	1	2	0	0	0	0	0	0	3
94	5/4/2013	07:00 AM	0	46	11	0	0	1	0	0	0	0	0	0	1
95	5/4/2013	08:00 AM	0	32	11	0	0	0	0	0	0	0	0	0	0
96	5/4/2013	09:00 AM	0	51	8	0	0	0	0	0	1	0	0	0	2
97	5/4/2013	10:00 AM	2	62	7	0	0	0	0	0	1	0	0	0	2
98	5/4/2013	11:00 AM	1	64	19	0	0	0	0	0	0	0	0	0	1
99	5/4/2013	12:00 PM	2	109	8	0	3	0	0	1	0	0	0	0	5
100	5/4/2013	01:00 PM	3	60	10	0	1	0	0	0	0	0	0	0	0
101	5/4/2013	02:00 PM	0	67	9	0	1	0	0	0	0	0	0	0	5
102	5/4/2013	03:00 PM	1	90	6	0	1	0	0	0	0	0	0	0	2
103	5/4/2013	04:00 PM	2	67	5	0	0	1	0	0	0	0	0	0	1
104	5/4/2013	05:00 PM	2	69	9	0	0	0	0	0	0	0	0	0	3
105	5/4/2013	06:00 PM	0	62	13	0	1	0	0	0	0	0	0	0	2
106	5/4/2013	07:00 PM	0	56	6	0	1	0	0	0	0	0	0	0	1
107	5/4/2013	08:00 PM	4	50	8	0	0	1	0	0	1	0	0	0	2
108	5/4/2013	09:00 PM	0	44	4	0	0	0	0	0	0	0	0	0	0
109	5/4/2013	10:00 PM	2	35	8	0	0	1	0	0	0	0	0	0	0

2p-5p Friday  
TOTAL 382

2p-5p Saturday  
TOTAL 258

110	5/4/2013	11:00 PM	2	28	5	0	0	0	0	0	0	0	0	0	1
111	5/5/2013	12:00 AM	0	24	1	0	0	0	0	0	0	0	0	0	0
112	5/5/2013	01:00 AM	1	13	1	0	0	0	0	0	0	0	0	0	0
113	5/5/2013	02:00 AM	0	8	0	0	0	0	0	0	0	0	0	0	0
114	5/5/2013	03:00 AM	0	8	1	0	0	0	0	0	0	0	0	0	0
115	5/5/2013	04:00 AM	0	15	1	0	0	0	0	0	0	0	0	0	0
116	5/5/2013	05:00 AM	0	20	6	0	1	0	0	0	0	0	0	0	0
117	5/5/2013	06:00 AM	0	51	5	0	0	1	0	0	0	0	0	0	0
118	5/5/2013	07:00 AM	0	30	3	0	0	0	0	0	0	0	0	0	0
119	5/5/2013	08:00 AM	1	23	5	0	0	0	0	0	0	0	0	0	1
120	5/5/2013	09:00 AM	0	34	5	0	1	0	0	0	0	0	0	0	2
121	5/5/2013	10:00 AM	0	39	7	0	1	1	0	0	0	0	0	0	1
122	5/5/2013	11:00 AM	0	48	12	0	0	0	0	0	0	0	0	0	2
123	5/5/2013	12:00 PM	1	62	3	0	0	0	0	0	0	0	0	0	3
124	5/5/2013	01:00 PM	1	74	9	0	0	1	0	0	0	0	0	0	3
125	5/5/2013	02:00 PM	0	64	7	0	1	0	0	0	0	0	0	0	2
126	5/5/2013	03:00 PM	1	58	8	0	0	0	0	0	0	0	0	0	0
127	5/5/2013	04:00 PM	0	75	6	0	1	0	0	0	0	0	0	0	0
128	5/5/2013	05:00 PM	0	61	13	0	0	0	0	0	0	0	0	0	2
129	5/5/2013	06:00 PM	2	52	8	0	0	1	0	0	0	0	0	0	3
130	5/5/2013	07:00 PM	1	53	13	0	1	0	0	0	0	0	0	0	1
131	5/5/2013	08:00 PM	2	50	3	1	1	0	0	0	0	0	0	0	0
132	5/5/2013	09:00 PM	0	26	6	0	0	2	0	0	0	0	0	0	1
133	5/5/2013	10:00 PM	0	25	7	0	0	0	0	0	0	0	0	0	0
134	5/5/2013	11:00 PM	1	12	1	0	0	0	0	0	0	0	0	0	1
135	5/6/2013	12:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
136	5/6/2013	01:00 AM	0	9	0	0	1	0	0	0	0	0	0	0	0
137	5/6/2013	02:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0
138	5/6/2013	03:00 AM	0	4	3	0	0	0	0	0	0	0	0	0	0
139	5/6/2013	04:00 AM	1	23	5	0	1	1	0	0	0	0	0	0	0
140	5/6/2013	05:00 AM	1	75	9	0	0	1	0	0	0	0	0	0	0
141	5/6/2013	06:00 AM	4	93	15	0	0	4	0	0	1	0	0	0	4
142	5/6/2013	07:00 AM	3	163	15	2	2	0	0	2	0	0	0	1	4
143	5/6/2013	08:00 AM	0	121	10	0	1	0	0	0	0	0	0	0	5
144	5/6/2013	09:00 AM	6	134	13	0	3	1	0	2	0	0	0	0	8
145	5/6/2013	10:00 AM	6	105	15	1	4	1	0	0	0	0	0	0	13

2p-5p Sunday  
TOTAL  
223

146	5/6/2013	11:00 AM	1	113	15	0	4	0	0	0	1	0	0	0	8		
147	5/6/2013	12:00 PM	3	101	19	1	0	1	0	0	0	0	0	0	6		
148	5/6/2013	01:00 PM	3	114	11	0	1	3	0	0	0	0	0	0	11		
149	5/6/2013	02:00 PM	4	88	13	0	1	3	0	0	0	0	0	0	9	2p-5p	Monday
150	5/6/2013	03:00 PM	1	101	10	0	2	1	0	0	0	0	0	0	3	TOTAL	
151	5/6/2013	04:00 PM	5	127	10	0	0	1	0	1	0	0	0	0	12	392	
152	5/6/2013	05:00 PM	4	106	15	0	0	0	0	0	0	0	0	0	8		
153	5/6/2013	06:00 PM	1	78	10	0	0	1	0	1	0	0	0	0	7		
154	5/6/2013	07:00 PM	0	59	6	0	1	0	0	0	0	0	0	0	1		
155	5/6/2013	08:00 PM	3	41	7	0	0	1	0	1	0	0	0	0	1		
156	5/6/2013	09:00 PM	0	53	2	0	0	2	0	0	0	0	0	0	2		
157	5/6/2013	10:00 PM	0	37	6	0	0	2	0	0	0	0	0	0	2		
158	5/6/2013	11:00 PM	2	16	0	0	0	0	0	0	1	0	0	0	1		
159	5/7/2013	12:00 AM	0	11	2	0	0	0	0	0	0	0	0	0	1		
160	5/7/2013	01:00 AM	0	9	0	0	0	0	0	0	0	0	0	0	0		
161	5/7/2013	02:00 AM	0	6	2	0	0	0	0	0	0	0	0	0	0		
162	5/7/2013	03:00 AM	2	7	4	0	0	1	0	0	0	0	0	0	1		
163	5/7/2013	04:00 AM	1	20	5	0	1	1	0	0	0	0	0	0	0		
164	5/7/2013	05:00 AM	0	72	9	0	0	0	0	0	0	0	0	0	1		
165	5/7/2013	06:00 AM	6	116	23	0	2	2	0	0	1	0	0	0	7		
166	5/7/2013	07:00 AM	4	165	24	2	7	1	0	2	0	0	1	0	14		
167	5/7/2013	08:00 AM	6	108	11	0	2	4	0	1	1	0	0	0	9		
168	5/7/2013	09:00 AM	2	91	10	0	5	3	0	1	0	0	0	0	4		
169	5/7/2013	10:00 AM	8	111	13	2	1	0	0	0	1	0	0	1	19		
170	5/7/2013	11:00 AM	3	77	17	0	1	5	1	0	0	0	0	0	11		
171	5/7/2013	12:00 PM	3	85	12	0	3	2	0	0	0	0	0	0	15		
172	5/7/2013	01:00 PM	4	100	12	0	1	0	0	1	0	0	0	0	9		
173	5/7/2013	02:00 PM	3	82	14	1	4	0	0	0	0	0	0	0	5	2p-5p	Tuesday
174	5/7/2013	03:00 PM	3	118	13	0	1	0	0	1	0	1	0	0	4	TOTAL	
175	5/7/2013	04:00 PM	4	98	16	0	2	1	0	2	1	0	0	0	5	379	
176	5/7/2013	05:00 PM	5	104	17	0	1	2	0	0	0	0	0	0	9		
177	5/7/2013	06:00 PM	4	81	16	0	0	2	0	0	0	0	0	0	8		
178	5/7/2013	07:00 PM	0	71	8	0	1	0	0	0	0	0	0	0	2		
179	5/7/2013	08:00 PM	1	46	8	0	0	1	0	0	0	0	0	0	1		
180	5/7/2013	09:00 PM	0	53	2	0	0	0	0	0	0	0	0	0	3		
181	5/7/2013	10:00 PM	3	34	8	0	0	1	0	0	0	0	0	0	1		

182 5/7/2013 11:00 PM 0 23 3 0 0 0 0 0 0 0 0 0 0 0 2

**ADT** 41 1562 204 3 16 19 0 6 2 0 0 0 1 97

Pass Cars  
1808

Trucks **TOTAL** 2p-5p 2p-5p  
 48 **1953** Max Min  
 2.6% 5.0% 420 223  
 exclud \* Not  
 es Not Classifie On  
 Classe d On Thursday Sunday

379 on Tuesday or 90% of Max, compare to manual counts

I-20 Eastbound OFF Ramp Southbound @ Garrett Rd

Start Date: 4/30/2013

Start Time: 10:00:00 AM

Site Code: 1204301323

Station ID:

Location 1: Garrett Rd. @ I-20 Eastbound Off Ramp (Ramp SB)

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	4/30/2013	10:00 AM	1	156	85	0	5	1	0	5	2	0	1	0	0	5
2	4/30/2013	11:00 AM	1	144	72	0	6	0	0	4	2	1	0	1	0	5
3	4/30/2013	12:00 PM	5	152	74	0	8	2	0	7	0	0	0	0	0	1
4	4/30/2013	01:00 PM	3	163	76	0	3	0	0	3	1	1	0	1	0	9
5	4/30/2013	02:00 PM	6	144	57	0	4	2	0	4	1	0	1	0	0	4
6	4/30/2013	03:00 PM	7	171	55	1	13	3	0	7	3	0	0	0	1	1
7	4/30/2013	04:00 PM	4	182	50	2	15	0	0	1	0	1	1	0	0	2
8	4/30/2013	05:00 PM	1	170	57	0	6	2	0	1	1	0	0	1	0	2
9	4/30/2013	06:00 PM	2	116	39	1	2	0	0	4	0	0	0	1	0	0
10	4/30/2013	07:00 PM	0	75	23	0	1	0	0	1	0	0	0	0	0	0
11	4/30/2013	08:00 PM	3	64	15	0	2	0	0	0	0	0	0	0	0	2
12	4/30/2013	09:00 PM	1	35	12	0	1	0	0	0	1	0	0	0	0	0
13	4/30/2013	10:00 PM	1	15	3	0	1	0	0	1	0	0	1	0	0	1
14	4/30/2013	11:00 PM	0	16	2	0	0	0	0	1	0	0	0	0	0	0
15	5/1/2013	12:00 AM	0	12	4	0	0	0	0	0	0	0	0	0	0	0
16	5/1/2013	01:00 AM	1	11	2	0	1	1	0	0	1	0	0	0	0	0
17	5/1/2013	02:00 AM	0	6	1	0	0	0	0	0	0	0	0	0	0	0
18	5/1/2013	03:00 AM	0	9	4	0	1	0	0	0	0	0	0	0	0	0
19	5/1/2013	04:00 AM	0	16	1	0	0	0	0	0	2	0	0	0	0	0
20	5/1/2013	05:00 AM	0	34	13	0	0	0	0	0	0	0	0	1	0	0
21	5/1/2013	06:00 AM	1	41	21	0	2	0	0	1	2	0	0	1	0	0
22	5/1/2013	07:00 AM	1	72	37	0	7	0	0	0	0	0	0	0	0	2
23	5/1/2013	08:00 AM	1	105	59	1	6	0	0	3	3	0	0	0	0	0

2p-5p Tuesday  
TOTAL  
743

24	5/1/2013	09:00 AM	2	121	55	1	10	1	1	5	0	0	0	0	1
25	5/1/2013	10:00 AM	2	115	60	0	2	1	0	1	2	0	1	0	1
26	5/1/2013	11:00 AM	0	146	55	0	6	1	0	1	2	0	0	0	2
27	5/1/2013	12:00 PM	0	161	78	0	8	1	0	3	0	0	1	0	0
28	5/1/2013	01:00 PM	2	144	67	0	1	2	0	3	1	0	0	0	0
29	5/1/2013	02:00 PM	0	144	69	0	5	2	0	4	1	1	0	0	0
30	5/1/2013	03:00 PM	1	200	56	0	7	1	0	3	2	1	0	1	3
31	5/1/2013	04:00 PM	0	180	61	2	13	1	0	6	1	0	0	0	0
32	5/1/2013	05:00 PM	4	186	33	0	1	2	0	4	2	0	0	0	2
33	5/1/2013	06:00 PM	0	159	36	0	6	0	0	2	0	0	0	0	0
34	5/1/2013	07:00 PM	3	94	25	0	1	3	0	1	1	0	0	0	1
35	5/1/2013	08:00 PM	0	60	16	0	0	0	0	0	0	0	0	0	0
36	5/1/2013	09:00 PM	0	29	5	0	0	0	0	0	0	0	0	0	1
37	5/1/2013	10:00 PM	0	23	7	0	2	0	0	0	1	0	0	0	0
38	5/1/2013	11:00 PM	0	11	3	0	0	0	0	0	0	0	0	0	0
39	5/2/2013	12:00 AM	0	8	3	0	1	1	0	0	0	0	0	0	0
40	5/2/2013	01:00 AM	0	8	2	0	1	0	0	1	2	0	0	0	1
41	5/2/2013	02:00 AM	0	9	0	0	1	0	0	0	0	0	0	0	0
42	5/2/2013	03:00 AM	0	7	3	1	0	1	0	0	0	0	0	0	0
43	5/2/2013	04:00 AM	0	8	3	0	1	0	0	0	1	0	0	0	0
44	5/2/2013	05:00 AM	0	29	14	0	1	0	0	0	2	0	0	0	0
45	5/2/2013	06:00 AM	3	47	27	1	1	2	0	3	1	0	1	0	0
46	5/2/2013	07:00 AM	0	93	63	0	6	1	0	2	0	0	0	0	0
47	5/2/2013	08:00 AM	1	106	78	0	5	1	0	7	1	0	0	0	0
48	5/2/2013	09:00 AM	2	146	75	0	7	2	0	4	0	0	1	0	1
49	5/2/2013	10:00 AM	3	149	83	0	6	0	0	5	1	0	0	0	1
50	5/2/2013	11:00 AM	2	134	66	1	7	1	0	3	1	0	0	0	3
51	5/2/2013	12:00 PM	0	161	79	0	4	2	0	6	2	0	0	1	1
52	5/2/2013	01:00 PM	2	175	65	1	3	4	0	1	1	0	0	0	4
53	5/2/2013	02:00 PM	0	134	80	1	6	2	0	1	1	0	0	0	0
54	5/2/2013	03:00 PM	3	198	57	0	7	4	0	3	1	0	1	0	1
55	5/2/2013	04:00 PM	6	167	58	0	7	1	0	2	0	0	0	0	4
56	5/2/2013	05:00 PM	2	165	56	0	5	1	0	1	0	0	0	0	0
57	5/2/2013	06:00 PM	0	116	43	0	3	1	0	1	1	0	0	0	0
58	5/2/2013	07:00 PM	0	94	34	0	5	0	0	1	1	0	0	0	0
59	5/2/2013	08:00 PM	0	43	14	0	3	0	0	0	0	0	0	0	0

2p-5p Wednesday  
TOTAL 765

2p-5p Thursday  
TOTAL 745

60	5/2/2013	09:00 PM	0	39	8	0	0	0	0	0	1	0	0	0	0
61	5/2/2013	10:00 PM	0	21	7	0	0	2	0	0	0	0	0	0	1
62	5/2/2013	11:00 PM	1	20	2	0	0	0	0	0	1	0	0	0	2
63	5/3/2013	12:00 AM	0	11	2	0	0	0	0	0	0	0	0	0	0
64	5/3/2013	01:00 AM	0	5	1	0	0	0	0	0	0	0	0	0	0
65	5/3/2013	02:00 AM	0	7	2	0	0	0	0	0	2	0	0	0	0
66	5/3/2013	03:00 AM	0	11	0	0	2	0	0	0	0	0	0	0	0
67	5/3/2013	04:00 AM	0	9	7	0	1	0	0	0	1	0	0	0	0
68	5/3/2013	05:00 AM	0	28	13	0	0	0	0	0	1	1	0	0	0
69	5/3/2013	06:00 AM	1	52	23	0	4	3	0	1	2	0	0	0	0
70	5/3/2013	07:00 AM	3	79	50	1	4	2	0	1	0	0	0	0	0
71	5/3/2013	08:00 AM	0	98	61	1	7	1	0	5	2	0	0	0	0
72	5/3/2013	09:00 AM	4	111	71	0	5	1	0	3	2	0	0	0	0
73	5/3/2013	10:00 AM	5	157	86	1	6	1	0	3	1	0	0	0	3
74	5/3/2013	11:00 AM	1	190	73	0	6	3	0	7	2	0	1	2	1
75	5/3/2013	12:00 PM	1	207	81	0	4	1	2	8	0	1	0	0	0
76	5/3/2013	01:00 PM	1	204	82	0	10	3	0	4	0	0	0	1	1
77	5/3/2013	02:00 PM	2	171	81	1	5	2	0	4	1	0	0	0	4
78	5/3/2013	03:00 PM	4	211	74	1	6	2	0	4	0	2	1	0	3
79	5/3/2013	04:00 PM	5	219	64	0	8	4	0	1	0	0	0	0	1
80	5/3/2013	05:00 PM	3	194	45	1	8	2	0	3	2	2	0	0	1
81	5/3/2013	06:00 PM	0	136	43	1	5	3	0	1	1	0	0	0	2
82	5/3/2013	07:00 PM	0	114	42	0	3	0	0	0	0	0	0	0	0
83	5/3/2013	08:00 PM	0	68	27	0	0	0	0	0	0	0	1	0	0
84	5/3/2013	09:00 PM	0	46	11	0	0	0	0	1	2	0	0	0	0
85	5/3/2013	10:00 PM	0	32	6	0	2	0	0	0	1	0	0	0	0
86	5/3/2013	11:00 PM	1	22	9	0	1	1	0	0	0	0	0	0	1
87	5/4/2013	12:00 AM	0	17	4	0	0	0	0	0	0	0	0	0	0
88	5/4/2013	01:00 AM	0	15	4	0	0	0	0	0	0	0	0	0	4
89	5/4/2013	02:00 AM	0	7	3	0	2	0	0	0	0	0	0	0	0
90	5/4/2013	03:00 AM	0	12	1	1	1	0	0	0	0	0	0	0	0
91	5/4/2013	04:00 AM	0	11	8	0	0	0	0	0	0	0	0	0	0
92	5/4/2013	05:00 AM	0	16	5	0	2	1	1	0	2	0	0	0	1
93	5/4/2013	06:00 AM	0	24	13	1	5	0	0	1	0	0	0	0	0
94	5/4/2013	07:00 AM	1	57	35	0	4	1	0	0	0	0	0	0	0
95	5/4/2013	08:00 AM	4	107	47	0	6	0	0	2	1	0	0	0	0

2p-5p Friday  
TOTAL  
882





132	5/5/2013	09:00 PM	0	26	3	0	0	1	0	0	0	0	0	0	1
133	5/5/2013	10:00 PM	0	25	5	0	0	0	0	0	0	0	0	0	0
134	5/5/2013	11:00 PM	0	16	2	0	0	0	0	0	0	0	0	0	0
135	5/6/2013	12:00 AM	0	9	0	0	0	0	0	0	0	0	0	0	0
136	5/6/2013	01:00 AM	0	8	2	0	0	0	0	2	0	0	0	0	2
137	5/6/2013	02:00 AM	0	5	1	0	2	0	0	0	0	0	0	0	0
138	5/6/2013	03:00 AM	0	5	2	0	0	0	0	2	0	0	0	0	0
139	5/6/2013	04:00 AM	1	6	1	0	0	1	0	1	1	0	0	0	0
140	5/6/2013	05:00 AM	0	33	13	0	3	0	0	0	0	0	0	1	0
141	5/6/2013	06:00 AM	2	50	37	0	1	2	0	1	1	0	0	0	0
142	5/6/2013	07:00 AM	1	77	59	0	7	0	0	2	2	0	0	0	1
143	5/6/2013	08:00 AM	5	84	67	1	6	2	0	4	0	0	0	0	0
144	5/6/2013	09:00 AM	2	104	66	0	8	2	0	3	0	0	0	0	0
145	5/6/2013	10:00 AM	7	172	74	0	3	3	0	4	2	0	0	0	1
146	5/6/2013	11:00 AM	1	155	69	0	6	0	0	1	2	0	0	0	0
147	5/6/2013	12:00 PM	2	186	75	0	6	4	0	2	2	0	0	0	0
148	5/6/2013	01:00 PM	0	183	74	0	7	2	0	3	0	0	0	0	3
149	5/6/2013	02:00 PM	2	167	63	0	5	2	0	4	0	1	0	0	1
150	5/6/2013	03:00 PM	5	197	47	0	3	3	0	6	2	0	0	1	2
151	5/6/2013	04:00 PM	4	188	63	1	9	3	0	3	1	0	0	0	3
152	5/6/2013	05:00 PM	0	172	55	0	11	1	0	4	2	0	0	0	1
153	5/6/2013	06:00 PM	2	96	39	0	2	0	0	4	0	0	0	0	0
154	5/6/2013	07:00 PM	0	99	17	0	7	0	0	2	2	0	0	0	0
155	5/6/2013	08:00 PM	0	55	18	0	5	1	0	0	0	0	0	0	1
156	5/6/2013	09:00 PM	0	34	9	0	0	0	0	0	0	0	0	0	0
157	5/6/2013	10:00 PM	0	21	3	0	0	0	0	0	1	1	0	0	0
158	5/6/2013	11:00 PM	0	16	2	0	0	0	0	0	0	0	0	0	0
159	5/7/2013	12:00 AM	0	11	3	0	0	0	0	0	1	0	0	0	0
160	5/7/2013	01:00 AM	0	8	1	0	0	0	0	0	1	0	0	0	0
161	5/7/2013	02:00 AM	0	6	1	0	1	0	0	0	0	0	1	0	0
162	5/7/2013	03:00 AM	0	9	0	0	1	0	0	0	0	0	0	0	0
163	5/7/2013	04:00 AM	1	12	8	0	1	1	0	0	0	0	0	0	0
164	5/7/2013	05:00 AM	0	34	14	0	0	0	0	0	2	1	0	1	0
165	5/7/2013	06:00 AM	3	43	27	1	5	0	0	5	2	0	0	0	0
166	5/7/2013	07:00 AM	1	82	53	1	4	1	0	2	0	1	0	0	0
167	5/7/2013	08:00 AM	2	118	81	0	2	1	0	2	0	0	1	0	1

2p-5p Monday  
TOTAL  
787

168	5/7/2013	09:00 AM	3	122	77	1	7	3	1	4	1	2	1	0	0	1
169	5/7/2013	10:00 AM	4	170	67	1	7	0	0	2	1	0	0	0	0	4
170	5/7/2013	11:00 AM	2	179	55	0	6	0	0	4	2	0	0	0	2	0
171	5/7/2013	12:00 PM	4	156	50	0	5	1	0	5	1	0	0	0	1	1
172	5/7/2013	01:00 PM	5	177	69	0	5	2	0	5	0	0	0	0	0	2
173	5/7/2013	02:00 PM	8	184	59	1	8	2	1	0	0	0	0	0	0	0
174	5/7/2013	03:00 PM	3	185	60	0	7	5	0	5	6	0	0	0	0	0
175	5/7/2013	04:00 PM	3	200	72	1	9	1	0	8	1	0	0	0	0	1
176	5/7/2013	05:00 PM	2	176	56	1	10	2	0	3	0	1	0	0	0	4
177	5/7/2013	06:00 PM	0	91	35	0	5	2	0	1	0	0	0	1	0	2
178	5/7/2013	07:00 PM	1	110	31	0	0	1	0	0	0	0	0	0	0	0
179	5/7/2013	08:00 PM	0	63	18	0	0	0	0	1	1	0	0	0	0	0
180	5/7/2013	09:00 PM	0	40	9	1	2	1	0	0	0	1	0	0	0	0
181	5/7/2013	10:00 PM	2	21	6	0	0	0	0	0	2	0	0	0	0	1
182	5/7/2013	11:00 PM	0	12	5	0	0	0	0	0	0	0	0	0	0	0
183	5/8/2013	12:00 AM	0	11	1	0	0	0	0	0	0	0	0	0	0	0
184	5/8/2013	01:00 AM	0	10	3	0	0	0	0	0	0	0	0	0	0	0
185	5/8/2013	02:00 AM	0	3	0	0	1	0	0	0	0	0	1	0	0	0
186	5/8/2013	03:00 AM	0	7	2	1	0	0	0	0	0	0	0	0	0	0
187	5/8/2013	04:00 AM	1	12	4	0	0	0	0	0	0	0	0	0	0	0
188	5/8/2013	05:00 AM	0	33	17	0	2	0	0	0	0	0	0	0	0	0
189	5/8/2013	06:00 AM	4	54	33	0	5	0	0	1	4	0	0	0	0	0
190	5/8/2013	07:00 AM	1	86	67	1	5	1	0	5	1	0	0	0	0	2
191	5/8/2013	08:00 AM	3	126	58	0	7	1	0	2	2	1	0	0	1	0
192	5/8/2013	09:00 AM	4	127	74	1	10	2	0	10	1	0	0	0	0	1

2p-5p Tuesday  
TOTAL 830

<b>ADT</b>	33	2168	849	5	78	20	1	41	17	3	2	2	2	19	2p-5p	2p-5p
			Pass Cars										Trucks	<b>TOTAL</b>	Max	Min
			3049										170	<b>3238</b>	914	704
													5.3%	0.6%		
													excludes	* Not		
													Not	Classifie	On	On
													Classed	d	Saurday	Sunday

743 on Tuesday or 81% of Max , compare to manual counts

I-20 Eastbound ON Ramp @ Garrett Rd.

Start Date: 4/30/2013

Start Time: 11:00:00 AM

Site Code: 43013202

Station ID:

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
14	5/1/2013	12:00 AM	0	11	1	0	0	0	0	0	0	0	0	0	0	0
15	5/1/2013	01:00 AM	0	7	0	0	0	0	0	0	1	0	0	0	0	0
16	5/1/2013	02:00 AM	0	8	0	0	1	0	0	0	1	0	0	1	0	0
17	5/1/2013	03:00 AM	0	2	0	1	0	0	0	0	0	0	0	0	0	0
18	5/1/2013	04:00 AM	0	2	3	1	0	1	0	0	1	0	0	0	0	0
19	5/1/2013	05:00 AM	0	7	6	0	1	1	0	0	1	0	0	0	0	0
20	5/1/2013	06:00 AM	0	26	14	0	2	0	0	0	1	0	0	0	0	0
21	5/1/2013	07:00 AM	0	31	24	2	9	0	0	2	1	0	0	0	0	0
22	5/1/2013	08:00 AM	0	37	30	8	9	3	0	3	2	0	0	0	0	0
23	5/1/2013	09:00 AM	2	31	14	4	15	1	0	2	3	0	0	0	0	0
24	5/1/2013	10:00 AM	0	31	30	0	9	1	0	4	1	0	0	0	0	0
25	5/1/2013	11:00 AM	0	46	25	1	9	0	0	2	3	0	0	0	0	0
26	5/1/2013	12:00 PM	0	88	32	1	6	0	0	3	2	0	0	0	0	0
27	5/1/2013	01:00 PM	0	87	42	4	7	1	0	2	0	0	0	0	0	0
28	5/1/2013	02:00 PM	0	85	45	1	12	0	0	1	3	0	0	0	0	0
29	5/1/2013	03:00 PM	0	115	40	1	15	2	0	6	0	0	0	0	0	0
30	5/1/2013	04:00 PM	2	103	45	3	8	0	0	1	0	0	0	0	0	0
31	5/1/2013	05:00 PM	0	120	37	0	9	0	0	2	2	0	0	0	0	0
32	5/1/2013	06:00 PM	0	80	21	1	3	0	0	1	0	0	1	0	0	0
33	5/1/2013	07:00 PM	0	52	25	0	6	0	0	1	0	0	1	0	0	0
34	5/1/2013	08:00 PM	0	58	16	0	4	0	0	1	1	0	1	0	0	0
35	5/1/2013	09:00 PM	0	29	14	0	5	0	0	0	1	0	0	0	0	0
36	5/1/2013	10:00 PM	0	10	4	0	2	0	0	0	1	0	0	0	0	0
<i>2p-5p Wednesday</i>																
<i>TOTAL</i>																
<i>488</i>																

37	5/1/2013	11:00 PM	0	11	6	0	0	0	0	0	0	0	0	0	0	0		
38	5/2/2013	12:00 AM	0	9	4	0	2	0	0	0	0	0	0	0	0	0		
39	5/2/2013	01:00 AM	0	6	3	0	1	0	0	0	0	1	0	0	0	0		
40	5/2/2013	02:00 AM	0	3	0	0	1	0	0	0	3	0	0	0	0	0		
41	5/2/2013	03:00 AM	0	2	2	1	0	0	0	0	2	0	1	0	0	0		
42	5/2/2013	04:00 AM	0	2	1	0	1	0	0	1	2	0	0	0	0	0		
43	5/2/2013	05:00 AM	0	11	2	1	2	0	0	0	1	0	0	0	0	0		
44	5/2/2013	06:00 AM	0	27	7	0	3	0	0	1	2	0	0	0	0	0		
45	5/2/2013	07:00 AM	0	43	17	1	9	0	0	5	1	0	2	0	0	0		
46	5/2/2013	08:00 AM	0	38	21	2	10	0	0	2	0	0	0	0	0	0		
47	5/2/2013	09:00 AM	0	34	20	1	7	0	0	1	2	0	0	0	0	0		
48	5/2/2013	10:00 AM	1	42	32	1	3	0	0	3	1	0	0	0	0	0		
49	5/2/2013	11:00 AM	0	71	30	1	9	0	0	4	2	0	0	0	0	0		
50	5/2/2013	12:00 PM	0	88	22	2	12	0	0	3	2	0	0	0	0	0		
51	5/2/2013	01:00 PM	0	81	43	1	11	0	0	3	2	0	0	0	0	0		
52	5/2/2013	02:00 PM	0	88	30	2	12	0	0	1	0	0	0	0	0	0		2p-5p Thursday
53	5/2/2013	03:00 PM	1	123	40	2	14	1	0	2	2	0	0	0	0	0		TOTAL
54	5/2/2013	04:00 PM	0	116	52	0	7	0	0	1	1	0	0	0	0	0		495
55	5/2/2013	05:00 PM	3	117	44	0	4	0	0	1	1	0	0	0	0	1		
56	5/2/2013	06:00 PM	0	93	36	0	4	0	0	1	0	0	0	0	0	0		
57	5/2/2013	07:00 PM	0	89	17	0	2	0	0	0	3	0	2	0	0	0		
58	5/2/2013	08:00 PM	0	67	14	0	3	0	0	1	1	0	1	0	0	0		
59	5/2/2013	09:00 PM	0	47	12	1	1	0	0	0	1	0	1	0	0	0		
60	5/2/2013	10:00 PM	0	23	7	0	1	0	0	0	0	0	0	0	0	0		
61	5/2/2013	11:00 PM	0	24	7	0	0	0	0	0	0	0	0	0	0	0		
62	5/3/2013	12:00 AM	0	8	3	0	0	0	0	0	0	0	1	0	0	0		
63	5/3/2013	01:00 AM	0	1	1	0	0	0	0	0	1	0	0	0	0	0		
64	5/3/2013	02:00 AM	0	6	2	1	2	0	0	0	0	0	0	0	0	0		
65	5/3/2013	03:00 AM	0	4	1	0	1	0	0	0	1	0	0	0	0	0		
66	5/3/2013	04:00 AM	0	0	2	1	0	1	0	0	1	0	0	0	0	0		
67	5/3/2013	05:00 AM	0	6	6	1	2	0	0	2	1	0	0	0	0	0		
68	5/3/2013	06:00 AM	0	22	9	0	2	0	0	1	2	0	0	0	0	0		
69	5/3/2013	07:00 AM	2	40	24	2	10	1	0	2	0	0	0	0	0	0		
70	5/3/2013	08:00 AM	0	28	19	1	8	0	0	1	2	0	0	0	0	0		
71	5/3/2013	09:00 AM	0	36	26	1	4	0	0	1	1	0	0	0	0	0		
72	5/3/2013	10:00 AM	0	50	30	0	7	0	0	1	3	0	0	0	0	0		

73	5/3/2013	11:00 AM	0	76	17	0	9	0	0	3	3	0	0	0	0		
74	5/3/2013	12:00 PM	0	78	48	0	16	0	0	0	5	0	0	0	0		
75	5/3/2013	01:00 PM	0	93	44	1	11	0	0	1	2	0	0	0	0		
76	5/3/2013	02:00 PM	0	125	43	0	19	0	0	3	1	0	0	0	0	1	2p-5p Friday
77	5/3/2013	03:00 PM	4	120	38	0	8	0	0	1	4	0	0	0	0	0	TOTAL
78	5/3/2013	04:00 PM	0	127	50	1	8	0	0	1	1	0	0	0	0	1	556
79	5/3/2013	05:00 PM	1	126	50	0	8	0	0	3	3	0	0	0	0	0	
80	5/3/2013	06:00 PM	1	144	39	1	8	0	0	2	3	0	0	0	0	0	
81	5/3/2013	07:00 PM	0	102	30	0	6	0	0	1	1	0	0	0	0	0	
82	5/3/2013	08:00 PM	0	84	44	0	3	0	0	1	1	0	2	0	0	0	
83	5/3/2013	09:00 PM	0	93	30	1	8	0	0	1	0	0	0	0	0	0	
84	5/3/2013	10:00 PM	0	30	7	0	0	0	0	0	0	0	0	1	0	0	
85	5/3/2013	11:00 PM	0	41	9	0	1	0	0	1	1	0	0	0	0	0	
86	5/4/2013	12:00 AM	0	17	5	0	0	0	0	0	0	0	0	0	0	0	
87	5/4/2013	01:00 AM	0	15	3	0	0	0	0	0	0	0	0	0	0	0	
88	5/4/2013	02:00 AM	0	8	1	0	0	0	0	0	1	0	0	0	0	0	
89	5/4/2013	03:00 AM	0	5	1	1	1	0	0	0	0	0	0	0	0	0	
90	5/4/2013	04:00 AM	0	6	0	0	2	0	0	0	1	0	0	0	0	0	
91	5/4/2013	05:00 AM	0	7	1	0	2	0	0	0	0	0	0	0	0	0	
92	5/4/2013	06:00 AM	0	11	7	0	1	0	0	0	0	0	0	0	0	0	
93	5/4/2013	07:00 AM	0	22	7	1	3	0	0	2	1	0	1	0	0	0	
94	5/4/2013	08:00 AM	0	43	12	1	2	0	0	1	0	0	0	0	0	0	
95	5/4/2013	09:00 AM	0	40	19	0	4	0	0	1	1	0	0	0	0	0	
96	5/4/2013	10:00 AM	0	55	18	3	8	0	0	1	1	0	0	0	0	0	
97	5/4/2013	11:00 AM	0	68	26	0	4	0	0	1	0	0	0	0	0	0	
98	5/4/2013	12:00 PM	0	93	33	0	8	0	0	0	2	0	0	0	0	0	
99	5/4/2013	01:00 PM	2	108	52	0	5	0	0	0	0	0	0	0	0	1	
100	5/4/2013	02:00 PM	0	122	46	0	7	0	0	0	1	0	0	0	0	0	2p-5p Saturday
101	5/4/2013	03:00 PM	0	146	52	2	16	0	0	1	0	0	0	0	0	0	TOTAL
102	5/4/2013	04:00 PM	11	137	48	0	11	1	0	3	0	0	0	0	0	0	604
103	5/4/2013	05:00 PM	0	131	49	0	5	0	0	0	0	0	0	0	0	0	
104	5/4/2013	06:00 PM	1	124	55	0	3	0	0	2	1	0	0	0	0	0	
105	5/4/2013	07:00 PM	0	79	38	0	8	0	0	0	0	0	0	0	0	0	
106	5/4/2013	08:00 PM	0	97	40	0	7	0	0	0	0	0	0	0	0	0	
107	5/4/2013	09:00 PM	0	57	23	0	4	0	0	0	0	0	0	0	0	0	
108	5/4/2013	10:00 PM	0	35	12	0	3	0	0	0	1	0	0	0	0	0	

109	5/4/2013	11:00 PM	0	28	12	0	2	0	0	0	0	0	0	0	0	0		
110	5/5/2013	12:00 AM	1	8	2	0	1	0	0	0	0	0	0	0	0	0		
111	5/5/2013	01:00 AM	0	15	4	0	1	0	0	0	0	0	0	0	0	0		
112	5/5/2013	02:00 AM	0	8	5	1	0	0	0	0	0	0	0	0	0	0		
113	5/5/2013	03:00 AM	0	7	3	0	0	0	0	0	0	0	0	0	0	0		
114	5/5/2013	04:00 AM	1	5	1	0	0	0	0	0	0	0	0	0	0	0		
115	5/5/2013	05:00 AM	0	5	1	0	1	0	0	0	0	0	0	0	0	0		
116	5/5/2013	06:00 AM	0	10	1	0	0	0	0	0	0	0	0	0	0	0		
117	5/5/2013	07:00 AM	0	12	5	0	2	0	0	1	0	0	0	0	0	0		
118	5/5/2013	08:00 AM	0	19	3	0	1	0	0	0	0	0	0	0	0	0		
119	5/5/2013	09:00 AM	0	25	10	0	3	0	0	1	0	0	0	0	0	0		
120	5/5/2013	10:00 AM	0	52	15	0	3	0	0	0	1	0	0	0	0	0		
121	5/5/2013	11:00 AM	0	61	22	0	3	0	0	1	0	0	0	0	0	0		
122	5/5/2013	12:00 PM	1	58	21	1	5	0	0	1	1	0	0	0	0	0		
123	5/5/2013	01:00 PM	0	77	34	0	10	0	0	1	0	0	0	0	0	0		
124	5/5/2013	02:00 PM	0	82	33	0	5	0	0	0	1	0	0	0	0	0		2p-5p Sunday
125	5/5/2013	03:00 PM	0	104	33	0	8	0	0	1	0	0	0	0	0	0		TOTAL
126	5/5/2013	04:00 PM	4	105	34	0	8	0	0	1	0	0	0	0	0	0		419
127	5/5/2013	05:00 PM	0	85	32	0	4	0	0	0	0	0	0	0	0	0		
128	5/5/2013	06:00 PM	0	105	23	1	5	0	0	0	0	0	0	0	0	0		
129	5/5/2013	07:00 PM	0	48	25	2	2	0	0	1	0	0	0	0	0	0		
130	5/5/2013	08:00 PM	0	54	20	0	4	0	0	1	0	0	0	0	1	0		
131	5/5/2013	09:00 PM	0	28	6	0	2	0	0	0	0	0	0	0	0	0		
132	5/5/2013	10:00 PM	0	20	5	0	0	0	0	0	0	0	0	0	0	0		
133	5/5/2013	11:00 PM	0	11	3	0	1	0	0	0	0	0	0	0	0	0		
134	5/6/2013	12:00 AM	0	8	2	0	1	0	0	1	1	0	0	0	0	0		
135	5/6/2013	01:00 AM	0	3	1	0	0	0	0	0	0	0	0	0	0	0		
136	5/6/2013	02:00 AM	0	9	0	0	0	0	0	0	0	0	0	0	0	0		
137	5/6/2013	03:00 AM	0	2	0	0	1	1	0	0	0	0	0	0	0	0		
138	5/6/2013	04:00 AM	0	2	0	0	0	0	0	0	2	0	0	0	0	0		
139	5/6/2013	05:00 AM	0	4	8	0	1	0	0	1	1	0	0	0	0	0		
140	5/6/2013	06:00 AM	0	20	6	0	4	0	0	0	1	0	0	0	0	0		
141	5/6/2013	07:00 AM	0	39	28	1	11	1	0	1	3	0	0	0	0	0		
142	5/6/2013	08:00 AM	0	30	30	3	3	0	0	4	1	0	0	0	0	0		
143	5/6/2013	09:00 AM	0	38	16	2	6	0	0	3	3	0	0	0	0	0		
144	5/6/2013	10:00 AM	7	40	21	1	9	0	0	4	3	0	0	0	0	0		



181 5/7/2013 11:00 PM    0    14    3    0    0    0    0    0    1    0    0    0    0    0

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**ADT**    7    1218    476    14    109    4    0    23    26    0    3    1    0    1

Pass Cars  
1702

Trucks	<b>TOTAL</b>	2p-5p	2p-5p
180	<b>1882</b>	Max	Min
9.6%	0.0%	604	419
exclude	* Not		
s Not	Classifie	On	On
Classed	d	Saturday	Sunday

477 on Tuesday or 74% of Max , compare to manual counts



Garrett Rd Northbound @ I-20 Westbound Ramp

Start Date: 4/18/2013

Start Time: 11:00:00 AM

Site Code: 120418131

Station ID:

Location 1: Garrett Rd. Northbound @ I-20 Westbound off ramp

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	4/18/2013	11:00 AM	3	383	169	0	6	2	0	9	3	0	0	0	0	3
2	4/18/2013	12:00 PM	1	370	119	1	16	2	0	10	4	0	0	0	1	2
3	4/18/2013	01:00 PM	1	397	164	0	10	1	0	11	4	0	0	0	0	3
4	4/18/2013	02:00 PM	3	425	115	3	13	0	0	5	6	0	0	0	0	2
5	4/18/2013	03:00 PM	1	308	117	1	7	2	0	8	0	1	0	0	0	3
6	4/18/2013	04:00 PM	1	282	106	1	13	0	0	4	1	0	0	0	0	2
7	4/18/2013	05:00 PM	2	216	79	1	7	0	0	2	4	0	1	0	0	4
8	4/18/2013	06:00 PM	0	203	53	0	1	1	0	0	0	0	1	0	0	2
9	4/18/2013	07:00 PM	0	143	36	0	1	0	0	1	1	0	0	1	1	2
10	4/18/2013	08:00 PM	0	105	23	0	2	1	0	0	1	0	1	0	0	0
11	4/18/2013	09:00 PM	0	67	13	0	0	0	0	1	2	0	0	0	0	3
12	4/18/2013	10:00 PM	0	39	8	0	0	0	0	0	2	1	1	0	0	2
13	4/18/2013	11:00 PM	0	39	4	0	0	0	0	0	0	0	0	0	0	0
14	4/19/2013	12:00 AM	0	11	4	0	0	0	0	0	1	0	1	0	0	1
15	4/19/2013	01:00 AM	0	12	2	0	0	0	0	0	0	0	0	0	0	2
16	4/19/2013	02:00 AM	0	18	11	1	1	0	0	0	2	0	1	0	0	3
17	4/19/2013	03:00 AM	0	43	14	0	1	0	0	0	1	0	0	0	0	1
18	4/19/2013	04:00 AM	0	101	25	0	2	2	0	2	6	0	1	0	0	1
19	4/19/2013	05:00 AM	1	168	80	0	11	2	0	1	4	0	1	1	0	0
20	4/19/2013	06:00 AM	0	342	109	1	26	2	0	9	6	0	0	0	0	10
21	4/19/2013	07:00 AM	0	288	118	1	22	0	0	5	7	0	0	0	0	5
22	4/19/2013	08:00 AM	0	315	125	2	15	3	0	4	5	0	0	0	0	4
23	4/19/2013	09:00 AM	0	375	166	1	15	1	0	4	4	0	0	0	0	5
24	4/19/2013	10:00 AM	2	394	178	1	17	3	0	11	1	0	0	0	0	7
25	4/19/2013	11:00 AM	4	443	193	2	12	4	0	8	4	0	0	0	0	4
26	4/19/2013	12:00 PM	3	445	168	1	15	4	0	10	9	2	0	0	0	4

2p-5p Saturday  
TOTAL  
1430

27	4/19/2013	01:00 PM	10	449	220	1	25	1	0	3	3	0	1	1	0	11		
28	4/19/2013	02:00 PM	3	473	159	0	16	2	0	5	1	2	0	1	0	10	2p-5p	Sunday
29	4/19/2013	03:00 PM	14	460	154	0	7	3	0	17	1	2	0	0	0	13	TOTAL	
30	4/19/2013	04:00 PM	22	472	163	0	6	0	0	8	1	0	0	1	0	28	2044	
31	4/19/2013	05:00 PM	6	419	137	1	6	0	0	4	4	0	1	0	0	3		
32	4/19/2013	06:00 PM	4	359	110	1	12	0	0	2	0	1	1	1	0	1		
33	4/19/2013	07:00 PM	0	250	109	0	2	1	0	5	3	0	1	0	0	2		
34	4/19/2013	08:00 PM	1	181	35	0	4	0	0	0	1	0	0	1	0	0		
35	4/19/2013	09:00 PM	0	93	26	0	0	0	0	1	2	0	0	0	0	2		
36	4/19/2013	10:00 PM	1	90	11	0	0	0	0	0	1	0	0	0	0	4		
37	4/19/2013	11:00 PM	0	67	10	0	0	0	0	0	1	0	0	0	0	1		
38	4/20/2013	12:00 AM	0	38	5	0	0	0	0	0	0	0	1	0	0	0		
39	4/20/2013	01:00 AM	0	35	3	0	0	0	0	0	2	0	1	0	0	0		
40	4/20/2013	02:00 AM	0	25	2	0	0	1	0	0	1	0	0	0	0	2		
41	4/20/2013	03:00 AM	0	21	1	0	1	0	0	0	1	0	0	1	0	1		
42	4/20/2013	04:00 AM	0	50	13	0	0	0	0	0	1	0	1	0	0	1		
43	4/20/2013	05:00 AM	0	85	33	1	4	0	0	0	0	0	0	0	0	0		
44	4/20/2013	06:00 AM	0	110	57	0	3	0	0	0	0	0	1	0	0	1		
45	4/20/2013	07:00 AM	0	168	59	0	7	0	0	1	0	0	0	0	0	2		
46	4/20/2013	08:00 AM	0	237	113	0	4	0	0	3	3	0	0	0	0	5		
47	4/20/2013	09:00 AM	0	380	117	1	8	2	0	10	1	0	0	0	0	4		
48	4/20/2013	10:00 AM	7	453	193	0	11	0	0	9	1	0	0	1	0	7		
49	4/20/2013	11:00 AM	14	483	194	0	9	0	0	8	2	0	0	0	0	8		
50	4/20/2013	12:00 PM	26	497	150	0	13	2	0	7	1	0	0	0	0	13		
51	4/20/2013	01:00 PM	21	495	171	0	10	0	0	6	1	0	1	1	0	5		
52	4/20/2013	02:00 PM	16	491	157	1	10	0	0	6	1	2	0	0	0	5	2p-5p	Monday
53	4/20/2013	03:00 PM	10	483	153	0	8	0	0	2	3	0	0	0	0	2	TOTAL	
54	4/20/2013	04:00 PM	2	435	144	1	2	0	0	2	1	0	2	0	0	3	1942	
55	4/20/2013	05:00 PM	5	402	118	0	6	0	0	3	3	0	1	0	0	1		
56	4/20/2013	06:00 PM	1	312	93	0	5	0	0	1	1	0	1	0	0	2		
57	4/20/2013	07:00 PM	1	273	93	0	5	0	0	1	0	0	0	1	0	2		
58	4/20/2013	08:00 PM	0	189	41	0	0	0	0	2	2	0	0	0	0	2		
59	4/20/2013	09:00 PM	1	127	43	0	0	0	0	2	1	0	0	0	0	0		
60	4/20/2013	10:00 PM	1	77	36	4	1	0	0	4	1	0	0	0	0	5		
61	4/20/2013	11:00 PM	0	42	11	0	1	0	0	0	1	0	0	0	0	1		
62	4/21/2013	12:00 AM	0	28	3	0	1	0	0	0	0	0	0	0	0	1		

63	4/21/2013	01:00 AM	0	19	1	0	0	1	0	0	1	0	0	0	0	1
64	4/21/2013	02:00 AM	1	17	2	0	1	0	0	0	0	0	0	0	0	2
65	4/21/2013	03:00 AM	0	22	6	0	0	0	0	0	0	0	0	0	0	0
66	4/21/2013	04:00 AM	1	36	7	0	1	0	0	0	0	0	0	0	0	0
67	4/21/2013	05:00 AM	0	42	9	0	0	0	0	0	0	0	0	0	0	1
68	4/21/2013	06:00 AM	0	58	15	0	2	0	0	0	0	0	0	0	0	0
69	4/21/2013	07:00 AM	2	79	32	0	3	0	0	0	0	0	0	0	0	2
70	4/21/2013	08:00 AM	0	146	63	1	6	1	0	2	0	0	0	0	0	0
71	4/21/2013	09:00 AM	0	243	91	0	6	1	0	1	0	0	0	0	0	0
72	4/21/2013	10:00 AM	1	294	112	0	6	0	0	2	0	0	0	0	0	3
73	4/21/2013	11:00 AM	1	502	157	1	5	1	0	4	1	0	0	0	0	4
74	4/21/2013	12:00 PM	1	508	163	0	7	1	0	6	0	0	0	0	0	0
75	4/21/2013	01:00 PM	3	428	166	0	9	2	0	4	0	1	2	0	0	7
76	4/21/2013	02:00 PM	4	469	121	0	5	0	0	5	1	0	0	0	0	1
77	4/21/2013	03:00 PM	5	421	132	0	5	1	0	2	0	0	0	0	0	1
78	4/21/2013	04:00 PM	4	353	109	0	6	0	0	2	3	0	0	0	0	2
79	4/21/2013	05:00 PM	2	265	79	0	3	0	0	2	1	0	0	0	0	3
80	4/21/2013	06:00 PM	1	148	48	0	2	0	0	0	2	0	0	0	0	0
81	4/21/2013	07:00 PM	0	128	42	0	2	0	0	4	0	0	0	0	0	4
82	4/21/2013	08:00 PM	0	82	18	0	1	0	0	0	2	0	0	0	0	1
83	4/21/2013	09:00 PM	0	61	18	0	1	0	0	0	2	0	0	0	0	0
84	4/21/2013	10:00 PM	0	34	11	0	0	0	0	0	2	0	0	0	0	2
85	4/21/2013	11:00 PM	0	18	3	0	0	0	0	0	2	0	0	0	0	0
86	4/22/2013	12:00 AM	0	11	2	0	0	0	0	0	0	0	0	0	0	0
87	4/22/2013	01:00 AM	0	7	2	0	1	1	0	0	1	0	0	0	0	0
88	4/22/2013	02:00 AM	0	10	6	0	2	0	0	1	2	0	0	0	0	0
89	4/22/2013	03:00 AM	0	48	14	0	1	0	0	1	1	0	0	0	0	4
90	4/22/2013	04:00 AM	0	95	38	1	6	1	0	1	4	0	0	0	0	3
91	4/22/2013	05:00 AM	1	155	70	0	11	1	0	2	2	0	1	0	1	2
92	4/22/2013	06:00 AM	1	351	136	1	22	1	0	2	2	0	0	0	0	6
93	4/22/2013	07:00 AM	1	300	107	1	13	4	0	9	4	0	1	0	2	1
94	4/22/2013	08:00 AM	1	281	135	1	22	4	0	9	8	1	0	0	0	8
95	4/22/2013	09:00 AM	2	329	158	1	20	3	0	7	9	0	0	0	0	6
96	4/22/2013	10:00 AM	3	338	161	5	12	4	1	7	2	0	0	0	0	8
97	4/22/2013	11:00 AM	3	417	164	0	11	2	0	4	5	0	0	0	0	7
98	4/22/2013	12:00 PM	3	354	172	0	12	3	0	8	5	1	0	0	0	2
<i>2p-5p Tuesday</i>																
<i>TOTAL</i>																
<i>1652</i>																

99	4/22/2013	01:00 PM	6	345	126	0	11	5	0	8	5	0	0	0	1	2
100	4/22/2013	02:00 PM	12	413	156	5	17	2	0	8	5	0	0	0	0	2
101	4/22/2013	03:00 PM	7	416	146	1	13	4	0	10	2	0	0	0	0	2
102	4/22/2013	04:00 PM	8	412	141	1	11	2	0	10	6	1	1	0	0	5
103	4/22/2013	05:00 PM	7	261	112	1	9	1	0	6	7	1	0	1	0	2
104	4/22/2013	06:00 PM	1	233	79	1	6	1	0	0	4	0	0	0	0	0
105	4/22/2013	07:00 PM	1	247	55	2	3	1	0	0	0	0	1	0	0	3
106	4/22/2013	08:00 PM	0	135	30	0	0	1	0	0	0	0	0	2	0	2
107	4/22/2013	09:00 PM	1	72	10	0	1	0	0	0	0	0	0	1	0	1
108	4/22/2013	10:00 PM	1	38	12	0	0	0	0	0	4	0	0	0	0	2
109	4/22/2013	11:00 PM	0	37	6	0	0	0	0	0	1	0	0	0	0	2
110	4/23/2013	12:00 AM	0	12	2	0	0	0	0	0	2	0	1	0	0	0
111	4/23/2013	01:00 AM	0	20	2	0	0	0	0	1	1	0	0	0	0	4
112	4/23/2013	02:00 AM	0	9	11	0	2	1	0	0	3	0	0	0	0	1
113	4/23/2013	03:00 AM	0	49	13	1	0	0	0	0	3	0	0	0	0	1
114	4/23/2013	04:00 AM	1	98	34	0	5	0	0	2	5	0	1	0	0	1
115	4/23/2013	05:00 AM	2	189	70	1	7	1	0	1	6	0	1	1	0	3
116	4/23/2013	06:00 AM	3	363	122	1	24	3	0	11	7	1	1	0	0	6
117	4/23/2013	07:00 AM	2	257	128	7	20	4	0	8	11	0	1	1	0	7
118	4/23/2013	08:00 AM	5	294	140	2	25	4	0	5	4	0	0	0	0	7
119	4/23/2013	09:00 AM	1	304	153	1	20	5	0	11	6	0	0	0	0	5
120	4/23/2013	10:00 AM	4	320	166	1	15	2	0	6	7	0	0	0	1	2
121	4/23/2013	11:00 AM	5	390	198	2	20	4	0	3	5	0	0	0	0	2
122	4/23/2013	12:00 PM	6	354	155	2	12	8	0	9	7	1	0	0	0	6
123	4/23/2013	01:00 PM	6	391	157	3	22	4	0	4	10	0	0	0	0	2
124	4/23/2013	02:00 PM	4	378	162	3	11	3	0	4	4	1	0	0	0	0
125	4/23/2013	03:00 PM	7	383	149	2	19	1	0	14	2	0	0	0	0	3
126	4/23/2013	04:00 PM	8	401	145	1	17	0	0	4	6	0	1	0	0	6
127	4/23/2013	05:00 PM	3	328	91	1	10	0	0	2	2	0	2	0	0	2
128	4/23/2013	06:00 PM	1	229	77	1	6	0	0	3	2	0	1	0	0	2
129	4/23/2013	07:00 PM	3	242	60	0	3	1	0	2	2	0	0	1	0	0
130	4/23/2013	08:00 PM	0	161	29	0	3	0	0	0	0	0	0	0	0	4
131	4/23/2013	09:00 PM	1	68	15	0	1	0	0	0	1	0	0	1	0	1
132	4/23/2013	10:00 PM	0	46	9	0	1	1	0	0	0	0	0	0	0	0
133	4/23/2013	11:00 PM	0	21	9	0	1	0	0	0	4	0	0	0	0	2
134	4/24/2013	12:00 AM	0	11	5	0	1	0	0	0	1	0	0	0	0	1

2p-5p Wednesday  
TOTAL  
1819

2p-5p Thursday  
TOTAL  
1739

135	4/24/2013	01:00 AM	0	18	4	0	0	1	0	0	0	1	0	0	0
136	4/24/2013	02:00 AM	0	13	9	0	1	0	0	0	1	0	0	0	1
137	4/24/2013	03:00 AM	0	46	8	1	1	1	0	0	3	0	0	0	1
138	4/24/2013	04:00 AM	1	81	32	2	4	0	0	1	4	0	1	0	5
139	4/24/2013	05:00 AM	0	170	62	1	6	0	0	2	4	0	2	0	1
140	4/24/2013	06:00 AM	1	335	101	3	13	1	0	4	4	0	0	1	8
141	4/24/2013	07:00 AM	1	289	118	3	18	0	0	6	12	0	1	0	12
142	4/24/2013	08:00 AM	0	248	131	2	17	2	0	2	5	1	0	1	7
143	4/24/2013	09:00 AM	1	295	146	2	10	3	0	2	11	0	0	0	9
144	4/24/2013	10:00 AM	3	325	157	0	24	3	0	9	7	0	0	0	5
145	4/24/2013	11:00 AM	0	350	178	0	13	0	0	8	3	0	0	0	4
146	4/24/2013	12:00 PM	0	367	157	2	18	1	0	4	4	0	0	0	6
147	4/24/2013	01:00 PM	3	397	141	0	12	0	0	7	5	0	1	0	2
148	4/24/2013	02:00 PM	2	383	136	4	24	2	0	6	4	1	0	0	7
149	4/24/2013	03:00 PM	0	415	158	0	20	4	0	12	2	1	0	0	5
150	4/24/2013	04:00 PM	4	398	161	1	16	2	0	7	3	0	1	0	11
151	4/24/2013	05:00 PM	0	302	103	0	8	0	0	2	1	1	1	0	2
152	4/24/2013	06:00 PM	5	244	64	0	1	0	0	3	4	0	1	0	3
153	4/24/2013	07:00 PM	1	207	62	1	2	0	0	2	3	1	1	0	2
154	4/24/2013	08:00 PM	3	118	23	1	3	0	0	0	1	1	1	0	7
155	4/24/2013	09:00 PM	0	60	10	0	1	2	0	0	2	1	0	0	4
156	4/24/2013	10:00 PM	0	53	6	0	0	0	0	0	2	0	0	0	1
157	4/24/2013	11:00 PM	0	32	10	0	0	0	0	0	1	0	0	0	1
158	4/25/2013	12:00 AM	0	15	5	0	0	0	0	0	1	0	0	0	0
159	4/25/2013	01:00 AM	0	19	5	0	0	1	0	0	0	0	2	0	0
160	4/25/2013	02:00 AM	0	18	12	0	1	0	0	0	4	0	0	0	3
161	4/25/2013	03:00 AM	0	47	9	0	0	0	0	1	7	0	1	0	1
162	4/25/2013	04:00 AM	0	99	32	2	6	1	0	0	3	0	2	1	1
163	4/25/2013	05:00 AM	1	186	66	1	8	2	0	1	5	0	1	0	1
164	4/25/2013	06:00 AM	0	380	110	1	13	1	0	11	9	1	1	1	10
165	4/25/2013	07:00 AM	3	262	115	2	17	6	0	9	9	0	0	0	10
166	4/25/2013	08:00 AM	0	292	132	1	26	3	0	7	5	1	1	1	4
167	4/25/2013	09:00 AM	2	331	142	4	11	5	0	8	10	0	0	0	5
168	4/25/2013	10:00 AM	2	346	163	2	20	3	0	9	3	0	0	0	7
169	4/25/2013	11:00 AM	3	408	175	3	19	4	0	7	4	0	1	0	4
170	4/25/2013	12:00 PM	2	417	149	0	17	5	0	7	4	1	0	0	4

2p-5p Friday  
TOTAL  
1791



207	4/27/2013	01:00 AM	0	28	4	0	0	1	0	0	2	0	1	0	0	0
208	4/27/2013	02:00 AM	0	30	1	0	0	0	0	0	0	0	0	0	0	0
209	4/27/2013	03:00 AM	0	9	11	0	0	0	0	0	2	0	0	0	0	2
210	4/27/2013	04:00 AM	0	39	19	0	1	0	0	2	1	0	0	0	0	1
211	4/27/2013	05:00 AM	0	84	22	0	4	1	0	1	0	0	1	0	0	2
212	4/27/2013	06:00 AM	1	129	53	1	3	1	0	2	2	0	0	2	0	2
213	4/27/2013	07:00 AM	0	182	74	0	8	2	0	2	0	0	0	1	0	3
214	4/27/2013	08:00 AM	4	259	97	0	8	1	0	0	1	0	0	0	0	1
215	4/27/2013	09:00 AM	3	315	148	2	8	1	0	3	0	0	1	0	0	1
216	4/27/2013	10:00 AM	9	407	144	0	10	0	0	3	0	1	1	0	0	1
217	4/27/2013	11:00 AM	10	442	181	0	12	1	0	3	0	0	1	0	0	7
218	4/27/2013	12:00 PM	2	455	180	0	4	1	0	4	2	0	1	1	0	1
219	4/27/2013	01:00 PM	4	488	163	0	11	3	0	5	0	0	2	1	0	8
220	4/27/2013	02:00 PM	3	484	170	0	7	1	0	6	4	0	0	0	0	6
221	4/27/2013	03:00 PM	3	483	156	0	5	1	0	6	1	0	1	1	0	3
222	4/27/2013	04:00 PM	0	373	130	0	6	2	0	8	1	0	2	0	0	0
223	4/27/2013	05:00 PM	1	397	112	1	8	0	0	1	1	0	1	0	0	4
224	4/27/2013	06:00 PM	1	327	104	1	3	1	0	0	0	0	0	0	0	2
225	4/27/2013	07:00 PM	0	333	101	2	2	0	0	2	0	0	0	0	0	0
226	4/27/2013	08:00 PM	0	139	41	0	2	1	0	0	2	0	0	0	0	1
227	4/27/2013	09:00 PM	1	85	29	0	0	0	0	0	0	0	0	0	0	2
228	4/27/2013	10:00 PM	0	80	21	0	0	0	0	0	1	0	0	0	0	1
229	4/27/2013	11:00 PM	0	45	8	0	0	0	0	0	0	0	0	0	0	1
230	4/28/2013	12:00 AM	0	29	8	0	0	0	0	0	0	0	0	0	0	1
231	4/28/2013	01:00 AM	0	23	2	0	0	1	0	0	1	0	0	0	0	2
232	4/28/2013	02:00 AM	0	21	1	0	0	0	0	0	0	0	0	0	0	0
233	4/28/2013	03:00 AM	0	25	5	0	0	0	0	0	0	0	0	0	0	0
234	4/28/2013	04:00 AM	0	33	5	0	1	0	0	0	1	0	0	0	0	0
235	4/28/2013	05:00 AM	0	37	15	0	4	0	0	0	0	0	0	0	0	1
236	4/28/2013	06:00 AM	0	52	17	0	5	0	0	0	0	0	0	0	0	1
237	4/28/2013	07:00 AM	0	73	39	0	2	1	0	0	2	0	0	0	0	3
238	4/28/2013	08:00 AM	0	148	47	0	2	2	0	2	0	0	0	0	0	1
239	4/28/2013	09:00 AM	0	233	88	0	7	0	0	0	1	0	0	0	1	3
240	4/28/2013	10:00 AM	0	252	117	0	10	1	0	4	0	0	0	0	0	0
241	4/28/2013	11:00 AM	1	590	195	0	17	0	0	6	1	0	0	0	0	8
242	4/28/2013	12:00 PM	0	423	158	0	9	2	0	3	0	0	0	0	0	7

2p-5p Monday  
TOTAL  
1863

243	4/28/2013	01:00 PM	2	403	152	1	9	2	0	5	2	0	0	0	2
244	4/28/2013	02:00 PM	4	376	117	1	11	0	0	4	2	0	0	0	4
245	4/28/2013	03:00 PM	2	366	124	1	5	0	0	4	1	0	1	0	3
246	4/28/2013	04:00 PM	5	385	132	0	7	0	0	6	2	0	0	0	3
247	4/28/2013	05:00 PM	1	294	82	0	8	1	0	0	0	0	0	0	3
248	4/28/2013	06:00 PM	2	193	74	0	3	0	0	1	2	0	0	0	2
249	4/28/2013	07:00 PM	1	126	36	1	0	0	0	1	2	0	0	0	1
250	4/28/2013	08:00 PM	0	83	26	1	0	0	0	1	1	0	0	0	1
251	4/28/2013	09:00 PM	0	66	14	0	1	0	0	0	2	0	0	0	1
252	4/28/2013	10:00 PM	0	37	5	0	0	0	0	0	0	0	0	0	1
253	4/28/2013	11:00 PM	0	26	3	0	0	0	0	0	1	0	0	0	0
254	4/29/2013	12:00 AM	0	10	3	0	0	0	0	0	1	0	0	0	2
255	4/29/2013	01:00 AM	0	10	2	0	0	1	0	0	1	0	0	0	0
256	4/29/2013	02:00 AM	0	10	7	0	0	0	0	0	1	0	0	0	0
257	4/29/2013	03:00 AM	0	37	15	0	2	0	0	0	2	0	0	0	1
258	4/29/2013	04:00 AM	1	94	36	1	4	0	0	2	4	0	0	0	2
259	4/29/2013	05:00 AM	1	184	69	0	9	2	0	1	4	0	0	0	3
260	4/29/2013	06:00 AM	1	338	96	0	26	1	0	5	3	0	0	0	5
261	4/29/2013	07:00 AM	0	278	113	3	18	5	1	7	6	0	0	1	4
262	4/29/2013	08:00 AM	0	255	125	1	25	3	1	8	12	0	2	0	1

2p-5p Tuesday  
**TOTAL**  
1567

**ADT** 47 5342 1933 15 171 25 0 75 60 3 8 4 2 71

Pass Cars  
7321

Trucks **TOTAL**  
362 **7754**  
4.7% 0.9%  
exclude \* Not  
s Not Classifie  
Classe d

2p-5p 2p-5p  
Max Min  
2044 1430



Garrett Rd Southbound@ I-20 Westbound Ramp

Start Date: 4/18/2013

Start Time: 11:00:00 AM

Site Code: 120418133

Station ID:

Location 1: Garrett Rd. @ I-20 Westbound off ramp SB

Location 2: Southbound and Straight

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	4/18/2013	11:00 AM	0	369	119	4	10	5	0	5	7	1	0	1	0	10
2	4/18/2013	12:00 PM	0	367	118	2	10	1	0	4	4	3	0	0	0	1
3	4/18/2013	01:00 PM	1	392	101	2	12	3	0	9	4	0	0	0	0	6
4	4/18/2013	02:00 PM	1	458	119	2	16	2	1	5	5	0	0	0	1	6
5	4/18/2013	03:00 PM	0	338	106	4	10	2	0	4	3	0	0	0	0	6
6	4/18/2013	04:00 PM	0	399	90	2	10	0	0	1	6	0	1	0	0	8
7	4/18/2013	05:00 PM	0	272	61	4	4	2	0	1	1	0	0	0	0	1
8	4/18/2013	06:00 PM	0	212	50	0	3	0	0	1	1	0	2	0	0	2
9	4/18/2013	07:00 PM	0	160	40	1	0	0	0	0	2	0	0	0	0	1
10	4/18/2013	08:00 PM	0	95	19	0	0	0	0	0	0	0	0	0	0	2
11	4/18/2013	09:00 PM	0	51	10	0	1	1	0	0	0	0	0	0	0	5
12	4/18/2013	10:00 PM	0	48	9	0	0	0	0	0	0	0	0	0	0	1
13	4/18/2013	11:00 PM	0	75	11	0	0	0	0	0	1	0	0	0	0	2
14	4/19/2013	12:00 AM	0	19	7	0	0	0	0	0	1	0	0	0	0	1
15	4/19/2013	01:00 AM	0	39	4	0	0	0	0	0	2	0	1	0	0	0
16	4/19/2013	02:00 AM	0	17	6	0	1	1	0	0	4	0	0	0	0	1
17	4/19/2013	03:00 AM	0	20	1	0	2	3	0	0	5	0	0	0	0	1
18	4/19/2013	04:00 AM	0	47	18	0	4	2	0	1	3	0	0	0	0	4
19	4/19/2013	05:00 AM	0	106	34	2	3	6	0	1	2	0	1	0	0	4
20	4/19/2013	06:00 AM	0	211	66	3	13	3	0	3	7	0	2	0	0	5
21	4/19/2013	07:00 AM	1	168	76	1	8	2	0	2	6	0	0	0	0	3
22	4/19/2013	08:00 AM	1	202	97	4	7	2	0	3	9	0	1	0	0	1
23	4/19/2013	09:00 AM	0	291	102	6	12	2	0	4	7	1	0	0	0	5
24	4/19/2013	10:00 AM	2	350	118	2	8	1	0	6	8	1	0	0	0	10

2p-5p Saturday

TOTAL

1606



61	4/20/2013	11:00 PM	0	58	6	0	1	0	0	0	1	0	0	0	0
62	4/21/2013	12:00 AM	0	39	7	0	0	0	0	0	0	0	0	0	3
63	4/21/2013	01:00 AM	0	24	10	0	0	0	0	0	0	0	0	0	0
64	4/21/2013	02:00 AM	0	22	3	0	0	0	0	0	1	0	0	0	1
65	4/21/2013	03:00 AM	0	7	2	0	0	0	0	0	0	0	0	0	1
66	4/21/2013	04:00 AM	0	28	9	0	1	0	0	0	0	0	0	0	0
67	4/21/2013	05:00 AM	0	23	6	0	2	2	0	0	0	0	0	0	1
68	4/21/2013	06:00 AM	1	50	9	1	0	0	0	0	0	0	0	0	4
69	4/21/2013	07:00 AM	2	85	23	0	2	3	0	2	0	0	0	0	2
70	4/21/2013	08:00 AM	0	173	46	1	5	0	0	2	0	0	0	0	2
71	4/21/2013	09:00 AM	1	219	72	1	1	0	1	2	2	0	0	0	3
72	4/21/2013	10:00 AM	0	227	70	0	3	0	0	1	0	0	0	0	2
73	4/21/2013	11:00 AM	1	309	97	2	5	1	0	0	1	0	0	0	9
74	4/21/2013	12:00 PM	2	343	92	0	3	0	0	1	3	0	0	0	5
75	4/21/2013	01:00 PM	3	435	97	0	5	0	0	4	1	0	0	0	3
76	4/21/2013	02:00 PM	1	399	85	0	7	0	0	1	1	0	0	0	4
77	4/21/2013	03:00 PM	5	332	105	2	4	0	0	2	3	0	0	0	5
78	4/21/2013	04:00 PM	0	360	76	0	7	2	0	1	3	0	0	0	2
79	4/21/2013	05:00 PM	5	310	78	0	3	1	0	1	0	0	0	0	3
80	4/21/2013	06:00 PM	0	197	52	1	1	0	0	0	1	0	0	0	2
81	4/21/2013	07:00 PM	2	146	36	0	2	0	0	0	2	0	0	0	4
82	4/21/2013	08:00 PM	0	93	23	0	0	0	0	0	0	0	0	0	0
83	4/21/2013	09:00 PM	1	43	6	0	0	0	0	0	1	0	0	0	4
84	4/21/2013	10:00 PM	0	39	9	0	0	0	0	0	2	0	0	0	2
85	4/21/2013	11:00 PM	0	28	2	0	0	0	0	0	0	0	0	0	2
86	4/22/2013	12:00 AM	0	13	3	0	0	0	0	0	1	0	0	0	2
87	4/22/2013	01:00 AM	0	8	0	0	0	1	0	0	2	0	0	0	0
88	4/22/2013	02:00 AM	0	10	4	0	0	1	0	0	1	0	0	0	2
89	4/22/2013	03:00 AM	2	13	6	0	2	0	0	1	4	0	0	0	7
90	4/22/2013	04:00 AM	0	50	25	1	0	8	0	2	1	0	0	0	2
91	4/22/2013	05:00 AM	1	91	22	2	3	5	0	0	0	0	0	0	2
92	4/22/2013	06:00 AM	2	196	76	3	7	1	0	2	4	0	0	0	5
93	4/22/2013	07:00 AM	0	175	79	3	8	5	0	2	13	0	0	0	2
94	4/22/2013	08:00 AM	1	181	79	4	11	2	1	5	8	3	0	0	7
95	4/22/2013	09:00 AM	1	242	95	5	8	1	0	5	10	0	0	0	14
96	4/22/2013	10:00 AM	0	313	128	5	5	3	0	4	13	1	1	0	8

2p-5p Tuesday  
TOTAL  
1407

97	4/22/2013	11:00 AM	4	386	129	1	10	4	0	5	8	0	0	0	0	9
98	4/22/2013	12:00 PM	4	394	114	5	4	3	0	6	7	0	0	0	0	4
99	4/22/2013	01:00 PM	3	391	108	2	8	2	0	3	6	0	0	0	2	0
100	4/22/2013	02:00 PM	2	447	140	1	14	2	0	10	5	0	1	0	0	8
101	4/22/2013	03:00 PM	3	454	138	4	10	2	1	6	3	0	1	0	0	3
102	4/22/2013	04:00 PM	7	465	109	2	12	2	0	2	2	0	0	0	0	7
103	4/22/2013	05:00 PM	1	319	64	4	1	1	0	4	4	0	0	0	0	3
104	4/22/2013	06:00 PM	1	253	49	0	5	0	0	2	1	0	1	0	0	3
105	4/22/2013	07:00 PM	3	206	68	2	3	1	0	0	2	0	1	0	0	5
106	4/22/2013	08:00 PM	0	118	30	0	0	0	0	0	2	0	1	0	0	4
107	4/22/2013	09:00 PM	0	75	10	0	1	1	0	1	1	0	1	1	0	1
108	4/22/2013	10:00 PM	1	40	7	0	0	0	0	0	1	0	0	0	0	4
109	4/22/2013	11:00 PM	1	59	10	0	0	0	0	0	0	0	0	0	0	2
110	4/23/2013	12:00 AM	0	16	3	0	0	1	0	0	1	0	0	0	0	2
111	4/23/2013	01:00 AM	0	29	10	0	0	1	0	0	1	0	1	0	0	1
112	4/23/2013	02:00 AM	1	9	8	0	1	1	0	0	1	0	1	0	0	2
113	4/23/2013	03:00 AM	1	15	9	0	3	4	0	0	2	0	0	0	0	2
114	4/23/2013	04:00 AM	1	37	22	0	1	4	0	2	4	0	0	0	0	3
115	4/23/2013	05:00 AM	2	127	42	1	3	6	0	0	2	0	1	1	0	6
116	4/23/2013	06:00 AM	1	215	66	2	12	2	0	4	9	0	2	0	0	5
117	4/23/2013	07:00 AM	2	191	80	1	12	5	0	3	8	0	0	0	0	5
118	4/23/2013	08:00 AM	2	206	72	2	12	3	0	8	16	0	0	0	0	5
119	4/23/2013	09:00 AM	0	228	91	5	7	2	0	4	11	0	0	1	0	3
120	4/23/2013	10:00 AM	1	280	101	2	8	4	0	1	9	0	1	0	0	7
121	4/23/2013	11:00 AM	5	360	109	3	11	1	0	4	2	1	0	0	0	10
122	4/23/2013	12:00 PM	4	368	109	6	6	3	0	9	7	1	0	0	1	8
123	4/23/2013	01:00 PM	4	354	98	3	9	3	0	2	11	0	0	0	0	3
124	4/23/2013	02:00 PM	1	425	134	2	12	2	0	1	8	0	0	0	0	3
125	4/23/2013	03:00 PM	0	418	135	5	5	1	0	8	7	1	0	0	0	5
126	4/23/2013	04:00 PM	3	472	114	1	7	3	0	3	5	0	0	0	0	2
127	4/23/2013	05:00 PM	1	330	79	3	4	0	0	6	1	0	0	0	0	2
128	4/23/2013	06:00 PM	1	256	48	0	4	0	0	2	3	0	2	0	0	3
129	4/23/2013	07:00 PM	1	226	36	0	3	0	0	0	0	0	1	0	0	3
130	4/23/2013	08:00 PM	1	176	28	1	0	0	0	1	1	0	0	0	0	0
131	4/23/2013	09:00 PM	1	67	10	1	1	0	0	0	1	0	0	1	0	4
132	4/23/2013	10:00 PM	0	35	9	0	2	0	0	0	1	0	0	0	0	1

2p-5p Wednesday

TOTAL

1863

2p-5p Thursday

TOTAL

1783

133	4/23/2013	11:00 PM	0	68	13	0	1	1	0	0	1	0	0	0	2
134	4/24/2013	12:00 AM	0	14	7	0	0	0	0	0	1	0	0	0	1
135	4/24/2013	01:00 AM	0	21	5	0	0	1	0	0	0	0	1	0	0
136	4/24/2013	02:00 AM	0	20	4	0	0	2	0	0	3	0	0	0	1
137	4/24/2013	03:00 AM	0	13	4	1	2	1	0	1	4	0	0	0	3
138	4/24/2013	04:00 AM	0	41	16	0	3	2	0	0	4	0	0	0	8
139	4/24/2013	05:00 AM	0	112	32	1	4	2	0	1	2	0	1	1	1
140	4/24/2013	06:00 AM	1	226	37	3	9	3	0	5	8	0	2	0	3
141	4/24/2013	07:00 AM	1	150	72	3	4	2	0	4	16	0	0	0	4
142	4/24/2013	08:00 AM	0	171	89	1	8	4	0	3	9	0	0	0	7
143	4/24/2013	09:00 AM	1	212	83	4	5	2	0	1	11	0	0	0	1
144	4/24/2013	10:00 AM	0	293	127	1	17	1	0	6	16	0	0	0	8
145	4/24/2013	11:00 AM	0	365	136	2	8	6	0	3	15	0	0	0	9
146	4/24/2013	12:00 PM	0	389	126	6	12	1	0	4	7	0	0	0	3
147	4/24/2013	01:00 PM	0	357	109	3	12	1	0	2	12	0	0	0	2
148	4/24/2013	02:00 PM	1	414	129	0	11	3	0	5	6	1	0	0	4
149	4/24/2013	03:00 PM	1	458	111	3	10	1	0	5	7	0	0	0	3
150	4/24/2013	04:00 PM	2	461	112	3	7	1	0	3	4	0	0	0	8
151	4/24/2013	05:00 PM	1	360	104	2	5	2	0	2	2	0	0	0	5
152	4/24/2013	06:00 PM	1	263	65	0	8	2	0	1	3	0	1	0	1
153	4/24/2013	07:00 PM	0	243	59	0	1	0	0	2	3	0	1	0	4
154	4/24/2013	08:00 PM	0	140	37	2	0	0	0	0	1	0	0	0	4
155	4/24/2013	09:00 PM	0	63	22	0	0	2	0	0	0	0	1	1	3
156	4/24/2013	10:00 PM	0	38	8	0	3	0	0	0	1	0	0	0	0
157	4/24/2013	11:00 PM	1	54	9	1	0	0	0	0	1	0	0	0	0
158	4/25/2013	12:00 AM	0	21	4	0	0	0	0	0	1	0	0	0	1
159	4/25/2013	01:00 AM	0	21	7	0	0	0	0	0	2	0	2	0	0
160	4/25/2013	02:00 AM	0	29	8	0	0	1	0	1	2	0	0	0	3
161	4/25/2013	03:00 AM	0	19	8	0	0	2	0	0	3	0	1	0	3
162	4/25/2013	04:00 AM	0	34	17	1	5	4	0	1	1	0	0	0	4
163	4/25/2013	05:00 AM	0	129	39	3	2	6	0	0	3	0	1	1	3
164	4/25/2013	06:00 AM	0	228	54	4	8	2	0	4	7	0	2	0	1
165	4/25/2013	07:00 AM	1	184	66	4	8	3	0	3	7	0	1	0	2
166	4/25/2013	08:00 AM	1	199	86	1	6	1	0	10	12	1	0	0	0
167	4/25/2013	09:00 AM	3	266	104	3	6	6	0	1	8	0	0	0	7
168	4/25/2013	10:00 AM	2	291	117	6	9	5	0	6	5	0	0	0	5

2p-5p Friday  
TOTAL  
1774

169	4/25/2013	11:00 AM	1	395	107	3	13	4	0	5	9	1	1	0	0	13	
170	4/25/2013	12:00 PM	1	420	131	1	11	3	0	5	8	0	0	0	0	8	
171	4/25/2013	01:00 PM	5	433	104	1	6	4	0	4	6	0	0	0	0	12	
172	4/25/2013	02:00 PM	2	509	103	3	19	3	0	7	12	1	0	0	0	6	2p-5p Saturday
173	4/25/2013	03:00 PM	1	493	127	3	18	0	0	2	3	0	0	0	1	5	TOTAL
174	4/25/2013	04:00 PM	4	540	114	1	7	1	0	2	3	0	0	0	0	7	1997
175	4/25/2013	05:00 PM	0	440	86	3	8	2	0	1	3	1	0	0	0	5	
176	4/25/2013	06:00 PM	2	332	61	1	3	0	0	3	4	0	0	0	0	3	
177	4/25/2013	07:00 PM	1	276	61	0	3	1	0	0	3	0	1	0	0	2	
178	4/25/2013	08:00 PM	0	192	33	0	1	0	0	0	2	0	0	0	0	1	
179	4/25/2013	09:00 PM	0	73	8	1	1	0	0	0	1	0	2	0	0	1	
180	4/25/2013	10:00 PM	0	57	6	0	0	0	0	0	1	0	1	0	0	1	
181	4/25/2013	11:00 PM	1	57	6	0	0	0	0	0	1	0	0	0	0	2	
182	4/26/2013	12:00 AM	0	25	5	0	0	0	0	0	1	0	0	0	0	0	
183	4/26/2013	01:00 AM	0	35	6	0	0	0	0	0	0	0	1	0	0	3	
184	4/26/2013	02:00 AM	0	16	5	0	0	0	0	0	2	0	0	0	0	0	
185	4/26/2013	03:00 AM	0	21	4	0	2	3	0	1	2	0	0	0	0	4	
186	4/26/2013	04:00 AM	0	32	14	0	3	3	0	0	3	0	0	0	0	4	
187	4/26/2013	05:00 AM	1	122	32	0	4	4	0	2	0	0	1	0	0	2	
188	4/26/2013	06:00 AM	0	209	58	0	14	1	0	2	6	0	2	0	1	2	
189	4/26/2013	07:00 AM	2	167	70	1	10	4	0	9	9	0	0	0	0	11	
190	4/26/2013	08:00 AM	0	209	80	2	11	1	0	8	5	0	0	0	0	6	
191	4/26/2013	09:00 AM	2	307	109	2	10	2	0	3	7	0	0	0	0	8	
192	4/26/2013	10:00 AM	0	411	127	2	12	2	0	6	8	0	0	0	0	10	
193	4/26/2013	11:00 AM	4	400	109	3	13	3	1	5	11	0	0	1	0	18	
194	4/26/2013	12:00 PM	2	457	146	4	10	4	0	8	7	0	0	0	0	5	
195	4/26/2013	01:00 PM	2	482	121	2	11	2	0	6	2	0	0	0	0	4	
196	4/26/2013	02:00 PM	2	524	115	4	16	2	0	7	4	0	0	0	0	7	2p-5p Sunday
197	4/26/2013	03:00 PM	3	571	132	2	7	0	0	12	4	1	0	0	0	11	TOTAL
198	4/26/2013	04:00 PM	3	534	123	3	11	3	0	3	1	0	0	0	0	16	2121
199	4/26/2013	05:00 PM	0	401	92	1	1	1	0	1	1	0	0	0	0	2	
200	4/26/2013	06:00 PM	0	357	83	1	4	0	0	0	1	0	2	1	0	4	
201	4/26/2013	07:00 PM	0	296	61	0	6	0	0	1	4	0	1	0	0	2	
202	4/26/2013	08:00 PM	3	218	46	0	2	1	0	2	3	0	0	0	0	1	
203	4/26/2013	09:00 PM	2	119	28	0	2	1	0	1	1	0	1	0	0	4	
204	4/26/2013	10:00 PM	0	96	17	0	1	0	0	0	1	0	0	0	0	2	

205	4/26/2013	11:00 PM	1	93	21	0	0	0	0	0	0	0	0	0	1
206	4/27/2013	12:00 AM	0	49	8	0	1	0	0	0	0	0	0	0	1
207	4/27/2013	01:00 AM	0	30	7	0	1	1	0	0	0	0	0	0	0
208	4/27/2013	02:00 AM	0	25	2	0	0	0	0	0	0	1	0	0	0
209	4/27/2013	03:00 AM	0	24	4	0	0	0	0	0	0	0	0	0	0
210	4/27/2013	04:00 AM	0	28	11	0	3	1	0	0	1	0	0	0	2
211	4/27/2013	05:00 AM	0	66	26	2	0	1	0	1	2	0	1	0	0
212	4/27/2013	06:00 AM	0	120	36	1	3	1	0	1	3	0	1	0	2
213	4/27/2013	07:00 AM	1	144	33	1	3	1	0	0	0	0	0	0	2
214	4/27/2013	08:00 AM	0	215	74	1	5	0	0	0	1	0	0	0	3
215	4/27/2013	09:00 AM	1	292	89	2	3	1	0	3	1	0	0	0	2
216	4/27/2013	10:00 AM	1	354	109	1	7	0	0	0	0	0	0	0	3
217	4/27/2013	11:00 AM	1	433	94	2	3	1	0	3	2	0	1	0	10
218	4/27/2013	12:00 PM	4	493	130	3	3	0	0	7	2	0	0	0	6
219	4/27/2013	01:00 PM	0	489	106	1	6	1	0	2	0	0	1	0	2
220	4/27/2013	02:00 PM	3	528	115	3	5	2	0	4	1	0	0	0	8
221	4/27/2013	03:00 PM	0	413	94	2	7	2	0	1	0	0	0	0	7
222	4/27/2013	04:00 PM	1	477	76	3	7	1	0	0	0	0	0	0	4
223	4/27/2013	05:00 PM	2	411	108	2	1	0	0	0	2	0	0	0	1
224	4/27/2013	06:00 PM	3	323	77	0	1	1	0	2	1	0	0	0	7
225	4/27/2013	07:00 PM	2	296	70	1	1	1	0	1	1	0	0	0	5
226	4/27/2013	08:00 PM	1	231	47	0	2	1	0	0	1	0	0	0	2
227	4/27/2013	09:00 PM	0	119	28	0	1	0	0	0	1	0	0	0	4
228	4/27/2013	10:00 PM	0	105	17	0	1	0	0	0	2	0	0	0	1
229	4/27/2013	11:00 PM	1	74	18	1	0	0	0	0	0	0	0	0	2
230	4/28/2013	12:00 AM	0	32	10	0	0	0	0	0	0	0	0	0	2
231	4/28/2013	01:00 AM	0	30	1	0	0	0	0	0	0	0	0	0	3
232	4/28/2013	02:00 AM	0	11	3	0	0	0	0	0	0	0	0	0	3
233	4/28/2013	03:00 AM	0	24	1	0	0	0	0	0	0	0	0	0	2
234	4/28/2013	04:00 AM	0	23	4	0	1	0	0	0	0	0	0	0	1
235	4/28/2013	05:00 AM	0	25	3	0	1	0	0	0	0	0	0	0	0
236	4/28/2013	06:00 AM	0	69	15	0	4	0	0	0	0	0	0	0	1
237	4/28/2013	07:00 AM	0	93	23	0	0	2	0	2	3	0	0	0	3
238	4/28/2013	08:00 AM	0	175	38	0	4	0	0	0	0	0	0	0	1
239	4/28/2013	09:00 AM	0	240	67	1	4	0	0	0	0	0	0	0	1
240	4/28/2013	10:00 AM	2	220	54	0	4	0	0	0	3	0	0	0	6

2p-5p Monday  
TOTAL  
1764

241	4/28/2013	11:00 AM	4	297	91	0	2	0	0	0	3	0	0	0	1	1
242	4/28/2013	12:00 PM	3	394	115	1	4	0	0	1	1	0	0	1	0	2
243	4/28/2013	01:00 PM	4	396	82	1	2	0	0	1	3	0	0	0	0	1
244	4/28/2013	02:00 PM	0	398	76	0	3	1	0	3	1	1	0	0	0	2
245	4/28/2013	03:00 PM	5	390	91	2	2	2	0	1	1	0	0	0	0	4
246	4/28/2013	04:00 PM	2	365	81	1	7	1	0	2	1	0	0	0	0	4
247	4/28/2013	05:00 PM	3	268	50	0	4	4	0	1	2	0	0	0	0	5
248	4/28/2013	06:00 PM	1	159	37	0	4	2	0	0	0	0	0	0	0	6
249	4/28/2013	07:00 PM	0	145	36	0	3	0	0	1	1	0	0	0	0	4
250	4/28/2013	08:00 PM	1	107	24	0	1	0	0	0	1	0	0	0	0	3
251	4/28/2013	09:00 PM	0	62	7	0	0	0	0	0	1	0	0	0	0	3
252	4/28/2013	10:00 PM	0	28	6	0	0	0	0	0	0	0	0	0	0	4
253	4/28/2013	11:00 PM	0	26	2	0	0	0	0	0	1	0	0	0	0	1
254	4/29/2013	12:00 AM	0	13	2	0	0	0	0	0	1	0	0	0	0	0
255	4/29/2013	01:00 AM	0	17	1	0	0	1	0	0	1	0	0	0	0	1
256	4/29/2013	02:00 AM	0	14	3	0	0	2	0	0	0	0	0	0	0	0
257	4/29/2013	03:00 AM	0	15	3	0	2	1	0	0	4	0	0	0	0	4
258	4/29/2013	04:00 AM	1	36	14	1	4	5	0	0	0	0	0	0	0	3
259	4/29/2013	05:00 AM	0	96	24	1	2	4	0	3	2	0	0	0	0	1
260	4/29/2013	06:00 AM	2	219	57	1	12	3	1	2	4	0	0	0	0	4
261	4/29/2013	07:00 AM	4	163	70	0	6	4	0	7	10	0	1	0	0	5
262	4/29/2013	08:00 AM	0	188	54	3	7	5	0	5	8	0	1	0	1	6

2p-5p Tuesday  
TOTAL  
1447

<b>ADT</b>	28	5115	1388	29	106	32	1	44	71	2	6	1	1	92
		Pass Cars												
			6530											
												Trucks	TOTAL	
												294	6916	
												4.3%	1.3%	

2p-5p Max  
2p-5p Min  
2190  
1407

\*  
excludes Not  
Classified  
\* Not  
Classified



I-20 Westbound OFF Ramp Northbound @ Garrett Rd

Start Date: 4/18/2013

Start Time: 10:00:00 AM

Site Code: 1204181341

Station ID:

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	4/18/2013	10:00 AM	0	60	25	8	4	0	0	0	2	0	0	0	0	0
2	4/18/2013	11:00 AM	1	76	14	7	6	1	0	0	2	0	0	0	0	0
3	4/18/2013	12:00 PM	1	58	21	1	5	1	0	0	1	0	0	0	0	0
4	4/18/2013	01:00 PM	0	53	14	5	3	0	0	0	2	0	0	0	0	0
5	4/18/2013	02:00 PM	0	56	20	10	4	0	0	0	0	0	0	0	0	0
6	4/18/2013	03:00 PM	0	26	4	43	2	0	0	0	0	0	0	0	0	0
7	4/18/2013	04:00 PM	1	29	6	34	5	0	0	0	0	0	0	0	0	0
8	4/18/2013	05:00 PM	2	10	3	29	0	0	0	0	0	0	0	0	0	0
9	4/18/2013	06:00 PM	3	17	0	20	0	0	0	0	1	0	0	0	0	0
10	4/18/2013	07:00 PM	1	5	2	16	0	0	0	0	0	0	0	0	0	0
11	4/18/2013	08:00 PM	1	5	0	12	0	0	0	0	0	0	0	0	0	0
12	4/18/2013	09:00 PM	0	6	2	8	0	0	0	0	0	0	0	0	0	0
13	4/18/2013	10:00 PM	0	3	0	2	1	0	0	0	0	0	0	0	0	0
14	4/18/2013	11:00 PM	2	0	0	4	0	0	0	0	0	0	0	0	0	0
15	4/19/2013	12:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0
16	4/19/2013	01:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0
17	4/19/2013	02:00 AM	1	2	0	4	1	0	0	0	0	0	0	0	0	0
18	4/19/2013	03:00 AM	0	2	0	5	0	0	0	0	0	0	0	0	0	0
19	4/19/2013	04:00 AM	0	3	3	12	0	0	0	0	0	0	0	0	0	0
20	4/19/2013	05:00 AM	1	13	4	22	1	0	0	0	0	0	0	0	0	0
21	4/19/2013	06:00 AM	3	20	8	35	1	0	0	0	0	0	0	0	0	0
22	4/19/2013	07:00 AM	1	22	2	40	0	0	0	0	0	0	0	0	0	0
23	4/19/2013	08:00 AM	0	23	7	42	3	1	0	0	0	0	0	0	0	0
24	4/19/2013	09:00 AM	1	54	12	43	2	0	0	0	0	0	0	0	0	0
25	4/19/2013	10:00 AM	1	50	14	66	2	0	0	1	0	0	0	0	0	1
26	4/19/2013	11:00 AM	0	42	7	59	0	0	0	0	0	0	0	0	0	0

2p-5p Saturday  
TOTAL  
240



63	4/21/2013	12:00 AM	0	2	2	8	0	0	0	0	0	0	0	0	0
64	4/21/2013	01:00 AM	0	0	1	4	0	0	0	0	0	0	0	0	0
65	4/21/2013	02:00 AM	0	1	1	2	0	0	0	0	0	0	0	0	0
66	4/21/2013	03:00 AM	0	3	0	4	0	0	0	0	0	0	0	0	0
67	4/21/2013	04:00 AM	0	0	0	5	0	0	0	0	0	0	0	0	0
68	4/21/2013	05:00 AM	1	0	0	3	0	0	0	0	0	0	0	0	0
69	4/21/2013	06:00 AM	0	3	1	14	0	0	0	0	0	0	0	0	0
70	4/21/2013	07:00 AM	0	3	2	17	0	0	0	0	0	0	0	0	0
71	4/21/2013	08:00 AM	0	3	3	16	0	0	0	0	0	0	0	0	0
72	4/21/2013	09:00 AM	0	32	14	3	2	0	0	0	0	0	0	0	0
73	4/21/2013	10:00 AM	1	61	21	3	3	0	0	0	0	0	0	0	1
74	4/21/2013	11:00 AM	1	82	42	1	6	0	0	0	0	0	0	0	0
75	4/21/2013	12:00 PM	0	77	29	1	7	0	0	0	0	0	0	0	0
76	4/21/2013	01:00 PM	2	78	31	0	1	0	0	0	1	0	0	0	0
77	4/21/2013	02:00 PM	0	70	30	1	4	1	0	0	2	0	0	0	0
78	4/21/2013	03:00 PM	1	86	21	0	6	0	0	0	0	0	0	0	0
79	4/21/2013	04:00 PM	0	78	24	3	6	0	0	0	0	0	0	0	0
80	4/21/2013	05:00 PM	0	45	10	3	2	0	0	0	0	0	0	0	0
81	4/21/2013	06:00 PM	0	35	5	13	0	0	0	0	0	0	0	0	0
82	4/21/2013	07:00 PM	0	20	8	5	0	0	0	0	1	0	0	0	0
83	4/21/2013	08:00 PM	0	13	7	7	0	0	0	0	0	0	0	0	0
84	4/21/2013	09:00 PM	1	13	3	4	1	0	0	0	0	0	0	0	0
85	4/21/2013	10:00 PM	0	13	1	2	0	0	0	0	0	0	0	0	0
86	4/21/2013	11:00 PM	0	6	3	2	0	0	0	0	0	0	0	0	0
87	4/22/2013	12:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0
88	4/22/2013	01:00 AM	0	1	0	2	0	1	0	0	0	0	0	0	0
89	4/22/2013	02:00 AM	0	2	1	2	0	0	0	0	0	0	0	0	0
90	4/22/2013	03:00 AM	0	6	6	2	1	0	0	0	0	0	0	0	0
91	4/22/2013	04:00 AM	0	8	9	1	1	0	0	0	1	0	0	0	0
92	4/22/2013	05:00 AM	0	25	11	7	0	0	0	0	4	0	0	0	0
93	4/22/2013	06:00 AM	0	49	13	3	3	1	0	0	2	0	0	0	0
94	4/22/2013	07:00 AM	0	29	10	1	5	0	0	0	2	0	0	0	0
95	4/22/2013	08:00 AM	0	49	12	1	5	0	0	0	0	0	0	1	0
96	4/22/2013	09:00 AM	1	50	23	17	5	0	0	0	4	0	0	0	0
97	4/22/2013	10:00 AM	0	59	9	38	2	0	0	0	1	0	0	0	0
98	4/22/2013	11:00 AM	0	47	14	28	3	0	0	0	1	0	0	0	0

2p-5p Tuesday  
TOTAL  
333

99	4/22/2013	12:00 PM	2	43	12	20	6	0	0	0	1	0	0	0	0	0
100	4/22/2013	01:00 PM	1	26	8	32	0	0	0	0	0	0	0	0	0	0
101	4/22/2013	02:00 PM	1	41	10	30	0	0	0	0	0	0	0	0	0	0
102	4/22/2013	03:00 PM	0	33	9	21	3	0	0	0	0	0	0	0	0	0
103	4/22/2013	04:00 PM	0	36	2	41	1	0	0	0	0	0	0	0	0	1
104	4/22/2013	05:00 PM	1	25	8	40	0	0	0	0	0	0	0	0	0	0
105	4/22/2013	06:00 PM	0	11	6	27	1	0	0	0	0	0	0	0	0	2
106	4/22/2013	07:00 PM	1	12	5	16	1	0	0	0	0	0	0	0	0	0
107	4/22/2013	08:00 PM	0	14	4	7	1	0	0	0	0	0	0	0	0	0
108	4/22/2013	09:00 PM	0	7	4	8	1	0	0	0	0	0	0	0	0	0
109	4/22/2013	10:00 PM	0	2	0	4	0	0	0	0	0	0	0	0	0	0
110	4/22/2013	11:00 PM	0	1	0	4	0	0	0	0	0	0	0	0	0	0
111	4/23/2013	12:00 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	0
112	4/23/2013	01:00 AM	0	0	1	2	0	0	0	0	0	0	0	0	0	0
113	4/23/2013	02:00 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0
114	4/23/2013	03:00 AM	0	9	1	8	0	0	0	0	0	0	0	0	0	0
115	4/23/2013	04:00 AM	0	5	3	18	0	0	0	0	1	0	0	0	0	0
116	4/23/2013	05:00 AM	0	13	6	32	2	0	0	0	0	0	0	0	0	0
117	4/23/2013	06:00 AM	1	16	11	37	0	0	0	0	0	0	0	0	0	0
118	4/23/2013	07:00 AM	0	11	6	25	2	0	0	0	1	0	0	0	0	0
119	4/23/2013	08:00 AM	0	25	11	30	4	0	0	0	0	0	0	0	0	0
120	4/23/2013	09:00 AM	1	31	9	43	2	0	0	0	0	0	0	0	0	0
121	4/23/2013	10:00 AM	0	33	7	37	2	0	0	0	0	0	0	0	0	0
122	4/23/2013	11:00 AM	0	32	15	32	5	0	0	0	0	0	0	0	0	0
123	4/23/2013	12:00 PM	1	45	12	19	1	1	0	0	2	0	0	0	0	0
124	4/23/2013	01:00 PM	0	36	18	6	4	0	0	0	1	0	0	0	0	0
125	4/23/2013	02:00 PM	0	56	19	5	1	0	0	0	0	0	0	0	0	0
126	4/23/2013	03:00 PM	0	42	14	6	1	1	0	0	1	0	0	0	0	0
127	4/23/2013	04:00 PM	0	51	14	11	0	1	0	0	0	0	0	0	0	0
128	4/23/2013	05:00 PM	0	37	13	13	0	0	0	0	0	0	0	0	0	0
129	4/23/2013	06:00 PM	0	12	6	17	2	0	0	0	0	0	0	0	0	0
130	4/23/2013	07:00 PM	0	9	2	16	1	0	0	0	0	0	0	0	0	0
131	4/23/2013	08:00 PM	0	10	6	14	0	0	0	0	0	0	0	0	0	0
132	4/23/2013	09:00 PM	0	6	2	6	0	0	0	0	0	0	0	0	0	0
133	4/23/2013	10:00 PM	0	3	2	4	0	0	0	0	0	0	0	0	0	0
134	4/23/2013	11:00 PM	0	4	0	3	0	0	0	0	0	0	0	0	0	0

2p-5p Wednesday  
TOTAL  
229

2p-5p Thursday  
TOTAL  
223

135	4/24/2013	12:00 AM	0	3	0	2	0	0	0	0	0	0	0	0	0
136	4/24/2013	01:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0
137	4/24/2013	02:00 AM	0	2	1	3	0	0	0	0	0	0	0	0	0
138	4/24/2013	03:00 AM	0	6	5	3	0	0	0	1	0	0	0	0	0
139	4/24/2013	04:00 AM	0	14	6	0	0	0	0	2	0	0	0	0	0
140	4/24/2013	05:00 AM	1	27	13	2	2	1	0	3	0	0	0	0	0
141	4/24/2013	06:00 AM	0	46	20	5	3	1	0	2	0	0	0	0	0
142	4/24/2013	07:00 AM	0	25	8	3	2	0	0	1	0	0	0	0	0
143	4/24/2013	08:00 AM	1	40	13	3	3	2	0	1	0	0	0	0	0
144	4/24/2013	09:00 AM	0	50	18	2	5	0	0	1	0	0	0	0	0
145	4/24/2013	10:00 AM	2	60	25	6	7	2	0	0	0	0	0	0	0
146	4/24/2013	11:00 AM	0	57	21	0	8	0	0	3	0	0	0	0	0
147	4/24/2013	12:00 PM	0	56	19	0	5	0	0	1	0	0	0	0	0
148	4/24/2013	01:00 PM	0	47	11	0	4	0	0	3	0	0	0	0	0
149	4/24/2013	02:00 PM	0	74	25	0	4	0	0	0	0	0	0	0	0
150	4/24/2013	03:00 PM	0	54	24	1	4	0	0	1	0	0	0	0	0
151	4/24/2013	04:00 PM	0	52	15	1	5	1	0	0	0	0	0	0	0
152	4/24/2013	05:00 PM	0	45	13	0	3	0	0	1	0	0	0	0	0
153	4/24/2013	06:00 PM	0	22	11	0	3	0	0	3	0	0	0	0	0
154	4/24/2013	07:00 PM	0	19	10	1	3	0	0	0	0	0	0	0	0
155	4/24/2013	08:00 PM	0	15	6	0	0	0	0	1	0	0	0	0	0
156	4/24/2013	09:00 PM	0	9	4	0	0	0	0	1	0	0	0	0	0
157	4/24/2013	10:00 PM	0	8	0	0	0	0	0	1	0	0	0	0	0
158	4/24/2013	11:00 PM	0	2	2	0	0	0	0	1	0	0	0	0	0
159	4/25/2013	12:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
160	4/25/2013	01:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
161	4/25/2013	02:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0
162	4/25/2013	03:00 AM	0	6	6	1	1	0	0	0	0	0	0	0	0
163	4/25/2013	04:00 AM	0	6	6	3	0	0	0	2	0	0	0	0	0
164	4/25/2013	05:00 AM	1	31	11	1	0	1	0	1	0	0	0	0	0
165	4/25/2013	06:00 AM	0	36	19	2	1	0	0	4	0	0	0	0	0
166	4/25/2013	07:00 AM	0	41	20	0	3	0	0	3	0	0	0	0	0
167	4/25/2013	08:00 AM	1	46	19	3	1	0	0	1	0	0	0	0	0
168	4/25/2013	09:00 AM	0	60	22	0	0	0	1	0	0	0	0	0	0
169	4/25/2013	10:00 AM	1	61	22	1	1	0	0	2	0	0	0	0	0
170	4/25/2013	11:00 AM	0	53	26	2	5	1	0	1	0	0	0	0	0

2p-5p Friday  
TOTAL  
261

171	4/25/2013	12:00 PM	0	54	18	0	4	0	0	0	1	0	0	0	0
172	4/25/2013	01:00 PM	1	68	20	0	7	0	0	0	3	0	0	0	0
173	4/25/2013	02:00 PM	1	65	23	0	2	1	0	0	1	0	0	0	0
174	4/25/2013	03:00 PM	0	61	30	0	5	0	0	0	2	0	0	0	1
175	4/25/2013	04:00 PM	0	72	26	2	4	0	0	1	0	0	0	0	1
176	4/25/2013	05:00 PM	0	52	14	1	7	0	0	0	0	0	0	0	0
177	4/25/2013	06:00 PM	0	37	17	0	2	0	0	1	0	0	0	0	0
178	4/25/2013	07:00 PM	0	31	15	0	2	0	0	0	1	0	0	0	0
179	4/25/2013	08:00 PM	0	25	7	1	1	0	0	1	0	0	0	0	0
180	4/25/2013	09:00 PM	0	13	4	1	5	0	0	0	1	0	0	0	0
181	4/25/2013	10:00 PM	0	4	2	0	0	0	0	0	1	0	0	0	0
182	4/25/2013	11:00 PM	0	5	1	0	0	0	0	0	1	0	0	0	0
183	4/26/2013	12:00 AM	0	1	1	0	0	0	0	0	1	0	0	0	0
184	4/26/2013	01:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
185	4/26/2013	02:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0
186	4/26/2013	03:00 AM	0	9	4	0	0	0	0	0	0	0	0	0	0
187	4/26/2013	04:00 AM	0	11	9	0	0	0	0	0	2	0	0	0	0
188	4/26/2013	05:00 AM	0	28	16	1	0	0	0	0	2	0	0	0	0
189	4/26/2013	06:00 AM	0	43	13	1	3	1	0	1	2	0	0	0	0
190	4/26/2013	07:00 AM	2	32	18	0	1	1	0	0	3	0	0	0	0
191	4/26/2013	08:00 AM	0	48	21	2	2	0	0	0	2	0	0	0	0
192	4/26/2013	09:00 AM	0	68	20	0	1	0	0	0	1	0	0	0	0
193	4/26/2013	10:00 AM	0	75	19	0	2	0	0	0	4	0	0	0	0
194	4/26/2013	11:00 AM	0	84	25	0	5	0	0	0	1	0	0	0	0
195	4/26/2013	12:00 PM	0	84	27	0	11	0	0	1	1	0	0	0	0
196	4/26/2013	01:00 PM	0	67	21	1	1	0	0	1	0	0	0	0	0
197	4/26/2013	02:00 PM	4	73	21	1	2	1	0	0	0	0	0	0	0
198	4/26/2013	03:00 PM	1	91	30	0	4	1	0	0	0	0	0	0	0
199	4/26/2013	04:00 PM	1	107	34	0	7	1	0	1	0	0	0	0	0
200	4/26/2013	05:00 PM	0	88	33	0	3	0	0	0	1	0	0	0	0
201	4/26/2013	06:00 PM	0	59	21	0	8	0	0	0	1	0	0	0	0
202	4/26/2013	07:00 PM	0	40	8	0	3	0	0	0	0	0	0	0	0
203	4/26/2013	08:00 PM	0	25	7	0	1	0	0	0	0	0	0	0	0
204	4/26/2013	09:00 PM	0	22	5	0	0	0	0	0	0	0	0	0	0
205	4/26/2013	10:00 PM	0	13	5	0	1	0	0	0	1	0	0	0	0
206	4/26/2013	11:00 PM	0	12	1	0	0	1	0	0	0	0	0	0	0

2p-5p Saturday  
TOTAL  
298

2p-5p Sunday  
TOTAL  
380

207	4/27/2013	12:00 AM	0	4	0	0	0	0	0	0	0	0	0	0	0
208	4/27/2013	01:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0
209	4/27/2013	02:00 AM	0	3	1	0	0	0	0	0	0	0	0	0	0
210	4/27/2013	03:00 AM	0	7	4	0	0	0	0	0	0	0	0	0	0
211	4/27/2013	04:00 AM	0	3	3	0	1	0	0	1	0	0	0	0	0
212	4/27/2013	05:00 AM	0	11	2	1	0	0	0	0	0	0	0	0	0
213	4/27/2013	06:00 AM	0	17	6	1	3	0	0	1	0	0	0	0	0
214	4/27/2013	07:00 AM	0	37	11	0	1	0	0	0	0	0	0	0	0
215	4/27/2013	08:00 AM	1	61	25	0	2	0	0	0	0	0	0	0	0
216	4/27/2013	09:00 AM	0	118	26	0	2	0	0	1	0	0	0	0	0
217	4/27/2013	10:00 AM	1	117	32	0	5	0	0	1	0	0	0	0	0
218	4/27/2013	11:00 AM	7	120	35	2	4	0	0	2	0	0	0	0	0
219	4/27/2013	12:00 PM	0	113	31	0	4	0	0	0	0	0	0	0	0
220	4/27/2013	01:00 PM	0	83	33	0	4	0	0	0	0	0	0	0	1
221	4/27/2013	02:00 PM	0	84	26	1	3	0	0	0	0	0	0	0	0
222	4/27/2013	03:00 PM	0	67	19	1	3	0	0	0	0	0	0	0	0
223	4/27/2013	04:00 PM	0	66	27	0	2	1	0	0	0	0	0	0	0
224	4/27/2013	05:00 PM	1	72	27	1	5	0	0	0	0	0	0	0	0
225	4/27/2013	06:00 PM	0	58	24	1	4	0	0	1	0	0	0	0	0
226	4/27/2013	07:00 PM	0	37	16	0	3	0	0	0	0	0	0	0	0
227	4/27/2013	08:00 PM	0	27	7	0	0	0	0	1	0	0	0	0	0
228	4/27/2013	09:00 PM	0	28	9	0	0	0	0	1	0	0	0	0	0
229	4/27/2013	10:00 PM	0	18	4	1	1	1	0	0	0	0	0	0	0
230	4/27/2013	11:00 PM	0	20	4	1	0	0	0	0	0	0	0	0	0
231	4/28/2013	12:00 AM	0	10	2	0	0	0	0	0	0	0	0	0	0
232	4/28/2013	01:00 AM	0	6	3	0	0	0	0	0	0	0	0	0	0
233	4/28/2013	02:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
234	4/28/2013	03:00 AM	0	6	0	0	0	0	0	0	0	0	0	0	0
235	4/28/2013	04:00 AM	0	2	3	0	0	0	0	0	0	0	0	0	0
236	4/28/2013	05:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0
237	4/28/2013	06:00 AM	0	6	2	0	0	0	0	1	0	0	0	0	0
238	4/28/2013	07:00 AM	0	8	2	1	3	0	0	1	0	0	0	0	0
239	4/28/2013	08:00 AM	0	13	14	0	3	0	0	0	0	0	0	0	0
240	4/28/2013	09:00 AM	1	26	17	0	1	0	0	1	1	0	0	0	0
241	4/28/2013	10:00 AM	0	61	24	0	5	0	0	0	0	0	0	0	0
242	4/28/2013	11:00 AM	0	93	37	1	5	0	0	0	0	0	0	0	0

2p-5p Monday  
TOTAL  
300

243	4/28/2013	12:00 PM	0	86	27	0	5	0	0	1	0	0	0	0	0	0				
244	4/28/2013	01:00 PM	0	94	29	0	2	0	0	1	0	0	0	0	0	0				
245	4/28/2013	02:00 PM	0	77	31	0	4	0	0	0	1	0	0	0	0	0	2p-5p	Tuesday		
246	4/28/2013	03:00 PM	0	85	29	1	5	0	0	0	1	0	0	0	0	0	TOTAL			
247	4/28/2013	04:00 PM	2	64	16	0	6	0	0	0	0	0	0	0	0	0	323			
248	4/28/2013	05:00 PM	0	56	14	0	1	0	0	0	3	0	0	0	0	0				
249	4/28/2013	06:00 PM	0	35	12	0	1	0	0	1	1	0	0	0	0	0				
250	4/28/2013	07:00 PM	1	36	6	0	1	0	0	0	1	0	0	0	0	0				
251	4/28/2013	08:00 PM	0	23	4	0	0	0	0	0	0	0	0	0	0	0				
252	4/28/2013	09:00 PM	1	12	6	0	0	0	0	0	0	0	0	0	0	0				
253	4/28/2013	10:00 PM	0	5	1	0	0	0	0	0	0	0	0	0	0	0				
254	4/28/2013	11:00 PM	0	9	0	0	0	0	0	0	0	0	0	0	0	0				
255	4/29/2013	12:00 AM	0	6	4	0	0	0	0	0	1	0	0	0	0	0				
256	4/29/2013	01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
257	4/29/2013	02:00 AM	0	3	2	0	0	0	0	0	0	0	0	0	0	0				
258	4/29/2013	03:00 AM	0	7	5	0	0	0	0	0	1	0	0	0	0	0				
259	4/29/2013	04:00 AM	0	12	7	0	0	0	0	0	3	0	0	0	0	0				
260	4/29/2013	05:00 AM	1	32	16	0	0	2	0	0	4	0	0	0	0	0				
261	4/29/2013	06:00 AM	1	50	16	0	4	1	0	0	1	0	0	0	0	0				
262	4/29/2013	07:00 AM	0	29	18	2	3	0	0	0	2	0	0	0	0	0				
263	4/29/2013	08:00 AM	0	46	13	4	2	1	0	0	2	0	0	0	0	0				
<b>ADT</b>			10	761	248	226	40	3	0	2	13	0	0	0	0	1	2p-5p	2p-5p		
				Pass Cars													Trucks	<b>TOTAL</b>	Max	Min
				1019													283	<b>1303</b>	380	223
																	21.7%	0.1%		
																	exclude			
																	s Not	* Not		
																	Classed	Classified		



I-20 Westbound OFF Ramp Southbound @ Garrett Rd

Start Date: 4/18/2013

Start Time: 10:00:00 AM

Site Code: 1204181342

Station ID:

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	4/18/2013	10:00 AM	0	24	12	2	1	0	0	0	1	0	0	0	0	0
2	4/18/2013	11:00 AM	0	16	7	2	1	0	0	0	0	0	0	0	0	0
3	4/18/2013	12:00 PM	0	12	5	0	2	0	0	0	2	0	0	0	0	0
4	4/18/2013	01:00 PM	0	17	4	2	0	0	0	0	1	0	0	0	0	0
5	4/18/2013	02:00 PM	1	17	8	1	2	0	0	0	0	0	0	0	0	0
6	4/18/2013	03:00 PM	0	11	5	0	0	0	0	0	0	0	0	0	0	0
7	4/18/2013	04:00 PM	0	11	8	0	0	0	0	0	0	0	0	0	0	0
8	4/18/2013	05:00 PM	0	10	5	2	0	0	0	0	3	0	0	0	0	0
9	4/18/2013	06:00 PM	0	9	2	0	0	0	0	0	0	0	0	0	0	0
10	4/18/2013	07:00 PM	0	4	1	1	0	0	0	0	1	0	0	0	0	0
11	4/18/2013	08:00 PM	0	6	0	0	1	2	0	0	0	0	0	0	0	0
12	4/18/2013	09:00 PM	0	4	3	1	0	0	0	0	0	0	0	0	0	0
13	4/18/2013	10:00 PM	2	4	1	0	0	1	0	0	0	0	0	0	0	0
14	4/18/2013	11:00 PM	0	4	1	0	0	0	0	0	1	0	0	0	0	0
15	4/19/2013	12:00 AM	0	1	2	1	0	0	0	0	1	0	0	0	0	2
16	4/19/2013	01:00 AM	0	1	1	0	0	0	0	0	2	0	0	0	0	0
17	4/19/2013	02:00 AM	0	3	1	1	0	0	0	0	0	0	0	0	0	0
18	4/19/2013	03:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0
19	4/19/2013	04:00 AM	0	8	2	0	0	1	0	0	2	0	0	0	0	0
20	4/19/2013	05:00 AM	0	5	4	2	0	0	0	0	0	0	0	0	1	0
21	4/19/2013	06:00 AM	0	6	4	2	1	0	0	0	0	0	0	0	0	0
22	4/19/2013	07:00 AM	1	13	11	4	1	0	0	0	0	0	0	0	0	0
23	4/19/2013	08:00 AM	0	23	11	0	1	0	0	0	1	0	0	0	0	0
24	4/19/2013	09:00 AM	0	8	11	0	0	0	0	0	0	0	0	0	0	0
25	4/19/2013	10:00 AM	0	21	9	1	1	0	0	0	0	0	0	0	0	0

2p-5p Saturday  
TOTAL  
64

26	4/19/2013	11:00 AM	3	20	13	5	0	2	0	0	0	0	0	0	0
27	4/19/2013	12:00 PM	0	18	11	1	3	0	0	0	0	0	0	0	0
28	4/19/2013	01:00 PM	0	19	12	1	1	0	0	0	0	0	0	0	0
29	4/19/2013	02:00 PM	1	17	13	1	1	0	0	0	0	0	0	0	0
30	4/19/2013	03:00 PM	2	18	9	5	0	0	0	1	0	0	0	0	0
31	4/19/2013	04:00 PM	2	21	9	3	1	0	0	0	0	0	0	0	0
32	4/19/2013	05:00 PM	1	22	5	1	0	0	0	0	0	0	0	0	0
33	4/19/2013	06:00 PM	0	13	9	1	1	0	0	0	0	0	0	0	0
34	4/19/2013	07:00 PM	0	16	4	1	3	0	0	1	0	0	0	0	0
35	4/19/2013	08:00 PM	0	15	4	2	0	0	0	0	0	0	0	0	0
36	4/19/2013	09:00 PM	0	6	1	2	0	0	0	0	1	0	0	0	0
37	4/19/2013	10:00 PM	0	10	4	1	0	0	0	0	1	0	0	0	0
38	4/19/2013	11:00 PM	0	7	0	0	0	0	0	0	0	0	0	0	0
39	4/20/2013	12:00 AM	0	3	1	1	0	1	0	0	1	0	0	0	0
40	4/20/2013	01:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
41	4/20/2013	02:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
42	4/20/2013	03:00 AM	0	6	0	0	0	0	0	0	0	0	0	0	0
43	4/20/2013	04:00 AM	0	8	1	1	1	0	0	0	1	0	0	0	0
44	4/20/2013	05:00 AM	0	3	3	1	1	0	0	0	0	0	0	0	0
45	4/20/2013	06:00 AM	0	2	6	1	0	1	0	0	1	0	0	0	0
46	4/20/2013	07:00 AM	0	9	3	1	0	0	0	0	1	0	0	0	0
47	4/20/2013	08:00 AM	0	23	15	2	1	0	0	0	0	0	0	0	0
48	4/20/2013	09:00 AM	1	33	6	6	2	1	0	1	0	0	0	0	1
49	4/20/2013	10:00 AM	3	22	10	3	0	2	0	1	0	0	0	0	0
50	4/20/2013	11:00 AM	1	17	11	3	2	1	0	0	0	0	0	0	1
51	4/20/2013	12:00 PM	3	15	10	0	0	0	0	0	0	0	0	0	0
52	4/20/2013	01:00 PM	0	33	9	1	0	0	0	0	0	0	0	0	0
53	4/20/2013	02:00 PM	1	16	7	2	1	0	0	0	0	0	0	0	0
54	4/20/2013	03:00 PM	1	13	8	5	0	1	0	0	0	0	0	0	0
55	4/20/2013	04:00 PM	0	20	6	1	0	1	0	0	0	0	0	0	1
56	4/20/2013	05:00 PM	0	25	3	1	0	0	0	0	0	0	0	0	0
57	4/20/2013	06:00 PM	1	16	9	4	0	0	0	0	1	0	0	0	0
58	4/20/2013	07:00 PM	0	12	4	1	0	0	0	0	0	0	0	0	0
59	4/20/2013	08:00 PM	1	9	2	2	2	0	0	0	1	0	0	0	0
60	4/20/2013	09:00 PM	0	10	0	0	0	0	0	0	0	0	0	0	0
61	4/20/2013	10:00 PM	1	6	0	1	0	1	0	0	0	0	0	0	0

2p-5p Sunday  
TOTAL  
104

2p-5p Monday  
TOTAL  
84

62	4/20/2013	11:00 PM	0	4	1	0	3	0	0	0	0	0	0	0	0
63	4/21/2013	12:00 AM	0	7	1	0	0	1	0	0	0	0	0	0	0
64	4/21/2013	01:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0
65	4/21/2013	02:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0
66	4/21/2013	03:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0
67	4/21/2013	04:00 AM	0	6	1	0	0	0	0	0	0	0	0	0	0
68	4/21/2013	05:00 AM	0	2	0	0	0	0	0	1	0	0	0	0	0
69	4/21/2013	06:00 AM	0	5	2	0	0	0	0	0	0	0	0	0	0
70	4/21/2013	07:00 AM	0	8	5	0	0	0	0	0	0	0	0	0	0
71	4/21/2013	08:00 AM	1	11	7	1	0	0	0	0	0	0	0	0	1
72	4/21/2013	09:00 AM	1	23	15	3	3	0	0	1	0	0	0	0	1
73	4/21/2013	10:00 AM	0	23	9	1	1	0	0	0	0	0	0	0	0
74	4/21/2013	11:00 AM	0	23	2	3	0	1	0	1	0	0	0	0	0
75	4/21/2013	12:00 PM	1	34	11	1	3	0	0	0	0	0	0	0	0
76	4/21/2013	01:00 PM	0	30	6	0	0	1	0	0	0	0	0	0	0
77	4/21/2013	02:00 PM	0	29	8	0	0	0	0	0	0	0	0	0	0
78	4/21/2013	03:00 PM	0	15	13	0	0	2	0	0	0	0	0	0	0
79	4/21/2013	04:00 PM	1	27	7	2	1	2	1	0	0	0	0	0	0
80	4/21/2013	05:00 PM	0	14	3	0	0	0	0	0	0	0	0	0	0
81	4/21/2013	06:00 PM	1	18	5	0	1	1	1	0	0	0	0	0	0
82	4/21/2013	07:00 PM	0	10	7	0	3	0	0	0	0	0	0	0	1
83	4/21/2013	08:00 PM	0	8	1	0	0	0	0	0	0	0	0	0	1
84	4/21/2013	09:00 PM	0	8	1	0	0	0	0	1	0	0	0	0	0
85	4/21/2013	10:00 PM	0	4	3	0	1	0	0	0	0	0	0	0	0
86	4/21/2013	11:00 PM	0	4	1	0	0	0	0	0	0	0	0	0	0
87	4/22/2013	12:00 AM	0	0	0	1	3	0	0	0	0	0	0	0	0
88	4/22/2013	01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
89	4/22/2013	02:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
90	4/22/2013	03:00 AM	1	2	0	2	4	0	0	1	0	0	0	0	0
91	4/22/2013	04:00 AM	0	4	0	0	0	0	0	0	0	0	0	0	0
92	4/22/2013	05:00 AM	0	6	3	1	0	1	0	0	0	0	0	0	0
93	4/22/2013	06:00 AM	0	14	2	2	4	2	0	0	0	0	0	0	0
94	4/22/2013	07:00 AM	0	7	6	1	2	0	0	1	0	0	0	0	0
95	4/22/2013	08:00 AM	0	17	11	2	0	1	0	1	0	0	0	0	0
96	4/22/2013	09:00 AM	0	16	5	4	1	0	0	0	0	0	0	0	1
97	4/22/2013	10:00 AM	1	19	14	2	0	2	0	0	0	0	0	0	0

2p-5p Tuesday  
TOTAL  
108

98	4/22/2013	11:00 AM	0	7	16	0	0	0	0	0	0	0	0	0	0
99	4/22/2013	12:00 PM	0	16	8	0	0	1	0	0	0	0	0	0	0
100	4/22/2013	01:00 PM	0	12	5	2	4	2	0	0	1	0	0	0	1
101	4/22/2013	02:00 PM	1	19	7	5	0	0	0	0	2	0	0	0	0
102	4/22/2013	03:00 PM	1	29	9	2	4	1	0	0	0	0	0	0	0
103	4/22/2013	04:00 PM	1	15	2	5	4	0	1	0	0	0	0	0	1
104	4/22/2013	05:00 PM	3	9	5	12	0	3	0	0	0	0	0	0	0
105	4/22/2013	06:00 PM	0	4	1	7	0	0	0	0	0	0	0	0	1
106	4/22/2013	07:00 PM	0	14	1	2	0	0	0	0	0	0	0	0	0
107	4/22/2013	08:00 PM	0	14	4	1	0	0	0	0	0	0	0	0	0
108	4/22/2013	09:00 PM	0	8	1	1	0	2	0	1	0	0	0	1	0
109	4/22/2013	10:00 PM	0	4	0	0	2	1	0	0	0	0	0	0	0
110	4/22/2013	11:00 PM	0	1	1	1	0	0	0	0	1	0	0	0	0
111	4/23/2013	12:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
112	4/23/2013	01:00 AM	0	2	0	1	2	0	0	0	0	0	0	0	0
113	4/23/2013	02:00 AM	0	2	0	0	0	0	0	0	1	0	0	0	0
114	4/23/2013	03:00 AM	0	3	2	0	1	0	0	0	1	0	0	0	0
115	4/23/2013	04:00 AM	1	6	0	1	0	1	0	0	0	0	0	0	0
116	4/23/2013	05:00 AM	0	5	4	0	0	0	0	0	0	0	0	0	0
117	4/23/2013	06:00 AM	0	13	6	1	2	0	0	0	0	0	0	0	0
118	4/23/2013	07:00 AM	0	15	6	2	1	0	0	0	0	0	0	0	1
119	4/23/2013	08:00 AM	0	13	8	1	0	0	0	0	2	0	0	0	0
120	4/23/2013	09:00 AM	0	11	9	0	0	1	0	0	0	0	0	0	0
121	4/23/2013	10:00 AM	1	15	4	2	4	0	0	0	0	0	0	0	0
122	4/23/2013	11:00 AM	0	20	10	0	3	0	0	0	0	0	0	0	1
123	4/23/2013	12:00 PM	0	17	5	0	2	0	0	0	0	0	0	0	0
124	4/23/2013	01:00 PM	1	14	8	1	0	1	0	0	0	0	0	0	1
125	4/23/2013	02:00 PM	0	24	5	0	0	0	0	0	1	0	0	0	0
126	4/23/2013	03:00 PM	0	16	4	1	4	0	0	1	0	0	0	0	0
127	4/23/2013	04:00 PM	0	22	5	2	0	0	0	0	0	0	0	0	0
128	4/23/2013	05:00 PM	0	7	3	0	1	0	0	0	1	0	0	0	0
129	4/23/2013	06:00 PM	0	13	7	0	0	0	0	0	0	0	0	0	0
130	4/23/2013	07:00 PM	1	11	2	1	0	0	0	0	1	0	0	0	0
131	4/23/2013	08:00 PM	0	2	0	1	3	0	0	0	0	0	0	0	0
132	4/23/2013	09:00 PM	0	8	0	0	0	0	0	0	0	0	0	0	0
133	4/23/2013	10:00 PM	0	5	0	0	0	0	0	0	0	0	0	0	0

2p-5p Wednesday  
TOTAL  
109

2p-5p Thursday  
TOTAL  
85

134	4/23/2013	11:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
135	4/24/2013	12:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0
136	4/24/2013	01:00 AM	0	6	1	1	1	1	0	0	0	0	0	0	0
137	4/24/2013	02:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
138	4/24/2013	03:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0
139	4/24/2013	04:00 AM	1	3	2	1	1	1	0	0	0	0	0	0	0
140	4/24/2013	05:00 AM	0	9	0	0	3	0	0	0	1	0	0	0	0
141	4/24/2013	06:00 AM	0	8	8	0	1	1	0	0	0	0	0	0	0
142	4/24/2013	07:00 AM	0	10	5	0	1	1	0	0	1	0	0	0	0
143	4/24/2013	08:00 AM	1	14	10	0	3	1	0	0	0	0	0	0	1
144	4/24/2013	09:00 AM	0	18	9	2	0	0	0	0	0	0	0	0	0
145	4/24/2013	10:00 AM	0	8	12	1	1	0	0	0	1	0	0	0	0
146	4/24/2013	11:00 AM	1	20	8	3	0	2	0	0	0	0	0	0	0
147	4/24/2013	12:00 PM	2	15	8	1	0	1	0	0	0	0	0	2	0
148	4/24/2013	01:00 PM	0	13	10	1	2	0	0	0	0	0	0	0	0
149	4/24/2013	02:00 PM	0	10	7	1	2	0	0	0	0	0	0	0	0
150	4/24/2013	03:00 PM	1	21	4	3	2	0	0	0	1	0	0	0	0
151	4/24/2013	04:00 PM	1	12	0	1	0	1	0	0	1	0	0	0	0
152	4/24/2013	05:00 PM	0	14	6	0	0	0	0	0	0	0	0	0	0
153	4/24/2013	06:00 PM	0	16	1	1	0	0	0	0	1	0	0	0	1
154	4/24/2013	07:00 PM	2	14	7	1	2	0	0	0	0	0	0	1	0
155	4/24/2013	08:00 PM	0	4	1	1	2	0	0	0	0	0	0	0	0
156	4/24/2013	09:00 PM	0	6	4	1	5	0	0	0	0	0	0	0	0
157	4/24/2013	10:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
158	4/24/2013	11:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0
159	4/25/2013	12:00 AM	0	1	2	1	0	0	0	0	1	0	0	0	0
160	4/25/2013	01:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
161	4/25/2013	02:00 AM	0	3	0	0	0	0	0	0	2	0	0	0	0
162	4/25/2013	03:00 AM	0	4	1	0	1	0	0	0	0	0	0	1	0
163	4/25/2013	04:00 AM	0	8	2	0	0	0	0	0	1	0	0	0	0
164	4/25/2013	05:00 AM	0	9	3	2	0	0	0	0	0	0	0	0	0
165	4/25/2013	06:00 AM	0	11	10	1	0	0	0	0	1	0	0	0	0
166	4/25/2013	07:00 AM	5	13	8	2	1	2	0	0	0	0	0	0	1
167	4/25/2013	08:00 AM	1	16	4	3	3	1	0	0	0	0	0	0	0
168	4/25/2013	09:00 AM	0	14	8	2	0	1	0	0	0	0	0	0	1
169	4/25/2013	10:00 AM	0	15	7	0	0	0	0	0	0	0	0	0	0

2p-5p Friday  
TOTAL  
68

170	4/25/2013	11:00 AM	2	18	7	0	1	0	0	0	2	0	0	0	0	0
171	4/25/2013	12:00 PM	2	17	8	5	0	1	0	0	1	0	0	0	0	0
172	4/25/2013	01:00 PM	0	17	5	0	1	0	0	0	0	0	0	0	0	0
173	4/25/2013	02:00 PM	1	26	6	3	1	0	1	0	0	0	0	0	0	0
174	4/25/2013	03:00 PM	1	21	6	3	1	1	0	0	0	0	0	0	0	1
175	4/25/2013	04:00 PM	1	16	5	1	0	0	0	0	0	0	0	0	1	0
176	4/25/2013	05:00 PM	0	18	7	0	0	0	0	0	0	0	0	0	0	0
177	4/25/2013	06:00 PM	0	9	2	2	1	0	0	0	1	0	0	0	0	0
178	4/25/2013	07:00 PM	1	9	1	1	0	1	0	0	0	0	0	0	0	0
179	4/25/2013	08:00 PM	0	4	2	1	0	0	0	0	0	0	0	0	0	0
180	4/25/2013	09:00 PM	0	3	2	3	0	0	0	0	0	0	0	0	0	0
181	4/25/2013	10:00 PM	0	5	1	0	0	0	0	0	0	0	0	0	0	0
182	4/25/2013	11:00 PM	0	3	1	1	0	1	0	0	0	0	0	0	0	0
183	4/26/2013	12:00 AM	0	3	1	0	0	0	0	0	0	0	0	0	0	0
184	4/26/2013	01:00 AM	0	6	0	0	0	0	0	1	0	0	0	0	0	0
185	4/26/2013	02:00 AM	0	4	0	1	0	1	0	0	1	0	0	0	0	0
186	4/26/2013	03:00 AM	0	3	0	1	0	0	0	0	1	0	0	0	0	0
187	4/26/2013	04:00 AM	0	11	0	0	1	1	0	0	0	0	0	0	0	0
188	4/26/2013	05:00 AM	0	4	5	1	1	0	0	0	0	0	0	0	0	0
189	4/26/2013	06:00 AM	1	13	8	1	1	1	0	0	0	0	0	0	0	0
190	4/26/2013	07:00 AM	0	13	12	2	2	0	0	0	0	0	0	0	0	0
191	4/26/2013	08:00 AM	0	16	14	1	1	2	0	0	0	0	0	0	0	1
192	4/26/2013	09:00 AM	1	23	16	4	0	0	0	0	0	0	0	0	0	1
193	4/26/2013	10:00 AM	1	17	13	1	0	0	0	0	0	0	0	0	0	0
194	4/26/2013	11:00 AM	0	17	9	2	2	0	0	0	0	0	0	0	0	1
195	4/26/2013	12:00 PM	1	25	10	4	1	0	0	0	1	0	0	0	0	0
196	4/26/2013	01:00 PM	0	19	5	1	0	1	0	0	1	0	0	0	0	0
197	4/26/2013	02:00 PM	0	22	3	2	0	0	1	0	1	0	0	0	0	0
198	4/26/2013	03:00 PM	1	24	9	4	3	1	0	0	0	0	0	0	0	0
199	4/26/2013	04:00 PM	0	28	6	1	2	1	0	0	0	0	0	0	0	0
200	4/26/2013	05:00 PM	0	14	6	6	2	1	0	0	1	0	0	0	0	0
201	4/26/2013	06:00 PM	0	17	1	2	3	0	0	0	0	0	0	0	0	0
202	4/26/2013	07:00 PM	0	14	4	3	3	2	0	0	0	0	0	0	0	0
203	4/26/2013	08:00 PM	3	10	1	0	0	0	0	0	0	0	0	0	0	0
204	4/26/2013	09:00 PM	1	12	4	0	0	0	0	0	0	0	0	0	0	0
205	4/26/2013	10:00 PM	1	9	0	2	0	0	0	0	0	0	0	0	0	0

2p-5p Saturday  
TOTAL  
96

2p-5p Sunday  
TOTAL  
109

206	4/26/2013	11:00 PM	0	7	3	0	0	0	0	0	1	0	0	0	0
207	4/27/2013	12:00 AM	1	7	1	0	0	0	0	0	0	0	0	0	0
208	4/27/2013	01:00 AM	0	3	2	0	0	0	0	0	1	0	0	0	0
209	4/27/2013	02:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0
210	4/27/2013	03:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0
211	4/27/2013	04:00 AM	0	4	1	1	0	1	0	0	0	0	0	0	0
212	4/27/2013	05:00 AM	0	3	2	0	0	0	0	0	0	0	0	0	0
213	4/27/2013	06:00 AM	0	5	4	1	1	1	0	0	0	0	0	0	0
214	4/27/2013	07:00 AM	0	8	7	0	2	0	0	1	0	0	0	0	0
215	4/27/2013	08:00 AM	1	30	12	1	0	0	0	0	0	0	0	0	0
216	4/27/2013	09:00 AM	0	39	6	5	2	0	0	0	0	0	0	0	0
217	4/27/2013	10:00 AM	3	23	9	0	0	0	0	0	0	0	0	0	0
218	4/27/2013	11:00 AM	2	25	12	6	3	0	0	0	0	0	0	1	0
219	4/27/2013	12:00 PM	2	23	6	2	1	0	0	0	0	0	0	0	0
220	4/27/2013	01:00 PM	0	16	8	3	2	0	0	0	0	0	0	0	0
221	4/27/2013	02:00 PM	0	15	7	1	0	1	0	0	0	0	0	0	0
222	4/27/2013	03:00 PM	0	19	4	1	0	1	0	0	1	0	0	0	0
223	4/27/2013	04:00 PM	0	17	6	0	0	1	0	0	0	0	0	0	0
224	4/27/2013	05:00 PM	0	17	7	0	4	0	0	0	0	0	0	0	0
225	4/27/2013	06:00 PM	0	13	5	0	2	0	0	0	0	0	0	0	1
226	4/27/2013	07:00 PM	1	12	7	2	1	0	0	0	0	0	0	0	1
227	4/27/2013	08:00 PM	0	12	2	3	1	0	0	0	0	0	0	0	0
228	4/27/2013	09:00 PM	0	9	4	1	0	0	0	0	0	0	0	0	0
229	4/27/2013	10:00 PM	0	11	2	1	0	0	0	0	0	0	0	0	0
230	4/27/2013	11:00 PM	0	7	4	0	0	1	0	0	0	0	0	0	0
231	4/28/2013	12:00 AM	0	8	2	0	0	0	0	0	0	0	0	0	0
232	4/28/2013	01:00 AM	1	2	1	0	0	1	0	0	0	0	0	0	0
233	4/28/2013	02:00 AM	0	3	0	1	0	0	0	0	0	0	0	0	0
234	4/28/2013	03:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0
235	4/28/2013	04:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
236	4/28/2013	05:00 AM	0	3	2	0	0	0	0	0	0	0	0	0	0
237	4/28/2013	06:00 AM	0	5	1	0	0	0	0	0	1	0	0	0	0
238	4/28/2013	07:00 AM	0	4	0	0	0	0	0	0	0	0	0	0	0
239	4/28/2013	08:00 AM	0	8	5	0	0	0	0	0	0	0	0	0	0
240	4/28/2013	09:00 AM	0	18	7	0	0	0	0	0	0	0	0	0	0
241	4/28/2013	10:00 AM	0	16	8	2	1	0	0	0	0	0	0	0	0

2p-5p Monday  
TOTAL  
74

242	4/28/2013	11:00 AM	0	32	6	3	0	1	0	0	0	0	0	0	0
243	4/28/2013	12:00 PM	0	32	12	3	2	0	0	0	0	0	0	0	0
244	4/28/2013	01:00 PM	1	24	5	2	0	0	0	0	0	0	0	0	0
245	4/28/2013	02:00 PM	0	29	14	1	0	0	0	0	0	0	0	0	1
246	4/28/2013	03:00 PM	0	25	4	2	2	0	0	0	0	0	0	0	0
247	4/28/2013	04:00 PM	0	35	12	1	1	0	0	0	1	0	0	0	0
248	4/28/2013	05:00 PM	1	14	8	0	0	0	0	0	2	0	0	0	0
249	4/28/2013	06:00 PM	0	16	4	0	0	0	0	0	0	0	0	0	0
250	4/28/2013	07:00 PM	1	12	6	1	0	0	0	0	0	0	0	0	0
251	4/28/2013	08:00 PM	0	11	3	4	0	0	0	0	0	0	0	0	0
252	4/28/2013	09:00 PM	1	7	1	1	0	0	0	0	0	0	0	0	1
253	4/28/2013	10:00 PM	0	6	0	0	0	0	0	0	0	0	0	0	1
254	4/28/2013	11:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
255	4/29/2013	12:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
256	4/29/2013	01:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
257	4/29/2013	02:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
258	4/29/2013	03:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
259	4/29/2013	04:00 AM	0	6	2	0	0	0	0	0	1	0	0	0	0
260	4/29/2013	05:00 AM	0	8	4	0	0	0	0	0	0	0	0	0	0
261	4/29/2013	06:00 AM	0	9	3	0	0	0	0	0	0	0	0	0	0
262	4/29/2013	07:00 AM	1	9	8	0	0	1	0	0	0	0	0	0	0

2p-5p Tuesday  
TOTAL  
128

**ADT** 8 280 110 27 17 7 0 1 6 0 0 0 0 1 3

Pass Cars  
398

Trucks **TOTAL**  
60 **461**  
13.0% 0.6%  
exclude  
s Not \* Not  
Classe Classified

2p-5p  
Max  
128  
2p-5p  
Min  
64



I-20 Westbound ON Ramp @ Garrett Rd

Start Date: 4/18/2013

Start Time: 11:00:00 AM

Site Code: 120418134

Station ID:

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed		
1	4/18/2013	11:00 AM	3	166	140	6	102	2	0	3	7	0	0	0	0	0		
2	4/18/2013	12:00 PM	2	137	149	2	82	2	1	0	6	0	0	0	1	2		
3	4/18/2013	01:00 PM	2	165	156	5	126	0	0	2	1	0	0	0	0	2		
4	4/18/2013	02:00 PM	6	166	143	10	113	4	0	0	1	0	0	0	1	1	2p-5p	Saturday
5	4/18/2013	03:00 PM	1	157	120	6	105	2	0	1	3	0	0	0	1	1	TOTAL	
6	4/18/2013	04:00 PM	1	186	111	1	87	0	0	2	2	0	0	0	1	1	1234	
7	4/18/2013	05:00 PM	2	107	98	2	69	2	1	0	0	0	0	0	0	1		
8	4/18/2013	06:00 PM	0	96	74	2	34	2	0	2	0	0	0	0	0	0		
9	4/18/2013	07:00 PM	1	72	56	10	29	0	0	1	1	0	0	0	0	2		
10	4/18/2013	08:00 PM	0	38	29	1	17	1	0	0	0	0	0	0	0	1		
11	4/18/2013	09:00 PM	0	23	24	0	7	2	0	1	0	0	0	0	0	0		
12	4/18/2013	10:00 PM	0	15	19	0	8	0	0	0	0	0	0	0	0	0		
13	4/18/2013	11:00 PM	0	35	14	1	4	0	0	0	0	0	0	0	0	0		
14	4/19/2013	12:00 AM	0	8	6	1	5	0	0	0	0	0	0	0	0	0		
15	4/19/2013	01:00 AM	0	13	11	1	3	0	0	1	2	0	0	0	0	1		
16	4/19/2013	02:00 AM	0	4	6	2	2	2	0	0	4	0	0	0	2	0		
17	4/19/2013	03:00 AM	0	9	9	2	0	1	0	0	2	0	0	0	1	2		
18	4/19/2013	04:00 AM	0	28	16	3	25	1	0	0	5	0	0	0	0	0		
19	4/19/2013	05:00 AM	1	48	48	8	29	3	0	1	2	0	0	0	0	1		
20	4/19/2013	06:00 AM	3	121	81	6	60	3	0	3	7	0	0	0	1	0		
21	4/19/2013	07:00 AM	1	98	97	4	69	3	0	4	6	0	0	0	2	3		
22	4/19/2013	08:00 AM	2	101	94	11	74	1	0	4	7	0	0	0	0	1		
23	4/19/2013	09:00 AM	0	126	115	7	107	0	0	2	6	0	0	0	0	3		
24	4/19/2013	10:00 AM	3	159	125	6	124	0	0	3	5	0	0	0	1	1		
25	4/19/2013	11:00 AM	3	165	149	2	141	0	1	0	1	0	0	0	3	1		

26	4/19/2013	12:00 PM	3	192	179	6	135	1	0	0	4	0	0	0	0	2		
27	4/19/2013	01:00 PM	5	184	185	7	135	1	0	6	7	0	0	0	0	4		
28	4/19/2013	02:00 PM	4	232	208	7	140	1	0	4	2	0	0	0	0	2	2p-5p	Sunday
29	4/19/2013	03:00 PM	12	242	198	5	136	0	0	0	4	0	0	0	0	2	TOTAL	
30	4/19/2013	04:00 PM	19	229	171	5	124	0	0	2	1	0	0	0	1	6	1757	
31	4/19/2013	05:00 PM	6	179	138	3	93	0	0	0	1	0	0	0	0	2		
32	4/19/2013	06:00 PM	3	140	106	1	64	0	0	1	0	0	0	0	0	0		
33	4/19/2013	07:00 PM	0	116	110	2	61	1	0	4	2	0	0	0	0	2		
34	4/19/2013	08:00 PM	0	88	61	4	38	1	0	0	0	0	0	0	0	1		
35	4/19/2013	09:00 PM	0	45	29	0	17	0	0	1	0	0	0	0	0	1		
36	4/19/2013	10:00 PM	3	36	20	1	11	0	0	0	1	0	0	0	0	0		
37	4/19/2013	11:00 PM	1	39	16	0	12	0	0	0	0	0	0	0	0	2		
38	4/20/2013	12:00 AM	0	15	3	1	1	0	0	0	0	0	0	0	0	0		
39	4/20/2013	01:00 AM	1	11	16	1	5	1	0	1	1	0	0	0	0	0		
40	4/20/2013	02:00 AM	0	2	3	0	1	3	0	0	1	0	0	0	0	0		
41	4/20/2013	03:00 AM	0	13	9	0	1	0	0	0	1	0	0	0	0	0		
42	4/20/2013	04:00 AM	1	15	20	0	16	3	1	1	0	0	0	0	0	0		
43	4/20/2013	05:00 AM	0	31	23	4	11	0	0	1	0	0	0	0	0	0		
44	4/20/2013	06:00 AM	1	43	49	1	29	1	1	4	0	0	0	0	0	0		
45	4/20/2013	07:00 AM	0	60	53	1	35	0	0	2	0	0	0	0	0	0		
46	4/20/2013	08:00 AM	3	88	75	1	61	0	0	3	2	0	0	0	0	0		
47	4/20/2013	09:00 AM	0	116	108	3	66	0	0	6	2	0	0	0	0	2		
48	4/20/2013	10:00 AM	5	163	154	2	105	0	0	3	2	0	0	0	0	1		
49	4/20/2013	11:00 AM	16	181	160	4	112	2	0	1	1	0	0	0	0	2		
50	4/20/2013	12:00 PM	27	174	152	3	81	0	0	5	2	0	0	0	0	4		
51	4/20/2013	01:00 PM	11	226	166	1	93	0	0	3	1	0	0	0	2	3		
52	4/20/2013	02:00 PM	13	185	168	1	91	0	0	4	1	0	0	0	0	1	2p-5p	Monday
53	4/20/2013	03:00 PM	7	177	159	3	81	1	0	6	1	0	0	0	0	1	TOTAL	
54	4/20/2013	04:00 PM	3	190	144	2	79	0	0	1	2	0	0	0	0	0	1321	
55	4/20/2013	05:00 PM	5	161	124	2	75	2	0	1	1	0	0	0	0	0		
56	4/20/2013	06:00 PM	2	132	83	1	54	0	0	2	0	0	0	0	0	0		
57	4/20/2013	07:00 PM	4	113	92	3	41	0	0	1	1	0	0	0	0	0		
58	4/20/2013	08:00 PM	1	99	67	2	23	1	0	1	0	0	0	0	0	0		
59	4/20/2013	09:00 PM	1	59	43	1	38	0	0	1	1	0	0	0	0	0		
60	4/20/2013	10:00 PM	2	40	28	4	27	0	0	2	1	0	0	0	0	0		
61	4/20/2013	11:00 PM	0	19	12	0	9	0	0	0	2	0	0	0	0	0		









206	4/27/2013	12:00 AM	0	19	7	1	2	0	0	0	0	0	0	0	0	0		
207	4/27/2013	01:00 AM	1	10	10	0	4	2	0	0	0	0	0	0	0	0		
208	4/27/2013	02:00 AM	0	8	3	1	1	0	0	1	1	0	0	0	0	0		
209	4/27/2013	03:00 AM	0	3	12	1	0	0	0	3	2	0	0	0	0	0		
210	4/27/2013	04:00 AM	0	12	20	0	9	1	0	1	2	0	0	0	0	0		
211	4/27/2013	05:00 AM	0	27	23	2	15	1	0	4	0	0	0	0	0	0		
212	4/27/2013	06:00 AM	2	59	48	3	37	3	0	4	2	0	0	0	0	0		
213	4/27/2013	07:00 AM	0	60	64	0	41	3	0	2	0	0	0	0	0	0		
214	4/27/2013	08:00 AM	2	91	74	1	63	0	0	2	2	0	0	0	0	0		
215	4/27/2013	09:00 AM	2	111	118	0	78	1	0	5	1	0	0	0	0	0		
216	4/27/2013	10:00 AM	5	144	129	1	78	0	0	4	0	0	0	0	0	0		
217	4/27/2013	11:00 AM	9	175	149	1	98	1	0	4	1	0	0	0	0	0		
218	4/27/2013	12:00 PM	0	183	149	2	105	1	0	3	3	0	0	0	0	0		
219	4/27/2013	01:00 PM	2	187	156	2	88	1	0	2	2	0	0	0	0	0		
220	4/27/2013	02:00 PM	2	192	158	2	100	0	0	5	2	0	0	0	0	0	2	2p-5p Monday
221	4/27/2013	03:00 PM	5	194	134	0	76	1	0	2	2	0	0	0	0	0	0	TOTAL
222	4/27/2013	04:00 PM	0	182	138	1	57	2	0	2	0	0	0	0	0	0	0	1259
223	4/27/2013	05:00 PM	2	151	126	0	57	0	0	0	1	0	0	0	0	0	0	
224	4/27/2013	06:00 PM	0	140	100	1	43	0	0	2	0	0	0	0	0	0	0	
225	4/27/2013	07:00 PM	2	119	93	2	51	1	0	2	0	0	0	0	0	0	0	
226	4/27/2013	08:00 PM	0	92	59	0	35	0	0	0	0	0	0	0	0	0	0	1
227	4/27/2013	09:00 PM	0	54	37	0	13	0	0	0	1	0	0	0	0	0	0	
228	4/27/2013	10:00 PM	0	39	28	2	20	0	0	0	1	0	0	0	0	0	0	
229	4/27/2013	11:00 PM	1	34	15	1	11	0	0	0	0	0	0	0	0	0	0	
230	4/28/2013	12:00 AM	0	13	11	0	2	0	0	1	0	0	0	0	0	0	0	
231	4/28/2013	01:00 AM	0	7	8	1	2	0	0	1	0	0	0	0	0	0	0	
232	4/28/2013	02:00 AM	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	
233	4/28/2013	03:00 AM	0	8	7	0	0	0	0	0	0	0	0	0	0	0	0	
234	4/28/2013	04:00 AM	1	12	11	0	2	1	0	0	0	0	0	0	0	0	0	
235	4/28/2013	05:00 AM	0	20	18	0	5	0	0	0	0	0	0	0	0	0	0	
236	4/28/2013	06:00 AM	0	24	22	0	12	0	0	2	0	0	0	0	0	0	0	
237	4/28/2013	07:00 AM	0	40	31	2	23	2	0	3	3	0	0	0	0	0	0	
238	4/28/2013	08:00 AM	0	57	33	1	26	1	0	3	1	0	0	0	0	0	0	
239	4/28/2013	09:00 AM	0	87	70	3	40	1	0	2	0	0	0	0	0	0	0	
240	4/28/2013	10:00 AM	0	92	89	1	46	1	0	1	0	0	0	0	0	0	0	1
241	4/28/2013	11:00 AM	1	209	169	1	101	0	0	2	4	0	0	0	0	0	0	

242	4/28/2013	12:00 PM	0	147	114	0	94	1	0	2	0	0	0	0	1		
243	4/28/2013	01:00 PM	1	158	139	1	76	1	0	1	2	0	0	0	0		
244	4/28/2013	02:00 PM	1	155	134	1	66	1	0	4	1	0	0	0	0	2p-5p	Tuesday
245	4/28/2013	03:00 PM	1	151	115	0	61	0	0	3	3	0	0	0	0	TOTAL	
246	4/28/2013	04:00 PM	2	175	127	4	60	0	0	1	1	0	0	0	0	1068	
247	4/28/2013	05:00 PM	1	145	105	1	51	3	0	0	2	0	0	0	0		
248	4/28/2013	06:00 PM	1	85	45	1	40	1	0	1	2	0	0	0	0		
249	4/28/2013	07:00 PM	0	50	44	1	22	0	0	0	2	0	0	0	0		
250	4/28/2013	08:00 PM	1	55	40	0	16	0	0	0	1	0	0	0	0		
251	4/28/2013	09:00 PM	0	39	25	0	5	0	0	0	1	0	0	0	0		
252	4/28/2013	10:00 PM	0	12	9	0	2	0	0	1	0	0	0	0	0		
253	4/28/2013	11:00 PM	0	13	5	0	0	0	0	0	1	0	0	0	0		
254	4/29/2013	12:00 AM	0	5	3	0	0	0	0	0	0	0	0	0	0		
255	4/29/2013	01:00 AM	0	8	3	0	2	0	0	0	2	0	0	0	0		
256	4/29/2013	02:00 AM	0	2	2	0	1	1	0	0	1	0	0	0	0		
257	4/29/2013	03:00 AM	0	6	11	1	4	1	0	0	3	0	0	0	0		
258	4/29/2013	04:00 AM	2	24	17	1	14	4	0	0	0	0	0	0	0		
259	4/29/2013	05:00 AM	0	50	42	3	25	3	0	0	1	0	0	0	0		
260	4/29/2013	06:00 AM	0	121	98	4	63	1	0	2	4	0	0	0	0		
261	4/29/2013	07:00 AM	0	95	76	3	73	3	0	5	10	0	0	0	0		
262	4/29/2013	08:00 AM	1	78	85	7	71	5	0	5	12	0	0	0	1		

<b>ADT</b>	43	2252	1802	62	1171	26	1	43	60	0	0	0	0	2	12	2p-5p	2p-5p
		Pass Cars												Trucks	<b>TOTAL</b>	Max	Min
			4097											1365	<b>5475</b>	1757	1035
														25.0%	0.2%		

\*  
 exclude \* Not  
 s Not Classifie  
 Classed d



Garrett Rd. Northbound @ LA 594

Start Date: 11/4/2013

Start Time: 11:00:00 AM

Site Code: 594114131

Station ID: Northbound

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
192	11/12/2013	10:00 AM	0	41	0	0	0	0	0	0	0	0	0	0	0	0
193	11/12/2013	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
194	11/12/2013	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
195	11/12/2013	01:00 PM	0	212	24	0	4	0	0	0	0	0	0	0	0	0
196	11/12/2013	02:00 PM	5	273	63	0	7	1	0	5	0	0	0	0	0	0
197	11/12/2013	03:00 PM	1	281	64	2	15	2	0	2	2	0	0	0	0	0
198	11/12/2013	04:00 PM	4	279	49	3	10	0	0	1	0	0	0	0	0	0
199	11/12/2013	05:00 PM	5	287	52	0	15	0	0	2	0	0	0	0	0	0
200	11/12/2013	06:00 PM	0	194	44	0	5	1	0	1	1	0	0	0	0	0
201	11/12/2013	07:00 PM	1	163	29	1	4	0	0	2	0	0	0	0	0	0
202	11/12/2013	08:00 PM	0	91	18	0	4	0	0	0	0	0	0	0	0	0
203	11/12/2013	09:00 PM	0	128	17	1	2	0	0	1	0	0	1	1	0	0
204	11/12/2013	10:00 PM	1	62	9	0	0	1	0	0	0	1	0	0	0	0
205	11/12/2013	11:00 PM	0	37	5	1	1	1	0	0	0	0	0	0	0	0
206	11/13/2013	12:00 AM	0	15	1	0	0	0	0	0	0	0	0	0	0	0
207	11/13/2013	01:00 AM	0	9	1	1	1	0	0	0	0	0	0	0	0	0
208	11/13/2013	02:00 AM	0	12	0	0	1	0	0	0	0	0	0	0	0	0
209	11/13/2013	03:00 AM	0	15	11	0	2	0	0	0	0	0	0	0	0	0
210	11/13/2013	04:00 AM	1	42	16	0	1	1	0	0	0	0	1	0	0	0
211	11/13/2013	05:00 AM	0	99	38	0	6	0	0	2	1	0	0	0	0	0
212	11/13/2013	06:00 AM	3	196	73	2	13	1	0	1	3	0	0	0	0	0
213	11/13/2013	07:00 AM	0	330	89	3	13	0	0	1	2	0	0	0	0	0



250	11/14/2013	08:00 PM	0	125	28	0	2	1	0	0	0	0	0	0	0	0
251	11/14/2013	09:00 PM	3	147	24	2	4	1	0	0	1	0	2	0	0	0
252	11/14/2013	10:00 PM	0	70	16	0	0	1	0	2	0	0	0	0	0	0
253	11/14/2013	11:00 PM	0	57	7	0	0	0	0	0	0	0	0	0	0	0
254	11/15/2013	12:00 AM	1	25	7	1	1	1	0	0	0	0	0	0	0	0
255	11/15/2013	01:00 AM	0	16	4	0	1	0	0	0	1	0	0	0	0	0
256	11/15/2013	02:00 AM	0	14	3	0	1	0	0	0	0	0	0	0	0	0
257	11/15/2013	03:00 AM	1	25	7	0	0	1	0	0	0	0	0	0	0	0
258	11/15/2013	04:00 AM	0	51	14	1	1	0	0	1	0	0	0	0	0	0
259	11/15/2013	05:00 AM	1	103	27	1	8	0	0	1	0	0	0	0	0	0
260	11/15/2013	06:00 AM	2	176	80	1	13	2	0	1	2	0	0	1	0	0
261	11/15/2013	07:00 AM	4	302	94	6	22	2	0	3	2	0	1	0	0	0
262	11/15/2013	08:00 AM	2	262	73	2	14	1	0	3	0	0	0	0	0	0
263	11/15/2013	09:00 AM	7	258	76	3	12	3	0	4	1	0	0	0	0	0
264	11/15/2013	10:00 AM	4	250	80	1	17	2	0	0	1	0	0	0	0	0
265	11/15/2013	11:00 AM	5	255	87	2	13	0	0	2	0	0	0	0	0	0
266	11/15/2013	12:00 PM	9	287	92	1	14	1	0	3	1	0	0	0	0	0
267	11/15/2013	01:00 PM	7	292	68	2	12	1	0	1	2	0	0	0	0	0
268	11/15/2013	02:00 PM	2	327	90	3	15	1	0	3	0	0	0	0	0	0
269	11/15/2013	03:00 PM	2	308	65	0	14	2	0	3	1	0	0	0	0	0
270	11/15/2013	04:00 PM	4	313	44	0	9	1	0	3	2	0	0	0	0	0
271	11/15/2013	05:00 PM	5	274	56	0	8	1	0	3	1	0	0	0	0	0
272	11/15/2013	06:00 PM	4	253	62	0	8	0	0	2	1	0	0	0	0	0
273	11/15/2013	07:00 PM	0	212	53	0	9	0	0	1	2	0	0	0	0	0
274	11/15/2013	08:00 PM	1	182	40	0	12	1	0	0	0	0	0	0	0	0
275	11/15/2013	09:00 PM	0	159	27	0	4	0	0	2	0	0	0	0	0	0
276	11/15/2013	10:00 PM	0	106	18	0	3	0	0	2	1	0	0	0	0	0
277	11/15/2013	11:00 PM	1	66	18	0	0	2	0	0	0	0	0	0	0	0
278	11/16/2013	12:00 AM	1	45	12	0	1	0	0	0	0	0	0	0	0	0
279	11/16/2013	01:00 AM	0	25	6	0	0	0	0	0	0	0	0	0	0	0
280	11/16/2013	02:00 AM	0	11	3	0	0	0	0	0	0	0	0	0	0	0
281	11/16/2013	03:00 AM	0	18	5	0	0	0	0	0	0	0	0	0	0	0
282	11/16/2013	04:00 AM	0	45	11	0	3	0	0	1	1	0	0	0	0	0
283	11/16/2013	05:00 AM	0	64	18	0	0	1	0	0	1	0	1	0	0	0
284	11/16/2013	06:00 AM	1	70	21	0	6	0	0	0	0	0	0	0	0	0
285	11/16/2013	07:00 AM	0	92	24	1	3	1	0	1	0	0	0	0	0	0



322	11/17/2013	08:00 PM	0	97	8	0	2	0	0	0	0	0	0	0	0	0
323	11/17/2013	09:00 PM	0	86	7	0	1	0	0	0	0	0	0	0	0	0
324	11/17/2013	10:00 PM	0	68	3	0	1	0	0	0	0	0	0	0	0	0
325	11/17/2013	11:00 PM	0	50	1	1	1	0	0	0	0	0	0	0	0	0
326	11/18/2013	12:00 AM	0	33	1	1	0	0	0	0	0	0	0	0	0	0
327	11/18/2013	01:00 AM	0	15	1	0	0	0	0	0	0	0	0	0	0	0
328	11/18/2013	02:00 AM	0	8	0	1	1	0	0	0	0	0	0	0	0	0
329	11/18/2013	03:00 AM	2	27	1	1	0	0	0	0	0	0	0	0	0	0
330	11/18/2013	04:00 AM	0	45	3	0	0	0	0	0	0	0	0	0	0	0
331	11/18/2013	05:00 AM	2	117	12	0	5	0	0	0	0	0	0	0	0	0
332	11/18/2013	06:00 AM	2	222	34	2	11	0	0	1	0	0	0	0	0	0
333	11/18/2013	07:00 AM	7	359	73	3	17	4	0	0	0	0	0	0	0	0
334	11/18/2013	08:00 AM	4	278	66	0	12	1	0	3	3	0	0	0	0	0
335	11/18/2013	09:00 AM	0	257	53	4	14	0	0	1	3	0	0	0	0	0
336	11/18/2013	10:00 AM	3	277	83	1	15	3	0	0	2	0	0	0	0	0
337	11/18/2013	11:00 AM	4	283	74	1	15	1	0	0	1	0	0	0	0	0
338	11/18/2013	12:00 PM	6	353	53	0	4	0	0	2	1	1	0	0	0	0
339	11/18/2013	01:00 PM	0	297	60	2	12	0	0	2	1	0	0	0	0	0
340	11/18/2013	02:00 PM	3	331	47	1	14	0	0	0	0	0	0	0	0	0
341	11/18/2013	03:00 PM	9	283	65	3	9	1	0	1	0	0	0	0	0	0
342	11/18/2013	04:00 PM	3	292	30	0	13	0	0	1	0	0	0	0	0	0
343	11/18/2013	05:00 PM	2	302	36	0	12	0	0	1	0	0	0	0	0	0
344	11/18/2013	06:00 PM	1	210	28	0	6	0	0	0	0	0	0	0	0	0
345	11/18/2013	07:00 PM	2	176	13	0	6	0	0	0	0	0	0	0	0	0
346	11/18/2013	08:00 PM	2	147	9	0	1	0	0	0	0	0	0	0	0	0
347	11/18/2013	09:00 PM	0	136	8	1	0	0	0	1	0	0	0	0	0	0
348	11/18/2013	10:00 PM	2	76	0	0	0	0	0	1	0	0	0	0	0	0
349	11/18/2013	11:00 PM	1	43	0	0	1	1	0	0	0	0	0	0	0	0
350	11/19/2013	12:00 AM	2	25	0	2	0	0	0	0	0	0	0	0	0	0
351	11/19/2013	01:00 AM	0	20	0	2	1	0	0	0	0	0	0	0	0	0
352	11/19/2013	02:00 AM	0	15	0	0	1	0	0	0	0	0	0	0	0	0
353	11/19/2013	03:00 AM	0	20	0	0	0	0	0	0	0	0	0	0	0	0
354	11/19/2013	04:00 AM	0	80	0	0	1	0	0	0	0	0	0	0	0	0
355	11/19/2013	05:00 AM	0	126	5	0	2	0	0	0	0	0	0	0	0	0
356	11/19/2013	06:00 AM	3	264	16	0	8	0	0	2	0	0	0	0	0	0
357	11/19/2013	07:00 AM	1	386	66	3	16	0	0	1	0	0	0	0	0	0

358	11/19/2013	08:00 AM	3	278	40	0	8	1	0	2	0	0	0	0	0	0
359	11/19/2013	09:00 AM	0	316	68	0	19	1	0	3	1	0	0	0	0	0
<b>ADT</b>			38	4011	889	16	150	13	0	22	10	1	1	1	0	0

Pass Cars  
4938

Trucks **TOTAL**  
213 **5152**  
4.1% 0.0%  
exclude  
s Not \* Not  
Classed Classified

LA 594 Eastbound @ Garrett Rd.

Start Date: 11/12/2013

Start Time: 2:00:00 PM

Site Code: 5941030132

Station ID: Eastbound

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	11/12/2013	02:00 PM	2	321	130	1	22	3	0	2	3	0	0	0	0	0
2	11/12/2013	03:00 PM	0	336	125	0	28	1	0	2	13	0	0	0	0	0
3	11/12/2013	04:00 PM	0	363	126	1	24	2	0	1	5	0	0	0	0	0
4	11/12/2013	05:00 PM	2	398	142	3	24	3	0	3	7	0	0	0	0	0
5	11/12/2013	06:00 PM	2	441	123	4	27	0	0	6	1	0	0	0	0	0
6	11/12/2013	07:00 PM	0	248	87	1	8	0	0	0	6	0	0	0	0	0
7	11/12/2013	08:00 PM	0	172	43	0	1	0	0	2	3	0	0	0	0	0
8	11/12/2013	09:00 PM	1	125	59	1	12	0	0	0	1	0	0	0	0	0
9	11/12/2013	10:00 PM	0	79	33	1	4	0	0	0	0	0	0	0	0	0
10	11/12/2013	11:00 PM	0	38	29	0	3	0	0	0	0	0	0	0	0	0
11	11/13/2013	12:00 AM	0	42	11	0	1	0	0	0	0	0	0	0	0	0 Wednesday
12	11/13/2013	01:00 AM	0	49	22	0	3	0	0	0	0	0	0	0	0	0
13	11/13/2013	02:00 AM	0	7	2	0	0	0	0	1	1	0	0	0	0	0
14	11/13/2013	03:00 AM	0	11	4	0	6	0	0	0	0	0	0	0	0	0
15	11/13/2013	04:00 AM	2	12	7	1	4	2	0	0	4	0	0	0	0	0
16	11/13/2013	05:00 AM	0	20	8	0	2	1	0	0	2	0	0	0	0	0
17	11/13/2013	06:00 AM	0	34	31	0	5	0	0	2	3	0	0	0	1	0
18	11/13/2013	07:00 AM	0	98	62	3	18	1	0	1	1	0	0	0	0	0
19	11/13/2013	08:00 AM	1	246	111	4	22	2	0	2	8	0	0	0	0	0
20	11/13/2013	09:00 AM	3	201	95	0	13	4	0	3	4	0	0	0	0	0
21	11/13/2013	10:00 AM	0	202	98	2	24	4	0	4	7	0	0	0	0	0
22	11/13/2013	11:00 AM	1	240	112	2	28	2	0	8	7	0	0	0	0	0
23	11/13/2013	12:00 PM	0	282	96	3	28	0	0	3	7	0	0	0	1	0
24	11/13/2013	01:00 PM	1	356	112	6	29	5	0	3	10	0	0	0	0	1
25	11/13/2013	02:00 PM	0	351	107	4	27	4	0	4	4	0	0	0	0	0
26	11/13/2013	03:00 PM	0	330	94	0	23	4	0	3	6	0	0	0	1	0

27	11/13/2013	04:00 PM	1	396	120	3	22	3	0	6	8	0	0	0	1	1
28	11/13/2013	05:00 PM	0	453	139	2	24	0	0	6	2	0	0	0	0	1
29	11/13/2013	06:00 PM	0	327	177	1	32	0	0	2	4	0	0	0	0	0
30	11/13/2013	07:00 PM	1	205	136	1	50	0	0	3	0	0	0	0	0	0
31	11/13/2013	08:00 PM	1	102	91	1	21	0	0	1	2	0	0	0	0	0
32	11/13/2013	09:00 PM	0	84	75	3	14	0	0	2	0	0	0	0	0	0
33	11/13/2013	10:00 PM	0	77	35	0	5	0	0	0	1	0	0	0	0	1
34	11/13/2013	11:00 PM	0	31	23	0	5	0	0	0	1	0	0	0	0	0
35	11/14/2013	12:00 AM	0	23	20	0	1	0	0	0	0	0	0	0	0	0 Thursday
36	11/14/2013	01:00 AM	0	23	32	0	7	0	0	0	0	0	0	0	0	0
37	11/14/2013	02:00 AM	0	4	8	1	3	0	0	2	1	0	0	0	0	0
38	11/14/2013	03:00 AM	0	4	10	0	4	0	0	0	0	0	0	0	0	0
39	11/14/2013	04:00 AM	0	6	5	1	7	0	0	0	0	0	0	0	0	0
40	11/14/2013	05:00 AM	0	24	6	1	4	2	0	1	5	0	0	0	0	0
41	11/14/2013	06:00 AM	1	31	21	1	7	1	0	3	1	0	0	0	0	0
42	11/14/2013	07:00 AM	0	82	77	4	27	1	0	2	1	0	0	0	0	0
43	11/14/2013	08:00 AM	0	138	136	2	55	0	0	3	2	0	0	0	0	0
44	11/14/2013	09:00 AM	0	197	97	4	24	3	0	3	10	0	0	0	0	0
45	11/14/2013	10:00 AM	0	237	92	2	14	3	0	7	8	0	0	0	0	0
46	11/14/2013	11:00 AM	3	250	111	1	21	0	0	4	7	0	0	0	0	1
47	11/14/2013	12:00 PM	1	288	128	2	23	0	0	2	4	0	0	0	1	0
48	11/14/2013	01:00 PM	1	374	118	3	24	4	0	6	5	0	0	0	0	0
49	11/14/2013	02:00 PM	1	306	111	1	27	2	0	3	1	0	0	0	0	0
50	11/14/2013	03:00 PM	1	310	111	1	27	4	0	3	6	0	0	0	0	0
51	11/14/2013	04:00 PM	0	349	118	3	23	2	0	7	5	0	0	0	0	0
52	11/14/2013	05:00 PM	1	398	114	1	20	0	0	5	7	0	0	0	0	0
53	11/14/2013	06:00 PM	0	330	139	0	28	0	0	0	4	0	0	0	0	0
54	11/14/2013	07:00 PM	2	168	75	0	11	2	0	2	3	0	0	0	0	0
55	11/14/2013	08:00 PM	0	89	45	2	12	0	0	0	1	0	0	0	0	1
56	11/14/2013	09:00 PM	0	81	40	1	10	0	0	0	0	0	0	0	0	1
57	11/14/2013	10:00 PM	0	61	34	0	6	0	0	0	1	0	0	0	0	0
58	11/14/2013	11:00 PM	0	21	3	0	0	0	0	0	0	0	0	0	0	0
59	11/15/2013	12:00 AM	0	12	4	2	1	0	0	0	0	0	0	0	0	0 Friday
60	11/15/2013	01:00 AM	0	27	10	0	0	0	0	1	0	0	0	0	0	0
61	11/15/2013	02:00 AM	0	6	3	0	0	0	0	0	0	0	0	0	0	0
62	11/15/2013	03:00 AM	0	9	3	2	0	0	0	0	1	0	0	0	0	0



63	11/15/2013	04:00 AM	0	4	3	0	1	0	0	0	0	0	0	0	0	0
64	11/15/2013	05:00 AM	0	12	2	0	3	0	0	1	2	0	0	0	0	0
65	11/15/2013	06:00 AM	0	15	10	2	2	0	0	1	1	0	0	0	0	0
66	11/15/2013	07:00 AM	0	91	48	7	12	1	0	0	2	0	0	0	0	0
67	11/15/2013	08:00 AM	0	191	104	3	30	1	0	2	4	0	0	0	0	0
68	11/15/2013	09:00 AM	1	154	96	2	40	2	0	4	9	0	0	0	0	0
69	11/15/2013	10:00 AM	1	177	149	1	46	3	0	4	9	0	0	0	0	1
70	11/15/2013	11:00 AM	0	185	121	5	53	1	0	5	7	0	0	0	1	1
71	11/15/2013	12:00 PM	0	194	143	3	50	3	0	5	6	0	0	0	0	0
72	11/15/2013	01:00 PM	1	235	184	4	54	4	0	3	0	0	0	0	1	0
73	11/15/2013	02:00 PM	0	300	158	7	35	1	0	3	1	0	0	0	0	0
74	11/15/2013	03:00 PM	1	301	151	2	31	6	0	2	5	0	0	0	1	0
75	11/15/2013	04:00 PM	0	349	154	0	39	2	0	2	4	0	0	0	0	0
76	11/15/2013	05:00 PM	1	325	190	3	43	1	0	1	7	0	0	0	1	1
77	11/15/2013	06:00 PM	2	232	208	3	58	3	0	1	3	0	0	0	0	1
78	11/15/2013	07:00 PM	1	145	180	6	56	1	0	3	4	0	0	0	0	0
79	11/15/2013	08:00 PM	0	100	135	0	45	1	0	2	0	0	0	0	0	0
80	11/15/2013	09:00 PM	0	93	99	1	33	0	0	0	1	0	0	0	0	0
81	11/15/2013	10:00 PM	0	60	72	0	30	0	0	0	1	0	0	0	0	0
82	11/15/2013	11:00 PM	0	55	46	0	7	0	0	0	0	0	0	0	0	0
83	11/16/2013	12:00 AM	1	15	11	0	5	1	0	0	0	0	0	0	0	0 Saturday
84	11/16/2013	01:00 AM	0	25	26	0	3	0	0	0	0	0	0	0	0	0
85	11/16/2013	02:00 AM	0	13	8	0	4	0	0	1	0	0	0	0	0	0
86	11/16/2013	03:00 AM	0	2	4	0	0	0	0	0	0	0	0	0	0	0
87	11/16/2013	04:00 AM	1	6	0	0	1	0	0	0	0	0	0	0	0	0
88	11/16/2013	05:00 AM	0	11	12	0	3	0	0	0	0	0	0	0	0	0
89	11/16/2013	06:00 AM	0	14	11	1	1	0	0	0	0	0	0	0	0	0
90	11/16/2013	07:00 AM	0	24	21	1	9	0	0	0	1	0	0	0	0	0
91	11/16/2013	08:00 AM	0	23	24	3	9	0	0	0	0	0	0	0	0	0
92	11/16/2013	09:00 AM	2	57	68	1	26	0	0	0	0	0	0	0	0	0
93	11/16/2013	10:00 AM	0	120	110	1	38	1	0	1	0	0	0	0	0	0
94	11/16/2013	11:00 AM	0	218	170	1	34	3	0	4	2	0	0	0	0	0
95	11/16/2013	12:00 PM	2	178	159	1	39	1	0	1	1	0	0	0	0	0
96	11/16/2013	01:00 PM	0	195	187	3	44	2	0	2	2	0	0	0	0	0
97	11/16/2013	02:00 PM	0	280	179	2	40	0	0	2	2	0	0	0	0	0
98	11/16/2013	03:00 PM	0	336	145	0	12	0	0	2	0	0	0	0	0	3



135	11/18/2013	04:00 AM	0	11	2	0	1	1	0	0	3	0	0	0	0	0
136	11/18/2013	05:00 AM	0	19	11	1	2	0	0	0	3	0	0	0	0	0
137	11/18/2013	06:00 AM	0	24	29	0	11	1	0	1	3	0	0	0	0	0
138	11/18/2013	07:00 AM	0	57	55	3	22	3	0	1	0	0	0	0	0	0
139	11/18/2013	08:00 AM	1	132	124	2	44	4	0	3	1	0	0	0	0	0
140	11/18/2013	09:00 AM	0	168	106	5	34	3	0	5	8	0	0	0	0	0
141	11/18/2013	10:00 AM	0	156	90	4	38	4	0	7	5	0	0	0	0	1
142	11/18/2013	11:00 AM	1	254	110	4	21	2	0	2	6	0	0	0	0	0
143	11/18/2013	12:00 PM	0	282	118	6	18	2	0	6	9	0	0	0	0	0
144	11/18/2013	01:00 PM	2	355	99	5	26	2	0	2	9	0	0	0	0	0
145	11/18/2013	02:00 PM	2	321	109	4	20	3	0	9	4	0	0	0	1	1
146	11/18/2013	03:00 PM	1	340	101	3	11	2	0	3	11	0	0	0	0	1
147	11/18/2013	04:00 PM	2	371	128	2	27	3	0	2	14	0	0	0	0	0
148	11/18/2013	05:00 PM	0	408	128	3	18	4	0	4	3	0	0	0	1	2
149	11/18/2013	06:00 PM	1	346	130	2	20	3	0	4	3	0	0	0	1	1
150	11/18/2013	07:00 PM	0	132	125	3	31	0	0	0	3	0	0	0	0	0
151	11/18/2013	08:00 PM	0	67	69	1	17	0	0	0	3	0	0	0	0	0
152	11/18/2013	09:00 PM	0	100	51	0	8	0	0	1	3	0	0	0	0	0
153	11/18/2013	10:00 PM	0	81	49	0	11	0	0	0	3	0	0	0	0	0
154	11/18/2013	11:00 PM	0	50	17	1	2	0	0	1	1	0	0	0	0	0
155	11/19/2013	12:00 AM	0	23	25	0	3	0	0	0	0	0	0	0	0	0 Tuesday
156	11/19/2013	01:00 AM	0	26	22	0	11	0	0	0	1	0	0	0	0	0
157	11/19/2013	02:00 AM	0	8	12	0	2	0	0	0	0	0	0	0	0	0
158	11/19/2013	03:00 AM	0	5	8	0	6	0	0	0	0	0	0	0	0	0
159	11/19/2013	04:00 AM	1	5	10	1	7	1	0	0	0	0	0	0	0	0
160	11/19/2013	05:00 AM	1	5	9	1	6	1	0	1	1	0	0	0	0	0
161	11/19/2013	06:00 AM	0	18	21	1	10	1	0	4	3	0	0	0	0	0
162	11/19/2013	07:00 AM	0	61	80	3	37	1	0	2	1	0	0	0	0	0
163	11/19/2013	08:00 AM	1	190	122	3	39	2	0	8	5	0	0	0	0	0
164	11/19/2013	09:00 AM	0	145	109	3	51	3	0	4	5	0	0	0	0	0
<b>ADT</b>			9	3382	1746	32	417	23	0	40	59	0	0	0	2	3

Pass Cars  
5137

Trucks **TOTAL**  
571 **5711**  
10.0% 0.1%  
excludes  
Not \* Not  
Classed Classified

LA 594 Westbound @ Garrett Road  
 Start Date: 10/22/2013  
 Start Time: 11:00:00 AM  
 Site Code: 102220135944  
 Station ID: westbound  
 Location 1: LA 594 @ Garrett Rd. Westbound  
 Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
1	10/22/2013	11:00 AM	2	207	77	2	10	10	0	1	1	0	0	0	0	0
2	10/22/2013	12:00 PM	0	293	87	4	6	3	0	0	1	0	0	0	0	0
3	10/22/2013	01:00 PM	0	305	68	0	8	6	0	0	4	0	0	0	0	0
4	10/22/2013	02:00 PM	0	237	52	4	15	7	0	2	4	0	0	0	0	0
5	10/22/2013	03:00 PM	1	275	73	1	23	6	0	0	2	0	0	0	0	0
6	10/22/2013	04:00 PM	1	244	58	0	8	3	0	0	1	0	0	0	0	0
7	10/22/2013	05:00 PM	1	240	51	1	4	1	0	0	0	0	0	0	0	0
8	10/22/2013	06:00 PM	0	320	79	1	4	1	0	0	1	0	0	0	0	0
9	10/22/2013	07:00 PM	0	146	25	1	1	0	0	0	0	0	0	0	0	0
10	10/22/2013	08:00 PM	0	108	14	1	1	0	0	0	0	0	0	0	0	0
11	10/22/2013	09:00 PM	0	18	5	1	1	0	0	0	0	0	0	0	0	0
12	10/22/2013	10:00 PM	0	26	3	0	3	0	0	0	0	0	0	0	0	0
13	10/22/2013	11:00 PM	1	14	1	0	0	0	0	0	0	0	0	0	0	0
14	10/23/2013	12:00 AM	0	8	5	0	1	0	0	0	0	0	0	0	0	0
15	10/23/2013	01:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0
16	10/23/2013	02:00 AM	0	4	1	0	1	0	0	0	0	0	0	0	0	0
17	10/23/2013	03:00 AM	0	6	0	0	0	3	0	0	0	0	0	0	0	0
18	10/23/2013	04:00 AM	0	10	1	0	1	2	0	0	1	0	0	0	0	0
19	10/23/2013	05:00 AM	0	17	8	0	3	6	0	1	1	0	0	0	0	0
20	10/23/2013	06:00 AM	0	54	20	0	6	8	0	0	1	0	0	0	0	0
21	10/23/2013	07:00 AM	1	156	29	2	21	5	0	0	0	0	0	0	0	0
22	10/23/2013	08:00 AM	1	158	62	1	19	1	0	0	5	0	0	0	0	0







131	10/27/2013	09:00 PM	0	27	4	0	0	0	0	0	0	0	0	0	0	0
132	10/27/2013	10:00 PM	0	16	2	0	0	0	0	0	0	0	0	0	0	0
133	10/27/2013	11:00 PM	0	18	3	0	1	0	0	0	0	0	0	0	0	0
134	10/28/2013	12:00 AM	0	4	1	0	0	0	0	0	0	0	0	0	0	0
135	10/28/2013	01:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0
136	10/28/2013	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	10/28/2013	03:00 AM	0	11	0	0	1	5	0	0	0	0	0	0	0	0
138	10/28/2013	04:00 AM	0	13	2	1	1	0	0	0	0	0	0	0	0	0
139	10/28/2013	05:00 AM	0	21	6	0	2	3	0	0	0	0	0	0	0	0
140	10/28/2013	06:00 AM	1	45	15	1	5	4	0	0	1	0	0	0	0	0
141	10/28/2013	07:00 AM	0	166	45	3	22	4	0	0	2	0	0	0	0	0
142	10/28/2013	08:00 AM	1	117	54	4	8	8	0	0	2	0	0	0	0	0
143	10/28/2013	09:00 AM	4	158	68	3	10	9	0	1	1	0	0	0	0	0
144	10/28/2013	10:00 AM	1	212	55	2	7	5	0	0	1	0	0	0	0	0
145	10/28/2013	11:00 AM	3	258	84	2	4	3	0	0	3	0	0	0	0	0
146	10/28/2013	12:00 PM	0	252	65	1	4	5	0	0	2	0	0	0	0	0
147	10/28/2013	01:00 PM	1	243	64	3	12	7	0	0	2	0	0	0	0	0
148	10/28/2013	02:00 PM	1	231	50	3	8	4	0	0	1	0	0	0	0	0
149	10/28/2013	03:00 PM	0	253	60	3	21	4	0	1	2	0	0	0	0	0
150	10/28/2013	04:00 PM	1	247	64	0	15	3	0	0	3	0	0	0	0	0
151	10/28/2013	05:00 PM	1	221	46	0	4	2	0	0	1	0	0	0	0	0
152	10/28/2013	06:00 PM	0	214	37	1	3	2	0	0	1	0	0	0	0	0
153	10/28/2013	07:00 PM	0	92	18	0	2	0	0	0	0	0	0	0	0	0
154	10/28/2013	08:00 PM	0	121	16	1	1	0	0	0	0	0	0	0	0	0
155	10/28/2013	09:00 PM	0	53	8	0	1	0	0	0	0	0	0	0	0	0
156	10/28/2013	10:00 PM	0	23	9	1	3	0	0	1	0	0	0	0	0	0
157	10/28/2013	11:00 PM	0	11	3	0	0	0	0	0	0	0	0	0	0	0
158	10/29/2013	12:00 AM	0	9	2	1	4	0	0	0	0	0	0	0	0	0
159	10/29/2013	01:00 AM	0	3	0	0	1	0	0	1	0	0	0	0	0	0
160	10/29/2013	02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	10/29/2013	03:00 AM	0	5	1	0	0	5	0	0	0	0	0	0	0	0
162	10/29/2013	04:00 AM	0	20	2	0	1	1	0	0	1	0	0	0	0	0
163	10/29/2013	05:00 AM	1	18	9	0	0	4	0	1	1	0	0	0	0	0
164	10/29/2013	06:00 AM	1	54	20	0	3	2	0	1	0	0	0	0	0	0
165	10/29/2013	07:00 AM	1	180	42	3	26	3	0	0	3	0	0	0	0	0
166	10/29/2013	08:00 AM	1	123	61	3	12	6	0	0	2	0	0	0	0	0



167 10/29/2013 09:00 AM	1	163	69	2	4	5	0	0	1	0	0	0	0	0
168 10/29/2013 10:00 AM	0	210	57	3	10	5	0	1	0	0	0	0	0	0
<b>ADT</b>	10	2570	643	26	108	48	0	3	16	0	0	0	0	1

Pass Cars  
3223

Trucks **TOTAL**  
201 **3425**  
5.9% 0.0%

\* excludes \* Not  
Not Classified Classified

Kansas Lane Southbound @ La 594

Start Date: 1/15/2014

Start Time: 2:00:00 PM

Site Code: 594115143

Station ID:

Location 1:

Location 2:

Number	Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed
23	1/16/2014	12:00 PM	2	407	77	3	8	3	1	11	5	1	0	0	0	2
24	1/16/2014	01:00 PM	5	338	76	1	17	10	0	10	7	1	1	0	0	6
25	1/16/2014	02:00 PM	3	418	82	3	9	3	0	8	10	2	1	0	1	7
26	1/16/2014	03:00 PM	6	532	117	0	19	5	1	13	5	2	1	2	1	5
27	1/16/2014	04:00 PM	3	580	110	7	7	2	0	12	8	3	0	0	3	8
28	1/16/2014	05:00 PM	3	493	109	0	7	3	1	9	3	1	0	0	0	7
29	1/16/2014	06:00 PM	3	287	71	0	7	0	0	4	1	0	0	0	1	3
30	1/16/2014	07:00 PM	0	194	43	0	6	0	0	4	3	0	1	0	0	1
31	1/16/2014	08:00 PM	0	158	29	1	1	1	0	0	0	0	0	0	0	0
32	1/16/2014	09:00 PM	0	129	28	0	2	0	0	0	0	0	0	0	0	0
33	1/16/2014	10:00 PM	0	95	19	0	3	0	0	0	1	0	1	0	0	0
34	1/16/2014	11:00 PM	0	74	9	0	2	0	0	0	1	0	0	0	0	0
35	1/17/2014	12:00 AM	0	81	16	0	2	0	0	0	1	0	0	0	0	0
36	1/17/2014	01:00 AM	0	21	4	0	0	0	0	0	0	0	0	0	0	0
37	1/17/2014	02:00 AM	0	21	6	0	0	0	0	0	3	0	0	0	0	0
38	1/17/2014	03:00 AM	1	14	6	0	0	1	0	0	4	0	0	0	0	0
39	1/17/2014	04:00 AM	0	31	15	0	0	1	0	0	2	0	0	1	0	0
40	1/17/2014	05:00 AM	0	47	20	0	0	6	0	1	3	0	1	0	0	0
41	1/17/2014	06:00 AM	1	191	58	3	5	3	0	5	3	0	0	0	0	1
42	1/17/2014	07:00 AM	2	368	96	0	8	5	1	10	3	2	1	0	0	3
43	1/17/2014	08:00 AM	4	289	78	2	13	9	0	10	10	0	0	0	0	0
44	1/17/2014	09:00 AM	1	283	89	2	19	1	0	9	16	4	0	0	0	2

45	1/17/2014 10:00 AM	2	340	68	1	14	3	1	18	8	2	0	0	0	6
46	1/17/2014 11:00 AM	2	499	121	4	9	7	0	10	4	2	3	0	2	3
47	1/17/2014 12:00 PM	1	459	79	2	10	4	0	21	8	1	0	0	1	5
48	1/17/2014 01:00 PM	3	406	104	2	13	3	0	7	6	2	1	1	0	5
49	1/17/2014 02:00 PM	4	382	84	2	5	9	0	11	7	1	1	1	2	2
50	1/17/2014 03:00 PM	8	633	134	2	12	7	1	13	8	2	0	0	0	5
51	1/17/2014 04:00 PM	6	558	113	3	6	4	0	13	4	2	2	1	0	8
52	1/17/2014 05:00 PM	1	569	126	0	18	3	0	13	3	2	2	0	0	7
53	1/17/2014 06:00 PM	2	379	77	2	1	6	0	7	2	2	1	0	0	3
54	1/17/2014 07:00 PM	0	288	40	0	8	0	0	4	1	0	0	0	0	0
55	1/17/2014 08:00 PM	0	200	35	0	3	2	0	3	1	0	0	0	0	1
56	1/17/2014 09:00 PM	0	144	29	0	1	0	1	2	1	0	0	0	0	0
57	1/17/2014 10:00 PM	0	98	19	0	3	1	0	0	0	0	0	0	1	0
58	1/17/2014 11:00 PM	0	86	13	1	1	0	0	0	0	0	0	0	0	0
59	1/18/2014 12:00 AM	0	76	20	0	0	0	0	0	0	0	0	0	0	0
60	1/18/2014 01:00 AM	0	61	15	1	0	0	0	0	0	0	0	0	0	0
61	1/18/2014 02:00 AM	0	18	2	0	0	0	0	1	0	0	1	0	0	0
62	1/18/2014 03:00 AM	0	15	4	0	0	0	0	0	0	0	0	0	0	0
63	1/18/2014 04:00 AM	0	39	11	0	1	0	0	0	0	0	0	0	0	0
64	1/18/2014 05:00 AM	0	47	16	0	3	0	0	0	1	0	0	0	0	0
65	1/18/2014 06:00 AM	0	65	28	0	2	1	0	1	0	0	0	0	0	0
66	1/18/2014 07:00 AM	0	125	43	0	3	2	0	4	1	0	0	0	0	0
67	1/18/2014 08:00 AM	0	129	43	0	3	2	0	3	1	0	1	0	0	0
68	1/18/2014 09:00 AM	2	236	65	0	6	4	0	6	0	0	0	0	1	2
69	1/18/2014 10:00 AM	3	352	55	1	2	2	0	9	1	0	2	0	0	3
70	1/18/2014 11:00 AM	5	374	74	0	5	3	0	4	2	0	2	0	1	4
71	1/18/2014 12:00 PM	3	408	67	0	9	0	0	7	2	2	2	0	1	7
72	1/18/2014 01:00 PM	2	407	66	0	3	2	1	12	1	1	2	0	1	5
73	1/18/2014 02:00 PM	5	425	67	0	2	3	0	14	0	4	2	1	1	4
74	1/18/2014 03:00 PM	1	371	82	0	7	2	0	10	1	0	0	0	0	5
75	1/18/2014 04:00 PM	3	353	51	0	5	2	0	9	0	3	0	0	0	4
76	1/18/2014 05:00 PM	0	335	62	0	5	0	0	5	0	0	1	0	1	9
77	1/18/2014 06:00 PM	2	305	45	0	6	1	0	10	1	1	1	0	0	2
78	1/18/2014 07:00 PM	0	209	37	0	2	1	0	7	1	0	0	0	0	0
79	1/18/2014 08:00 PM	0	165	39	0	2	1	0	3	1	0	0	0	0	2
80	1/18/2014 09:00 PM	0	106	15	0	0	0	0	2	0	1	0	0	0	0

81	1/18/2014 10:00 PM	0	79	17	0	1	0	0	0	1	0	0	0	0	0
82	1/18/2014 11:00 PM	0	54	12	0	2	0	0	2	0	0	0	0	0	0
83	1/19/2014 12:00 AM	0	48	9	0	0	0	0	0	0	0	0	0	0	0
84	1/19/2014 01:00 AM	0	29	5	0	0	0	0	0	0	0	0	0	0	0
85	1/19/2014 02:00 AM	0	22	8	0	0	0	0	0	0	0	0	0	0	0
86	1/19/2014 03:00 AM	0	17	2	0	0	0	0	0	0	0	0	0	0	0
87	1/19/2014 04:00 AM	0	4	4	0	0	0	0	0	0	0	0	0	0	0
88	1/19/2014 05:00 AM	0	15	12	0	1	0	0	0	0	0	0	0	0	0
89	1/19/2014 06:00 AM	1	48	18	0	0	0	0	1	0	0	0	0	0	0
90	1/19/2014 07:00 AM	0	71	19	0	3	0	0	2	0	0	0	0	0	1
91	1/19/2014 08:00 AM	0	92	41	0	4	0	0	1	2	0	1	0	0	1
92	1/19/2014 09:00 AM	0	181	56	0	5	1	0	3	0	0	0	0	0	2
93	1/19/2014 10:00 AM	3	218	43	0	2	0	0	4	0	0	0	0	1	0
94	1/19/2014 11:00 AM	2	311	47	0	7	1	0	6	3	2	0	0	0	2
95	1/19/2014 12:00 PM	2	298	65	0	7	1	0	8	6	3	1	0	0	4
96	1/19/2014 01:00 PM	1	317	54	0	2	1	0	8	4	0	0	1	0	0
97	1/19/2014 02:00 PM	3	312	54	1	1	0	0	4	3	2	0	1	0	2
98	1/19/2014 03:00 PM	3	250	58	0	3	0	0	11	2	1	1	0	2	3
99	1/19/2014 04:00 PM	0	256	42	0	3	1	0	3	3	2	0	0	1	2
100	1/19/2014 05:00 PM	3	203	48	0	5	2	0	9	1	0	0	0	0	1
101	1/19/2014 06:00 PM	0	171	30	0	6	1	1	5	5	0	0	0	0	1
102	1/19/2014 07:00 PM	0	121	20	0	0	0	0	1	1	0	0	0	0	0
103	1/19/2014 08:00 PM	0	100	18	0	2	0	0	4	2	0	0	0	0	0
104	1/19/2014 09:00 PM	0	99	27	0	1	0	0	2	2	0	0	0	0	0
105	1/19/2014 10:00 PM	0	64	17	0	3	0	0	1	1	0	0	0	0	0
106	1/19/2014 11:00 PM	0	31	6	0	0	0	0	0	0	0	0	0	0	0
107	1/20/2014 12:00 AM	0	18	5	0	0	0	0	0	0	0	0	0	0	0
108	1/20/2014 01:00 AM	0	6	5	0	0	0	0	0	0	0	0	0	0	0
109	1/20/2014 02:00 AM	0	11	2	0	0	1	0	0	0	0	0	0	0	0
110	1/20/2014 03:00 AM	2	9	3	0	2	4	0	0	2	0	0	0	0	0
111	1/20/2014 04:00 AM	0	22	8	0	3	1	0	1	4	0	0	0	0	0
112	1/20/2014 05:00 AM	1	51	30	0	3	2	0	1	1	1	0	0	0	0
113	1/20/2014 06:00 AM	1	89	65	0	5	2	0	3	1	0	0	0	0	0
114	1/20/2014 07:00 AM	1	199	81	0	11	0	0	8	2	0	0	0	0	2
115	1/20/2014 08:00 AM	5	197	65	0	13	5	0	11	6	0	1	0	0	1
116	1/20/2014 09:00 AM	3	202	75	1	18	5	0	10	10	0	1	0	0	3

117	1/20/2014	10:00 AM	6	299	69	1	10	9	1	16	15	3	2	0	1	2
118	1/20/2014	11:00 AM	6	342	70	2	6	6	0	16	4	0	1	0	2	5
119	1/20/2014	12:00 PM	3	394	89	0	7	5	0	6	5	0	0	0	1	5
120	1/20/2014	01:00 PM	7	350	86	0	7	6	1	15	6	1	0	0	0	4
121	1/20/2014	02:00 PM	4	333	76	3	7	6	0	3	6	0	1	0	0	1
122	1/20/2014	03:00 PM	4	343	97	2	7	2	0	10	6	5	0	1	1	6
123	1/20/2014	04:00 PM	2	388	81	2	13	4	0	11	6	1	2	0	0	2
124	1/20/2014	05:00 PM	5	408	94	1	5	3	0	11	3	2	2	0	0	4
125	1/20/2014	06:00 PM	2	231	48	1	5	1	0	9	1	1	0	0	0	0
126	1/20/2014	07:00 PM	2	150	36	0	2	2	1	1	2	0	0	0	1	0
127	1/20/2014	08:00 PM	0	116	27	0	0	0	0	1	0	1	0	0	0	1
128	1/20/2014	09:00 PM	0	112	20	0	3	0	0	0	2	0	0	0	0	0
129	1/20/2014	10:00 PM	0	55	8	0	0	0	0	0	1	0	1	0	0	0
130	1/20/2014	11:00 PM	0	37	10	0	0	0	0	0	0	0	0	0	0	0
131	1/21/2014	12:00 AM	1	21	6	0	0	0	0	0	0	0	0	0	0	0
132	1/21/2014	01:00 AM	0	18	7	0	0	0	0	0	1	0	0	1	0	0
133	1/21/2014	02:00 AM	0	6	4	0	0	1	0	0	0	0	0	0	0	0
134	1/21/2014	03:00 AM	2	7	2	0	1	3	0	0	4	0	0	0	0	0
135	1/21/2014	04:00 AM	0	34	9	0	1	8	0	0	4	0	0	0	0	0
136	1/21/2014	05:00 AM	0	66	36	0	4	0	0	1	2	1	0	0	0	0
137	1/21/2014	06:00 AM	3	131	66	4	3	3	0	9	3	0	0	0	0	1
138	1/21/2014	07:00 AM	6	399	104	2	7	2	1	11	5	2	0	0	1	8
139	1/21/2014	08:00 AM	1	274	82	2	12	6	1	11	10	0	0	1	1	0
140	1/21/2014	09:00 AM	3	272	98	3	7	6	0	7	6	2	0	0	0	2
141	1/21/2014	10:00 AM	2	277	86	0	9	1	0	10	5	4	0	1	1	5
142	1/21/2014	11:00 AM	4	366	99	3	21	2	0	9	2	2	0	1	0	0
143	1/21/2014	12:00 PM	0	383	82	2	7	1	0	13	1	0	0	0	2	7
144	1/21/2014	01:00 PM	1	365	87	2	19	1	0	22	9	2	0	0	0	2
145	1/21/2014	02:00 PM	1	339	98	5	14	5	0	11	2	1	0	0	0	3
146	1/21/2014	03:00 PM	1	498	134	2	12	3	0	12	1	0	1	1	3	6
147	1/21/2014	04:00 PM	2	540	132	5	12	2	0	18	7	2	1	0	0	1
148	1/21/2014	05:00 PM	5	445	124	1	8	4	0	13	4	1	0	0	1	11
149	1/21/2014	06:00 PM	1	289	51	1	4	1	0	6	1	0	2	0	0	0
150	1/21/2014	07:00 PM	2	170	38	0	3	3	0	3	0	0	0	0	0	1
151	1/21/2014	08:00 PM	1	132	28	1	2	3	0	0	1	0	0	0	0	3
152	1/21/2014	09:00 PM	0	103	34	0	3	1	0	2	0	1	0	0	0	1

153	1/21/2014	10:00 PM	0	76	8	0	1	0	0	0	0	1	0	0	0	
154	1/21/2014	11:00 PM	0	75	14	0	1	1	0	0	0	0	0	0	0	
155	1/22/2014	12:00 AM	0	87	10	0	0	0	0	1	0	0	1	0	0	
156	1/22/2014	01:00 AM	0	34	10	0	0	0	0	1	0	0	0	0	0	
157	1/22/2014	02:00 AM	0	21	2	0	1	0	0	1	0	0	0	0	0	
158	1/22/2014	03:00 AM	2	16	3	1	0	3	0	1	1	0	0	0	0	
159	1/22/2014	04:00 AM	0	37	11	0	0	0	0	3	0	0	0	0	0	
160	1/22/2014	05:00 AM	1	60	42	0	4	3	0	3	4	0	1	0	0	
161	1/22/2014	06:00 AM	0	196	72	4	3	3	0	3	2	0	0	0	0	
162	1/22/2014	07:00 AM	2	418	94	0	10	6	0	14	8	0	1	1	1	6
163	1/22/2014	08:00 AM	0	281	87	1	19	5	0	12	11	2	1	0	1	3
164	1/22/2014	09:00 AM	2	245	98	3	15	9	0	12	9	0	2	0	0	5
165	1/22/2014	10:00 AM	1	280	95	1	13	4	0	11	10	1	0	1	2	5
166	1/22/2014	11:00 AM	3	327	95	3	13	6	0	13	8	2	4	1	0	5
167	1/22/2014	12:00 PM	3	382	107	2	9	4	1	6	11	1	1	0	0	5
168	1/22/2014	01:00 PM	1	300	92	2	10	6	0	12	6	1	5	0	0	4
169	1/22/2014	02:00 PM	4	295	100	3	12	5	0	9	5	0	2	0	2	5
170	1/22/2014	03:00 PM	6	521	116	2	11	8	0	9	5	3	0	1	0	6
171	1/22/2014	04:00 PM	3	539	122	4	10	2	0	9	6	1	0	0	0	3
172	1/22/2014	05:00 PM	4	464	113	2	14	2	1	10	5	2	1	0	0	7
173	1/22/2014	06:00 PM	1	301	81	1	3	1	0	11	3	0	0	0	1	3
174	1/22/2014	07:00 PM	0	158	36	0	3	0	0	0	1	0	0	0	0	0
175	1/22/2014	08:00 PM	0	128	34	1	0	1	1	0	2	0	0	0	0	1
176	1/22/2014	09:00 PM	0	96	28	0	2	0	0	1	1	0	0	0	0	0
177	1/22/2014	10:00 PM	0	53	15	0	1	0	0	0	2	0	0	0	0	0
178	1/22/2014	11:00 PM	0	64	11	0	1	0	0	0	0	0	0	0	0	0
179	1/23/2014	12:00 AM	1	77	13	0	1	1	0	0	1	0	0	1	0	0
180	1/23/2014	01:00 AM	0	31	8	0	0	0	0	1	0	0	0	0	0	0
181	1/23/2014	02:00 AM	0	22	3	0	0	1	0	0	1	1	0	0	0	0
182	1/23/2014	03:00 AM	0	10	7	0	1	0	0	0	5	0	0	0	0	0
183	1/23/2014	04:00 AM	2	29	11	1	1	2	0	0	3	0	0	0	0	0
184	1/23/2014	05:00 AM	1	56	26	0	2	4	0	2	1	0	0	0	0	0
185	1/23/2014	06:00 AM	1	186	83	3	4	4	0	3	2	1	0	0	0	0
186	1/23/2014	07:00 AM	6	418	91	4	9	5	0	14	5	0	0	0	1	7
187	1/23/2014	08:00 AM	3	245	93	4	19	6	0	8	10	0	0	0	0	2
188	1/23/2014	09:00 AM	3	265	82	2	18	7	0	11	3	3	1	0	2	1

189 1/23/2014 10:00 AM	2	269	73	1	12	7	0	7	9	1	0	0	1	1
190 1/23/2014 11:00 AM	2	345	115	2	9	2	0	12	3	0	0	0	0	6

**ADT**

36	5004	1214	20	124	52	2	128	70	15	10	3	7	45
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Pass Cars  
6254

Trucks **TOTAL**  
431 **6730**  
6.5% 0.7%

\* excludes  
Not \* Not  
Classed Classified

File Name: Garrett Rd @ Frontage Rd - AM

Start Date: 10/23/2013

Start Time: 7:00:00 AM

Site Code:

Comment 1:

Comment 2:

Comment 3:

Comment 4:

Start Time	GARRETT From North			FRONTAGE From East			GARRETT From South			FRONTAGE From West			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM	9	19	23	8	2	6	9	34	0	5	1	3	
7:15 AM	11	20	21	11	2	6	19	51	6	1	1	6	
7:30 AM	10	29	23	13	2	5	7	64	1	2	0	3	
7:45 AM	8	25	33	5	2	6	12	57	3	2	1	6	
8:00 AM	10	29	32	10	2	7	10	42	6	4	0	10	
8:15 AM	13	18	22	15	0	2	8	30	1	1	0	11	
8:30 AM	19	35	29	22	1	4	11	39	1	1	0	8	
8:45 AM	19	23	25	20	3	3	7	31	2	1	1	16	
9:00 AM	22	23	31	14	4	4	7	18	0	2	7	6	
9:15 AM	21	18	34	25	2	5	3	23	0	2	3	19	
9:30 AM	25	19	42	26	3	8	10	29	5	1	4	21	
9:45 AM	25	33	48	32	2	5	8	28	3	7	6	15	
		7:15-8:15 TOTAL			7:15-8:15 TOTAL			7:15-8:15 TOTAL			7:15-8:15 TOTAL		
		251			71			278			36		

Heavy Trucks and Buses

7:00 AM	0	3	1	1	0	1	0	1	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	1	0	0	0	0
7:30 AM	0	0	0	2	0	0	1	1	0	0	0	0
7:45 AM	0	0	2	2	0	0	0	4	0	0	0	0
8:00 AM	0	2	0	0	0	0	0	1	0	0	0	0



8:15 AM	0	1	1	2	0	1	0	1	0	0	0	1
8:30 AM	0	1	0	0	0	1	0	0	0	0	1	0
8:45 AM	0	1	3	1	0	1	0	3	0	0	0	1
9:00 AM	0	1	4	0	0	1	0	0	0	0	0	1
9:15 AM	2	1	1	3	0	0	0	0	0	0	0	0
9:30 AM	3	1	2	2	0	0	0	0	0	0	0	1
9:45 AM	0	0	0	1	0	1	0	1	0	0	0	0
	7:15-8:15			7:15-8:15			7:15-8:15			7:15-8:15		
	TOTAL			TOTAL			TOTAL			TOTAL		
	4			5			8			0		
% Trucks>	1.6%			6.6%			2.8%			0.0%		
	<b>TOTAL</b>			<b>TOTAL</b>			<b>TOTAL</b>			<b>TOTAL</b>		
	<b>251</b>			<b>71</b>			<b>278</b>			<b>36</b>		



03:00 PM	1	2	1	1	0	1	0	0	0	0	0	0
03:15 PM	0	2	1	0	0	1	0	1	0	0	0	1
03:30 PM	2	4	1	1	0	0	0	2	0	0	1	0
03:45 PM	2	1	2	3	0	2	1	3	0	1	0	0
04:00 PM	1	5	1	0	0	0	0	1	0	0	0	0
04:15 PM	0	1	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	2	0	0	1	0	2	0	0	0	0
04:45 PM	0	0	3	0	0	1	1	0	0	0	0	0
05:00 PM	1	3	0	1	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	1	0	0	0	1	0	0	0	1
<hr/>												
	4:15-5:15			4:15-5:15			4:15-5:15			4:15-5:15		
	TOTAL			TOTAL			TOTAL			TOTAL		
	12			3			3			1		
% Trucks>	2.2%			0.8%			1.3%			0.8%		
	<b>TOTAL</b>			<b>TOTAL</b>			<b>TOTAL</b>			<b>TOTAL</b>		
	<b>535</b>			<b>367</b>			<b>223</b>			<b>118</b>		

File Name: T:\05Operations\Traffic\TrafficSpec\~Larry\Studies\Roundabouts\Ouachita\Garrett Rd. @ Eastbound Off

Start Date: 10/23/2013

Start Time: 7:00:00 AM

Site Code: 00000000

Comment 1:

Comment 2:

Comment 3:

Comment 4:

Start Time	GARRETT From North			I20 EB RAMP From East			GARRETT From South			I20 EB RAMP From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
Passenger Vehicles												
07:00 AM	0	26	4	0	0	0	4	49	0	27	3	37
07:15 AM	0	28	6	0	0	0	10	63	0	25	0	63
07:30 AM	0	38	7	0	0	0	13	70	0	23	2	60
07:45 AM	0	30	2	0	0	0	7	65	0	39	0	83
08:00 AM	0	20	6	0	0	0	12	54	0	46	1	49
08:15 AM	0	32	8	0	0	0	5	54	0	28	1	62
08:30 AM	0	33	2	0	0	0	6	71	0	45	0	54
08:45 AM	0	32	2	0	0	0	11	62	0	45	1	56
09:00 AM	0	40	5	0	0	0	4	55	0	56	0	25
09:15 AM	0	32	9	0	0	0	5	68	0	46	1	37
09:30 AM	0	31	8	0	0	0	2	78	0	57	0	39
09:45 AM	0	54	7	0	0	0	5	81	0	57	0	42

From North  
7A-10A  
462

From South  
7A-10A  
854

From West  
7A-10A  
1110

Going East  
7A-10A  
159

Heavy Trucks and Busses

07:00 AM	0	1	0	0	0	0	0	1	0	1	0	2
07:15 AM	0	0	1	0	0	0	0	1	0	0	0	4
07:30 AM	0	0	1	0	0	0	1	5	0	0	1	1
07:45 AM	0	2	2	0	0	0	0	6	0	1	0	3
08:00 AM	1	2	3	0	0	0	1	3	0	0	0	3
08:15 AM	0	2	1	0	0	0	0	2	0	1	0	4

08:30 AM	0	2	1	0	0	0	0	4	0	1	0	0
08:45 AM	0	0	0	0	0	0	1	7	0	5	0	3
09:00 AM	0	4	0	0	0	0	0	1	0	2	0	2
09:15 AM	0	5	2	0	0	0	0	6	0	3	0	1
09:30 AM	0	2	0	0	0	0	0	6	0	4	0	1
09:45 AM	0	1	1	0	0	0	0	5	0	3	0	2

	From North	From South	From West	Going East
	7A-10A	7A-10A	7A-10A	7A-10A
	34	50	48	16
% Trucks>	6.9%	5.5%	4.1%	9.1%
	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>
	<b>34</b>	<b>50</b>	<b>48</b>	<b>16</b>

File Name: T:\05Operations\Traffic\TrafficSpec\~Larry\Studies\Roundabouts\Ouachita\Garrett Rd. @ Eastbound Off

Start Date: 10/24/2013

Start Time: 2:00:00 PM

Site Code: 00000000

Comment 1: Default Comments

Comment 2: Change These in The Preferences Window

Comment 3: Select File/Preference in the Main Scree

Comment 4: Then Click the Comments Tab

Start Time	GARRETT From North			I20 EB RAMP From East			GARRETT From South			I20 EB RAMP From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
Passenger Vehicles												
02:00 PM	0	60	22	0	0	0	17	96	0	64	0	34
02:15 PM	0	44	27	0	0	0	23	115	0	46	1	29
02:30 PM	0	79	23	0	0	0	9	96	0	64	0	25
02:45 PM	0	51	18	0	0	0	20	103	0	56	1	28
03:00 PM	0	86	30	0	0	0	20	97	0	58	0	28
03:15 PM	0	70	20	0	0	0	18	103	0	58	2	34
03:30 PM	0	90	27	0	0	0	13	102	0	65	0	26
03:45 PM	0	76	26	0	0	0	9	95	0	67	2	36
04:00 PM	0	68	23	0	0	0	13	119	0	57	0	34
04:15 PM	0	77	26	0	0	0	25	100	0	63	0	41
04:30 PM	0	72	16	0	0	0	19	138	0	45	0	37
04:45 PM	0	76	23	0	0	0	18	111	0	65	0	40
05:00 PM	0	90	28	0	0	0	20	141	0	64	0	52
05:15 PM	0	67	20	0	0	0	18	137	0	54	1	45

Start Time	From North 2P-5P 1130			From South 2P-5P 1479			From West 2P-5P 1106		Going East 2P-5P 491		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Right	Thru	
Heavy Trucks and Busses											
02:00 PM	0	1	0	0	0	0	0	5	0	0	4
02:15 PM	0	0	3	0	0	0	0	2	0	4	2
02:30 PM	0	3	0	0	0	0	1	2	0	2	4
02:45 PM	0	1	1	0	0	0	0	4	0	0	5

03:00 PM	0	1	3	0	0	0	0	1	0	2	0	2
03:15 PM	0	4	2	0	0	0	0	2	0	2	0	1
03:30 PM	0	5	1	0	0	0	0	4	0	3	0	4
03:45 PM	0	2	3	0	0	0	1	6	0	2	0	2
04:00 PM	0	0	1	0	0	0	1	1	0	5	0	4
04:15 PM	0	1	1	0	0	0	0	3	0	1	0	1
04:30 PM	0	0	1	0	0	0	0	2	0	2	0	4
04:45 PM	0	0	0	0	0	0	0	0	0	2	0	2
05:00 PM	0	3	1	0	0	0	0	2	0	1	0	2
05:15 PM	0	0	1	0	0	0	1	3	0	1	0	2

	From North	From South	From West	Going East
	<i>2P-5P</i>	<i>2P-5P</i>	<i>2P-5P</i>	<i>2P-5P</i>
	34	35	60	19
% Trucks>	2.9%	2.3%	5.1%	3.7%
	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>
	<b>1164</b>	<b>1514</b>	<b>1166</b>	<b>510</b>

File Name: Garrett Rd @ I-20 WB Ramps - AM

Start Date: 11/5/2013

Start Time: 7:00:00 AM

Site Code:

Comment 1:

Comment 2:

Comment 3:

Comment 4:

Start Time	GARRETT From North			I-20 WB RAMPS From East			GARRETT From South			I-20 WB RAMPS From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
Passenger Vehicles												
7:00 AM	33	23	0	13	0	2	0	62	27	0	0	0
7:15 AM	34	35	0	14	0	5	0	81	34	0	0	0
7:30 AM	45	51	0	18	0	5	0	129	37	0	0	0
7:45 AM	43	37	0	16	0	3	0	116	35	0	0	0
8:00 AM	30	33	0	7	0	3	0	63	29	0	0	0
8:15 AM	30	39	0	17	0	5	0	45	44	0	0	0
8:30 AM	34	27	0	6	0	3	0	63	26	0	0	0
8:45 AM	28	37	0	12	0	4	0	59	33	0	0	0
9:00 AM	27	36	1	10	0	3	0	74	43	0	0	0
9:15 AM	25	36	1	8	0	7	0	81	28	0	0	0
9:30 AM	13	46	0	15	0	5	0	57	41	0	0	0
9:45 AM	16	41	0	10	0	3	0	60	31	0	0	0

From North  
7A-10A  
801

From East  
7A-10A  
194

From South  
7A-10A  
1298

Going West  
7A-10A  
665

Heavy Trucks and Busses

7:00 AM	2	3	0	0	0	0	0	5	0	0	0	0
7:15 AM	2	0	0	4	0	0	0	5	1	0	0	0
7:30 AM	1	1	0	0	0	0	0	2	6	0	0	0
7:45 AM	2	4	0	2	0	2	0	1	2	0	0	0
8:00 AM	5	1	0	1	0	2	1	3	1	0	0	0
8:15 AM	1	4	0	1	0	0	0	4	1	0	0	0



8:30 AM	0	8	0	0	0	0	0	3	2	0	0	0
8:45 AM	4	2	0	2	0	0	0	4	0	0	0	0
9:00 AM	5	4	0	1	0	0	0	1	1	0	0	0
9:15 AM	2	3	0	0	0	0	0	3	0	0	0	0
9:30 AM	1	1	0	0	0	0	0	6	1	0	0	0
9:45 AM	3	3	0	2	0	0	0	3	2	0	0	0

	From North	From East	From South	Going West
	7A-10A	7A-10A	7A-10A	7A-10A
	62	17	58	38
% Trucks>	7.2%	8.1%	4.3%	5.4%
	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>
	<b>863</b>	<b>211</b>	<b>1356</b>	<b>703</b>

File Name: Garrett Rd @ I-20 WB Ramps - PM

Start Date: 11/1/2013

Start Time: 2:00:00 PM

Site Code:

Comment 1:

Comment 2:

Comment 3:

Comment 4:

Start Time	GARRETT From North			I20 WB RAMPS From East			GARRETT From South			I20 WB RAMPS From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
Passenger Vehicles												
2:00 PM	52	114	0	31	2	5	4	117	62	0	0	0
2:15 PM	50	114	0	45	4	7	0	106	59	0	0	0
2:30 PM	58	118	0	25	3	5	0	91	60	0	0	0
2:45 PM	50	110	0	33	0	8	0	92	84	0	0	0
3:00 PM	62	125	0	23	0	6	0	90	40	0	0	0
3:15 PM	48	119	0	31	1	7	0	93	66	0	0	0
3:30 PM	58	107	0	28	1	5	0	97	67	0	0	0
3:45 PM	68	122	0	30	0	10	0	102	69	0	0	0
4:00 PM	73	114	0	28	1	8	0	96	81	0	0	0
4:15 PM	53	112	0	34	1	4	0	101	51	0	0	0
4:30 PM	77	110	0	28	1	2	0	110	66	0	0	0
4:45 PM	61	122	0	34	1	11	0	95	58	0	0	0
5:00 PM	78	121	0	39	1	5	0	115	63	0	0	0
5:15 PM	58	93	0	22	0	6	0	90	57	0	0	0

From North  
2P-5P  
2097

From East  
2P-5P  
463

From South  
2P-5P  
1957

Going West  
2P-5P  
1488

Heavy Trucks and Busses

2:00 PM	1	3	0	0	0	0	0	1	1	0	0	0
2:15 PM	6	0	0	0	0	0	0	2	1	0	0	0
2:30 PM	3	1	0	0	1	1	0	3	0	0	0	0
2:45 PM	1	1	0	0	0	1	0	8	1	0	0	0

3:00 PM	1	5	0	1	0	0	0	3	2	0	0	0
3:15 PM	7	3	0	0	0	0	0	8	1	0	0	0
3:30 PM	1	1	0	3	0	0	0	5	1	0	0	0
3:45 PM	4	4	0	0	0	0	0	9	1	0	0	0
4:00 PM	2	1	0	1	0	1	0	8	3	0	0	0
4:15 PM	7	2	0	1	0	0	0	3	5	0	0	0
4:30 PM	7	3	0	0	0	0	0	5	2	0	0	0
4:45 PM	1	4	0	0	0	0	0	2	1	0	0	0
5:00 PM	2	4	0	0	0	0	0	5	1	0	0	0
5:15 PM	2	1	0	1	0	0	0	7	0	0	0	0

	From North	From East	From South	Going West
	<i>2P-5P</i>	<i>2P-5P</i>	<i>2P-5P</i>	<i>2P-5P</i>
	69	10	76	61
% Trucks>	3.2%	2.1%	3.7%	3.9%
	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>
	<b>2166</b>	<b>473</b>	<b>2033</b>	<b>1549</b>

File Name: Garrett Rd @ LA 594 - AM

Start Date: 11/5/2013

Start Time: 7:00:00 AM

Site Code:

Comment 1:

Comment 2:

Comment 3:

Comment 4:

Start Time	GARRETT From North			LA 594 From East			GARRETT From South			LA 594 From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
7:00 AM	0	0	0	0	23	8	22	0	48	36	14	0
7:15 AM	0	0	0	0	28	9	28	0	48	50	34	0
7:30 AM	0	0	0	0	49	17	76	0	74	71	66	0
7:45 AM	0	0	0	0	53	9	68	0	69	53	54	0
8:00 AM	0	0	0	0	44	10	40	0	49	38	42	0
8:15 AM	0	0	0	0	22	18	6	0	44	43	21	0
8:30 AM	0	0	0	0	20	16	21	0	53	38	16	0
8:45 AM	0	0	0	0	18	14	34	0	48	51	33	0
9:00 AM	0	0	0	0	33	12	32	0	39	38	32	0
9:15 AM	0	0	0	0	37	13	56	0	51	62	56	0
9:30 AM	0	0	0	0	30	8	19	0	61	51	19	0
9:45 AM	0	0	0	0	16	11	15	0	45	59	17	0
				7:15-8:15			7:15-8:15			7:15-8:15		
				TOTAL			TOTAL			TOTAL		
				219			452			408		

Heavy Trucks and Busses

7:00 AM	0	0	0	0	1	1	2	0	4	4	1	0
7:15 AM	0	0	0	0	6	3	2	0	5	0	0	0
7:30 AM	0	0	0	0	3	3	1	0	6	0	3	0
7:45 AM	0	0	0	0	5	6	1	0	3	8	5	0
8:00 AM	0	0	0	0	0	5	4	0	5	8	4	0
8:15 AM	0	0	0	0	3	8	1	0	7	6	1	0
8:30 AM	0	0	0	0	4	2	1	0	4	5	3	0

8:45 AM	0	0	0	0	2	1	0	0	7	6	2	0
9:00 AM	0	0	0	0	2	1	2	0	5	12	1	0
9:15 AM	0	0	0	0	2	1	2	0	2	4	4	0
9:30 AM	0	0	0	0	0	4	3	0	5	4	4	0
9:45 AM	0	0	0	0	1	4	0	0	6	3	1	0

	7:15-8:15	7:15-8:15	7:15-8:15
	TOTAL	TOTAL	TOTAL
	31	27	28
% Trucks>	12.4%	5.6%	6.4%
	<b>TOTAL</b>	<b>TOTAL</b>	<b>TOTAL</b>
	<b>250</b>	<b>479</b>	<b>436</b>

File Name: Garrett Rd @ LA 594 - PM

Start Date: 11/1/2013

Start Time: 2:00:00 PM

Site Code:

Comment 1:

Comment 2:

Comment 3:

Comment 4:

Start Time	GARRETT From North			LA 594 From East			GARRETT From South			LA 594 From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
2:00 PM	0	0	0	0	50	23	11	0	75	100	42	0
2:15 PM	0	0	0	0	37	15	12	0	83	91	33	0
2:30 PM	0	0	0	0	31	20	9	0	85	99	39	0
2:45 PM	0	0	0	0	36	22	13	0	88	78	45	0
3:00 PM	0	0	0	0	57	13	7	0	81	105	43	0
3:15 PM	0	0	0	0	47	21	9	0	74	104	44	0
3:30 PM	0	0	0	0	35	20	10	0	80	95	39	0
3:45 PM	0	0	0	0	39	16	13	0	87	127	43	0
4:00 PM	0	0	0	0	45	18	7	0	64	122	25	0
4:15 PM	0	0	0	0	39	19	14	0	77	86	33	0
4:30 PM	0	0	0	0	60	38	12	0	61	116	40	0
4:45 PM	0	0	0	0	38	22	17	0	98	115	41	0
5:00 PM	0	0	0	0	40	29	6	0	80	135	34	0
5:15 PM	0	0	0	0	35	12	14	0	97	100	26	0
				7:15-8:15			7:15-8:15			7:15-8:15		
				TOTAL			TOTAL			TOTAL		
				279			350			578		

Heavy Trucks and Busses

2:00 PM	0	0	0	0	5	3	1	0	2	1	2	0
2:15 PM	0	0	0	0	4	1	0	0	1	5	1	0
2:30 PM	0	0	0	0	1	1	0	0	3	6	1	0
2:45 PM	0	0	0	0	1	0	0	0	6	1	1	0
3:00 PM	0	0	0	0	14	0	2	0	2	4	1	0

3:15 PM	0	0	0	0	3	2	2	0	2	4	2	0
3:30 PM	0	0	0	0	1	0	2	0	4	3	1	0
3:45 PM	0	0	0	0	0	2	2	0	1	5	1	0
4:00 PM	0	0	0	0	2	1	1	0	9	3	1	0
4:15 PM	0	0	0	0	5	1	3	0	2	6	3	0
4:30 PM	0	0	0	0	1	3	1	0	1	4	1	0
4:45 PM	0	0	0	0	1	0	0	0	0	3	0	0
5:00 PM	0	0	0	0	1	2	1	0	2	4	1	0
5:15 PM	0	0	0	0	0	0	0	0	4	2	1	0

				7:15-8:15		7:15-8:15		7:15-8:15
				TOTAL		TOTAL		TOTAL
				14		17		21
		% Trucks>		4.8%		4.6%		3.5%
				<b>TOTAL</b>		<b>TOTAL</b>		<b>TOTAL</b>
				<b>293</b>		<b>367</b>		<b>599</b>

11/17/2009	Garrett Rd From North			station driveway From East			Garrett Rd From South			Mall driveway From West		
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:00 AM	1	77	1	0	0	2	0	87	0	0	0	3
07:15 AM	0	74	0	3	0	1	6	106	1	1	0	5
07:30 AM	1	87	1	3	2	2	11	84	5	1	0	13
07:45 AM	1	89	1	4	0	3	10	90	11	0	1	15
08:00 AM	5	63	2	7	0	1	3	75	7	0	1	15
08:15 AM	4	66	4	3	1	3	4	53	7	1	1	9
08:30 AM	1	54	1	3	1	0	4	66	5	1	1	11
08:45 AM	1	47	2	0	0	1	9	74	2	1	0	5
04:00 PM	2	103	5	7	1	0	18	78	7	2	4	58
04:15 PM	3	122	7	4	2	1	15	79	7	1	4	41
04:30 PM	0	137	8	0	2	1	14	87	6	1	3	29
04:45 PM	2	113	6	2	2	0	32	68	4	6	6	41
05:00 PM	0	178	3	1	1	0	23	83	1	1	2	38
05:15 PM	1	117	2	0	1	0	16	86	1	2	6	41
05:30 PM	1	116	6	1	2	0	16	100	7	1	5	30
05:45 PM	1	96	7	2	1	0	24	75	3	3	2	23



11/18/2009	KANSAS From North			MILLHAVEN From East			KANSAS From South			MILLHAVEN From West		
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:00 AM	55	5	102	1	32	62	1	24	0	53	24	7
07:15 AM	51	4	104	2	38	89	1	23	0	49	21	4
07:30 AM	81	9	126	1	48	88	0	35	1	79	30	3
07:45 AM	80	10	130	0	58	74	3	46	1	75	36	2
08:00 AM	59	6	94	2	49	75	2	28	1	44	31	4
08:15 AM	43	8	72	0	39	33	2	11	1	33	26	4
08:30 AM	39	3	46	0	32	44	3	9	0	38	27	6
08:45 AM	45	14	64	1	41	51	3	12	3	19	30	5
04:00 PM	90	48	100	5	46	57	3	51	6	66	63	11
04:15 PM	53	23	95	3	50	45	8	35	7	55	54	14
04:30 PM	79	34	107	3	48	55	10	29	11	81	45	10
04:45 PM	51	35	82	5	52	43	4	44	6	83	72	20
05:00 PM	70	47	140	1	44	55	5	51	5	69	83	10
05:15 PM	68	41	99	1	40	49	5	47	8	77	73	23
05:30 PM	67	31	102	4	56	79	1	39	5	83	58	11
05:45 PM	63	34	79	3	37	54	1	29	4	55	52	7



## **Appendix D**

LADOTD Daily, Monthly, and  
Seasonal Adjustment Factors

LOUISIANA DOTD TRAFFIC COUNT ADJUSTMENT FACTORS

REVISED OCTOBER 4, 2012

Seasonal (Monthly) Factors from 2007 Calendar Year												
Functional System	Month											
	January	February	March	April	May	June	July	August	September	October	November	December
1	0.9326	0.8966	1.0550	0.9855	1.0291	1.0046	1.0383	1.0092	0.9536	1.0300	1.0374	1.0282
2	0.9278	0.9027	1.0567	0.9919	1.0293	0.9294	0.9903	1.0727	1.0102	1.1045	0.9980	0.9865
6	0.9493	0.9177	1.0664	0.9990	1.0411	0.9931	0.9827	1.0082	0.9798	1.0514	1.0167	0.9947
7	0.9526	0.9233	1.0580	1.0099	1.0615	0.9933	0.9808	1.0477	0.9883	1.0478	0.9709	0.9659
8=7	0.9526	0.9233	1.0580	1.0099	1.0615	0.9933	0.9808	1.0477	0.9883	1.0478	0.9709	0.9659
9=7	0.9526	0.9233	1.0580	1.0099	1.0615	0.9933	0.9808	1.0477	0.9883	1.0478	0.9709	0.9659
11	0.8666	0.9299	1.0771	0.9926	1.0513	1.0065	1.0516	1.0377	0.9432	1.0181	0.9937	1.0318
12=14	0.9751	0.9665	1.0297	0.9891	1.0027	0.9754	0.9708	1.0157	1.0186	1.0548	1.0305	0.9711
14	0.9751	0.9665	1.0297	0.9891	1.0027	0.9754	0.9708	1.0157	1.0186	1.0548	1.0305	0.9711
16	0.9787	0.9431	1.0849	1.0010	1.0444	0.9997	0.9973	1.0615	0.9800	1.0297	0.9293	0.9504
17	0.9076	0.9194	1.0554	1.0551	1.0372	1.0427	0.9577	1.0926	0.9362	1.0134	0.9862	0.9965
19=17	0.9076	0.9194	1.0554	1.0551	1.0372	1.0427	0.9577	1.0926	0.9362	1.0134	0.9862	0.9965

Axle Factors from 2005-2007		
Functional System	Axles/Veh.	Axle Factor
1	2.8792	0.69464
2	2.3592	0.84774
6	2.2725	0.88009
7	2.2292	0.89718
8	2.2026	0.90802
9	2.1905	0.91303
11	2.3296	0.85852
12	2.2236	0.89944
14	2.1861	0.91487
16	2.1330	0.93765
17	2.1523	0.92924
19	2.1149	0.94567

Functional System	Daily Factors from 2007 Calendar Year							24 Hour Monitoring Factors				48 Hour Monitoring Factors			
	(1) Monday	(2) Tuesday	(3) Wednesday	(4) Thursday	(5) Friday	(6) Saturday	(7) Sunday	(a) Monday	(b) Tuesday	(d) Wednesday	(e) Thursday	(f) Monday	(g) Tuesday	(h) Wednesday	
1	0.9465	0.9672	0.9958	1.0392	1.1547	0.9722	0.9262	0.9569	0.9815	1.0175	1.0970	0.9692	0.9995	1.0572	
2	0.9891	1.0263	1.0507	1.0703	1.1808	0.8986	0.7849	1.0077	1.0385	1.0605	1.1256	1.0231	1.0495	1.0930	
6	0.9885	1.0146	1.0298	1.0442	1.1570	0.9654	0.8004	1.0015	1.0222	1.0370	1.1006	1.0119	1.0296	1.0688	
7	1.0330	1.0918	1.0866	1.1120	1.1703	0.8491	0.6595	1.0624	1.0892	1.0993	1.1412	1.0758	1.0942	1.1202	
11	0.9931	1.0129	1.0312	1.0568	1.1537	0.9364	0.8154	1.0030	1.0221	1.0440	1.1052	1.0126	1.0331	1.0746	
14	1.0392	1.0859	1.0984	1.1181	1.1989	0.8258	0.6328	1.0625	1.0921	1.1082	1.1585	1.0773	1.1002	1.1334	
16	1.0143	1.0485	1.0565	1.0726	1.1571	0.9233	0.7286	1.0314	1.0525	1.0646	1.1149	1.0419	1.0585	1.0897	
17	0.9975	1.0192	1.0004	1.0331	1.1575	1.0016	0.7906	1.0084	1.0098	1.0167	1.0953	1.0091	1.0133	1.0560	

(a) = (1)/2+(2)/2  
 (b) = (2)/2+(3)/2  
 (d) = (3)/2+(4)/2  
 (e) = (4)/2+(5)/2

(f) = (1)/4+(2)/2+(3)/4  
 (g) = (2)/4+(3)/2+(4)/4  
 (h) = (3)/4+(4)/2+(5)/4

01	02	06	07	08	09	11	12	14	16	17	19
Rural						Urban					
Principal Arterial - Interstate	Principal Arterial - Other	Minor Arterial	Major Collector	Minor Collector	Local	Principal Arterial - Interstate	Principal Arterial - Other Freeways / Express ways	Principal Arterial - Other	Minor Arterial	Collector	Local



## **Appendix E**

SIDRA Reports

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ S. Frontage Rd

Existing AM  
Signals - Actuated

Volume Display Method: Total and %

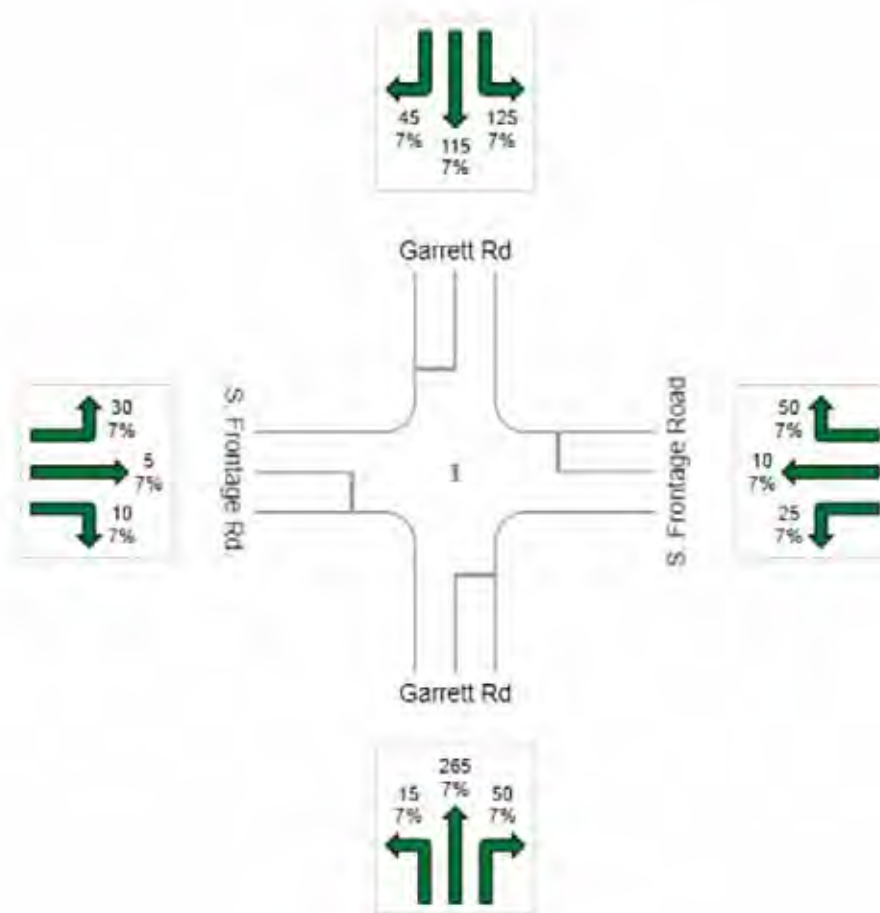
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 745

Light Vehicles (LV): 693

Heavy Vehicles (HV): 52



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ S. Frontage Rd**

Existing AM

Signals - Actuated Cycle Time = 76 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	23.7 mph	23.7 mph
Travel Distance (Total)	274.7 veh-mi/h	329.6 pers-mi/h
Travel Time (Total)	11.6 veh-h/h	13.9 pers-h/h
Demand Flows (Total)	926 veh/h	1112 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.537	
Practical Spare Capacity	67.6 %	
Effective Intersection Capacity	1725 veh/h	
Control Delay (Total)	4.21 veh-h/h	5.05 pers-h/h
Control Delay (Average)	16.3 sec	16.3 sec
Control Delay (Worst Lane)	43.4 sec	
Control Delay (Worst Movement)	45.2 sec	45.2 sec
Geometric Delay (Average)	3.1 sec	
Stop-Line Delay (Average)	13.3 sec	
Idling Time (Average)	10.6 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	11.7 veh	
95% Back of Queue - Distance (Worst Lane)	309.6 ft	
Queue Storage Ratio (Worst Lane)	1.14	
Total Effective Stops	617 veh/h	741 pers/h
Effective Stop Rate	0.67 per veh	0.67 per pers
Proportion Queued	0.64	0.64
Performance Index	89.5	89.5
Cost (Total)	231.80 \$/h	231.80 \$/h
Fuel Consumption (Total)	19.6 gal/h	
Carbon Dioxide (Total)	176.8 kg/h	
Hydrocarbons (Total)	0.056 kg/h	
Carbon Monoxide (Total)	0.681 kg/h	
NOx (Total)	0.556 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	444,677 veh/y	533,612 pers/y
Delay	2,019 veh-h/y	2,423 pers-h/y
Effective Stops	296,240 veh/y	355,488 pers/y
Travel Distance	131,859 veh-mi/y	158,230 pers-mi/y
Travel Time	5,572 veh-h/y	6,686 pers-h/y
Cost	111,265 \$/y	111,265 \$/y
Fuel Consumption	9,412 gal/y	
Carbon Dioxide	84,876 kg/y	
Hydrocarbons	27 kg/y	
Carbon Monoxide	327 kg/y	
NOx	267 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ S. Frontage Rd**

Existing AM

Signals - Actuated Cycle Time = 76 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3	L2	22	7.0	0.537	22.5	LOS C	11.7	309.6	0.75	0.70	27.8
8	T1	312	7.0	0.537	16.0	LOS B	11.7	309.6	0.75	0.70	22.0
18	R2	78	7.0	0.537	22.6	LOS C	11.7	309.6	0.75	0.70	26.7
Approach		412	7.0	0.537	17.6	LOS B	11.7	309.6	0.75	0.70	23.7
East: S. Frontage Road											
1	L2	25	7.0	0.240	45.2	LOS D	1.4	37.1	0.95	0.71	18.2
6	T1	10	7.0	0.240	38.8	LOS D	1.4	37.1	0.95	0.71	23.1
16	R2	68	7.0	0.074	7.0	LOS A	0.3	6.9	0.14	0.64	19.0
Approach		103	7.0	0.240	19.3	LOS B	1.4	37.1	0.42	0.66	19.3
North: Garrett Rd											
7	L2	158	7.0	0.435	13.4	LOS B	6.9	182.3	0.53	0.62	27.8
4	T1	126	7.0	0.435	7.9	LOS A	6.9	182.3	0.53	0.62	26.7
14	R2	51	7.0	0.435	13.5	LOS B	6.9	182.3	0.53	0.62	29.2
Approach		335	7.0	0.435	11.3	LOS B	6.9	182.3	0.53	0.62	27.8
West: S. Frontage Rd.											
5	L2	48	7.0	0.142	32.5	LOS C	1.5	40.6	0.85	0.73	16.1
2	T1	10	7.0	0.058	15.5	LOS B	0.7	17.7	0.68	0.63	31.5
12	R2	18	7.0	0.058	22.1	LOS C	0.7	17.7	0.68	0.63	27.4
Approach		75	7.0	0.142	27.8	LOS C	1.5	40.6	0.79	0.69	20.0
All Vehicles		926	7.0	0.537	16.3	LOS B	11.7	309.6	0.64	0.67	23.7

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

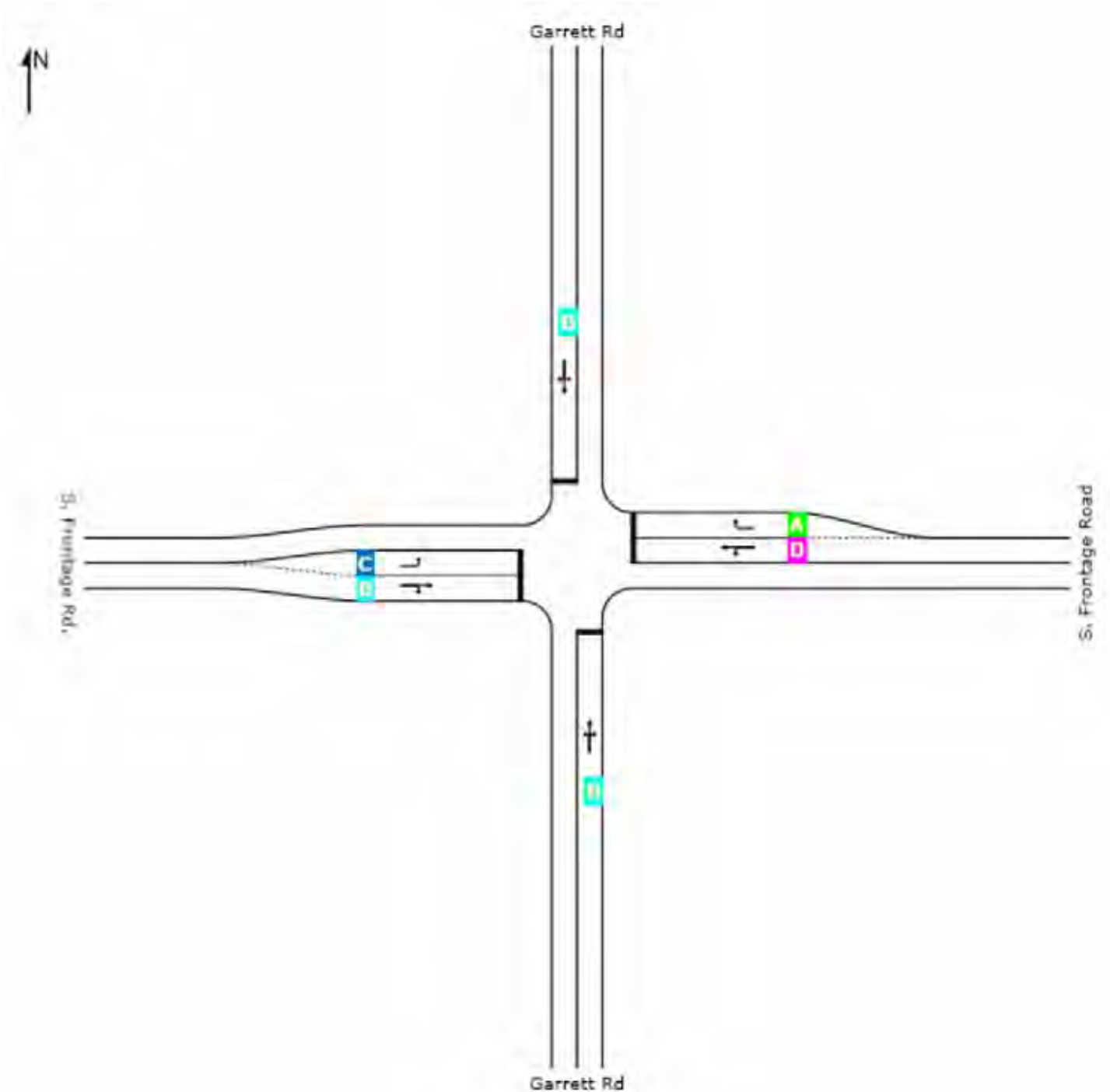
# LEVEL OF SERVICE

 **Site: AM: Garrett Rd @ S. Frontage Rd**

Existing AM  
 Signals - Actuated Cycle Time = 76 seconds (Practical Cycle Time)

**All Movement Classes**

	South	East	North	West	Intersection
LOS	B	B	B	C	B



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ S. Frontage Rd

Existing PM  
Signals - Actuated

Volume Display Method: Total and %

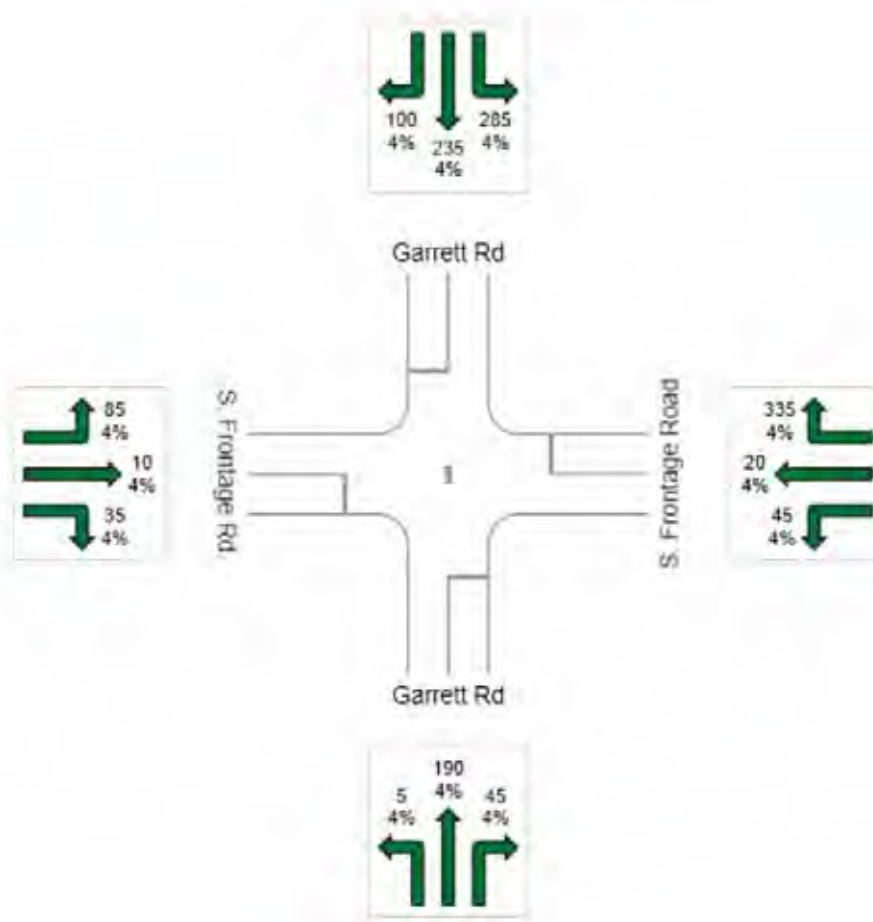
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1390

Light Vehicles (LV): 1334

Heavy Vehicles (HV): 56



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ S. Frontage Rd**

Existing PM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	15.6 mph	15.6 mph
Travel Distance (Total)	544.5 veh-mi/h	653.4 pers-mi/h
Travel Time (Total)	34.8 veh-h/h	41.8 pers-h/h
Demand Flows (Total)	1701 veh/h	2041 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.962	
Practical Spare Capacity	-6.5 %	
Effective Intersection Capacity	1768 veh/h	
Control Delay (Total)	18.25 veh-h/h	21.90 pers-h/h
Control Delay (Average)	38.6 sec	38.6 sec
Control Delay (Worst Lane)	61.5 sec	
Control Delay (Worst Movement)	64.3 sec	64.3 sec
Geometric Delay (Average)	4.1 sec	
Stop-Line Delay (Average)	34.5 sec	
Idling Time (Average)	31.3 sec	
Intersection Level of Service (LOS)	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	49.0 veh	
95% Back of Queue - Distance (Worst Lane)	1264.1 ft	
Queue Storage Ratio (Worst Lane)	7.92	
Total Effective Stops	1417 veh/h	1700 pers/h
Effective Stop Rate	0.83 per veh	0.83 per pers
Proportion Queued	0.71	0.71
Performance Index	328.5	328.5
Cost (Total)	584.31 \$/h	584.31 \$/h
Fuel Consumption (Total)	38.6 gal/h	
Carbon Dioxide (Total)	346.4 kg/h	
Hydrocarbons (Total)	0.138 kg/h	
Carbon Monoxide (Total)	1.463 kg/h	
NOx (Total)	0.778 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

The results of iterative calculations indicate a somewhat unstable solution. See the Diagnostics section in the Detailed Output report.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	816,279 veh/y	979,535 pers/y
Delay	8,762 veh-h/y	10,514 pers-h/y
Effective Stops	680,131 veh/y	816,157 pers/y
Travel Distance	261,368 veh-mi/y	313,642 pers-mi/y
Travel Time	16,720 veh-h/y	20,064 pers-h/y
Cost	280,470 \$/y	280,470 \$/y
Fuel Consumption	18,545 gal/y	
Carbon Dioxide	166,252 kg/y	
Hydrocarbons	66 kg/y	
Carbon Monoxide	702 kg/y	
NOx	374 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

Existing PM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	9	4.0	0.687	64.3	LOS E	19.5	504.1	0.95	0.82	16.5
8	T1	211	4.0	0.687	57.8	LOS E	19.5	504.1	0.95	0.82	10.0
18	R2	49	4.0	0.687	64.3	LOS E	19.5	504.1	0.95	0.82	15.3
Approach		269	4.0	0.687	59.2	LOS E	19.5	504.1	0.95	0.82	11.4
East: S. Frontage Road											
1	L2	69	4.0	0.962	64.0	LOS E	8.5	220.2	0.73	0.77	14.9
6	T1	43	4.0	0.962	57.6	LOS E	8.5	220.2	0.73	0.77	19.2
16	R2	394	4.0	0.311	6.9	LOS A	2.5	64.2	0.11	0.64	19.1
Approach		507	4.0	0.962	19.0	LOS B	8.5	220.2	0.25	0.67	18.3
North: Garrett Rd											
7	L2	320	4.0	0.919	48.4	LOS D	49.0	1264.1	0.96	0.99	15.4
4	T1	283	4.0	0.919	42.9	LOS D	49.0	1264.1	0.96	0.99	12.0
14	R2	130	4.0	0.919	48.5	LOS D	49.0	1264.1	0.96	0.99	16.9
Approach		733	4.0	0.919	46.3	LOS D	49.0	1264.1	0.96	0.99	14.5
West: S. Frontage Rd.											
5	L2	110	4.0	0.283	39.8	LOS D	5.9	151.7	0.68	0.73	14.9
2	T1	18	4.0	0.109	17.3	LOS B	2.9	75.1	0.52	0.65	30.2
12	R2	64	4.0	0.109	23.9	LOS C	2.9	75.1	0.52	0.65	26.4
Approach		192	4.0	0.283	32.4	LOS C	5.9	151.7	0.61	0.70	19.1
All Vehicles		1701	4.0	0.962	38.6	LOS D	49.0	1264.1	0.71	0.83	15.6

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

The results of iterative calculations indicate a somewhat unstable solution. See the Diagnostics section in the Detailed Output report.

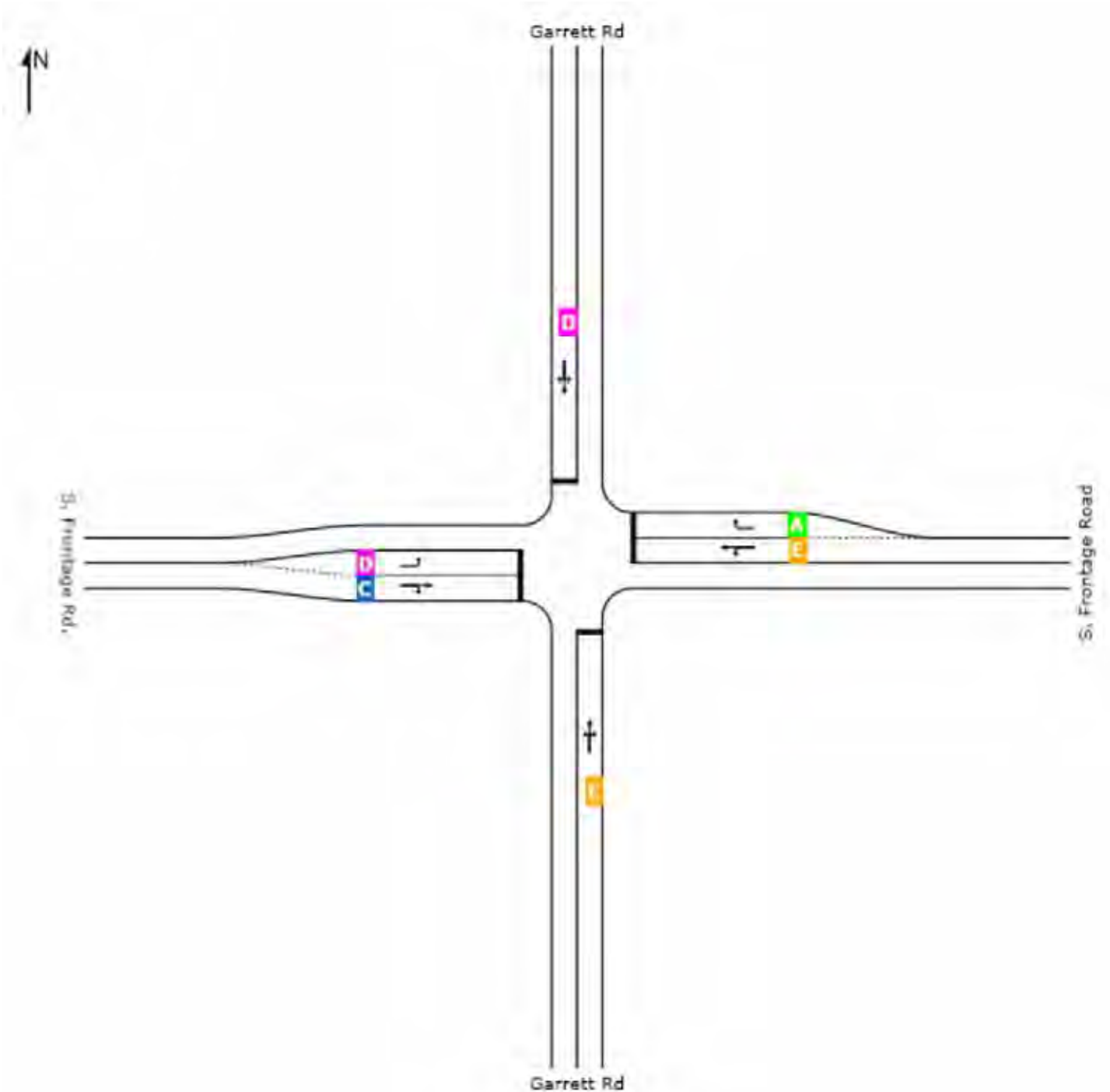
# LEVEL OF SERVICE

 **Site: PM: Garrett Rd @ S. Frontage Rd**

Existing PM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

**All Movement Classes**

	South	East	North	West	Intersection
LOS	E	B	D	C	D



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd @ I-20 EB**

Existing AM  
Signals - Actuated

**Volume Display Method: Total and %**

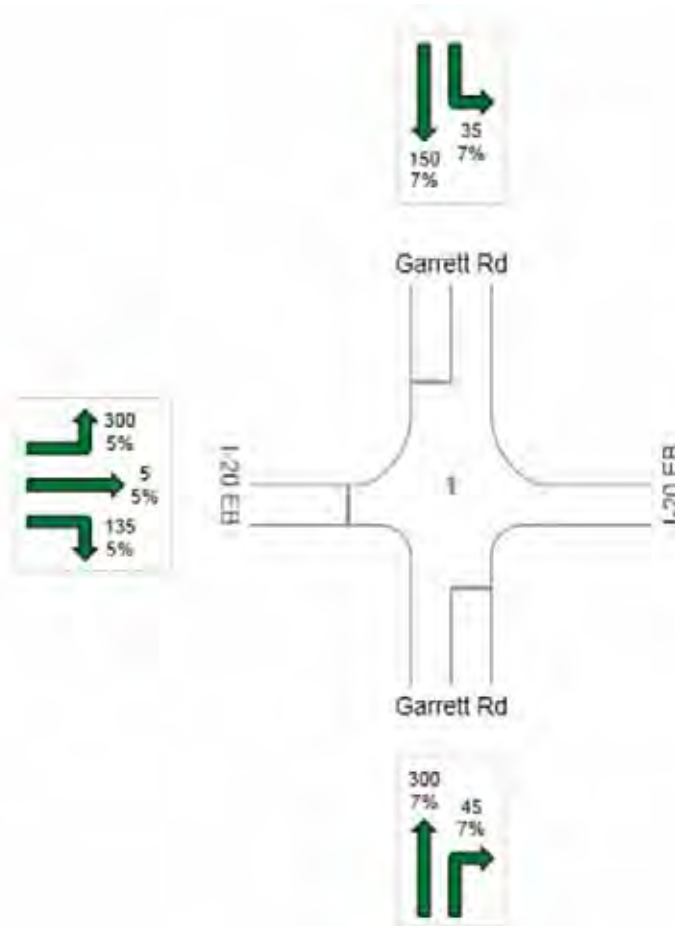
**Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles**

**Total Intersection Volumes (veh)**

**All Movement Classes: 970**

**Light Vehicles (LV): 911**

**Heavy Vehicles (HV): 59**



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ I-20 EB**

Existing AM  
 Signals - Actuated Cycle Time = 91 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	28.3 mph	28.3 mph
Travel Distance (Total)	685.0 veh-mi/h	821.9 pers-mi/h
Travel Time (Total)	24.2 veh-h/h	29.1 pers-h/h
Demand Flows (Total)	1189 veh/h	1427 pers/h
Percent Heavy Vehicles (Demand)	6.1 %	
Degree of Saturation	0.585	
Practical Spare Capacity	53.7 %	
Effective Intersection Capacity	2031 veh/h	
Control Delay (Total)	7.47 veh-h/h	8.96 pers-h/h
Control Delay (Average)	22.6 sec	22.6 sec
Control Delay (Worst Lane)	30.7 sec	
Control Delay (Worst Movement)	30.8 sec	30.8 sec
Geometric Delay (Average)	3.5 sec	
Stop-Line Delay (Average)	19.1 sec	
Idling Time (Average)	16.6 sec	
Intersection Level of Service (LOS)	LOS C	
95% Back of Queue - Vehicles (Worst Lane)	15.3 veh	
95% Back of Queue - Distance (Worst Lane)	397.6 ft	
Queue Storage Ratio (Worst Lane)	2.18	
Total Effective Stops	836 veh/h	1004 pers/h
Effective Stop Rate	0.70 per veh	0.70 per pers
Proportion Queued	0.66	0.66
Performance Index	99.9	99.9
Cost (Total)	445.44 \$/h	445.44 \$/h
Fuel Consumption (Total)	36.7 gal/h	
Carbon Dioxide (Total)	330.1 kg/h	
Hydrocarbons (Total)	0.104 kg/h	
Carbon Monoxide (Total)	1.417 kg/h	
NOx (Total)	0.925 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).  
 Intersection LOS value for Vehicles is based on average delay for all vehicle movements.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	570,870 veh/y	685,043 pers/y
Delay	3,584 veh-h/y	4,300 pers-h/y
Effective Stops	401,484 veh/y	481,781 pers/y
Travel Distance	328,777 veh-mi/y	394,532 pers-mi/y
Travel Time	11,635 veh-h/y	13,962 pers-h/y
Cost	213,813 \$/y	213,813 \$/y
Fuel Consumption	17,595 gal/y	
Carbon Dioxide	158,440 kg/y	
Hydrocarbons	50 kg/y	
Carbon Monoxide	680 kg/y	
NOx	444 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Existing AM

Signals - Actuated Cycle Time = 91 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
8	T1	345	7.0	0.536	25.9	LOS C	13.2	348.1	0.82	0.71	24.4
18	R2	57	7.0	0.043	6.1	LOS A	0.2	5.4	0.12	0.61	33.4
Approach		402	7.0	0.536	23.1	LOS C	13.2	348.1	0.72	0.70	25.4
North: Garrett Rd											
7	L2	48	7.0	0.326	22.9	LOS C	7.3	193.4	0.63	0.55	30.6
4	T1	195	7.0	0.326	16.5	LOS B	7.3	193.4	0.63	0.55	28.4
Approach		243	7.0	0.326	17.7	LOS B	7.3	193.4	0.63	0.55	29.0
West: I-20 EB											
5	L2	390	5.0	0.585	30.8	LOS C	15.3	397.6	0.82	0.83	29.5
2	T1	10	5.0	0.585	24.4	LOS C	15.3	397.6	0.82	0.83	30.8
12	R2	145	5.0	0.114	7.2	LOS A	0.6	14.7	0.13	0.62	28.2
Approach		545	5.0	0.585	24.4	LOS C	15.3	397.6	0.64	0.78	29.3
All Vehicles		1189	6.1	0.585	22.6	LOS C	15.3	397.6	0.66	0.70	28.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

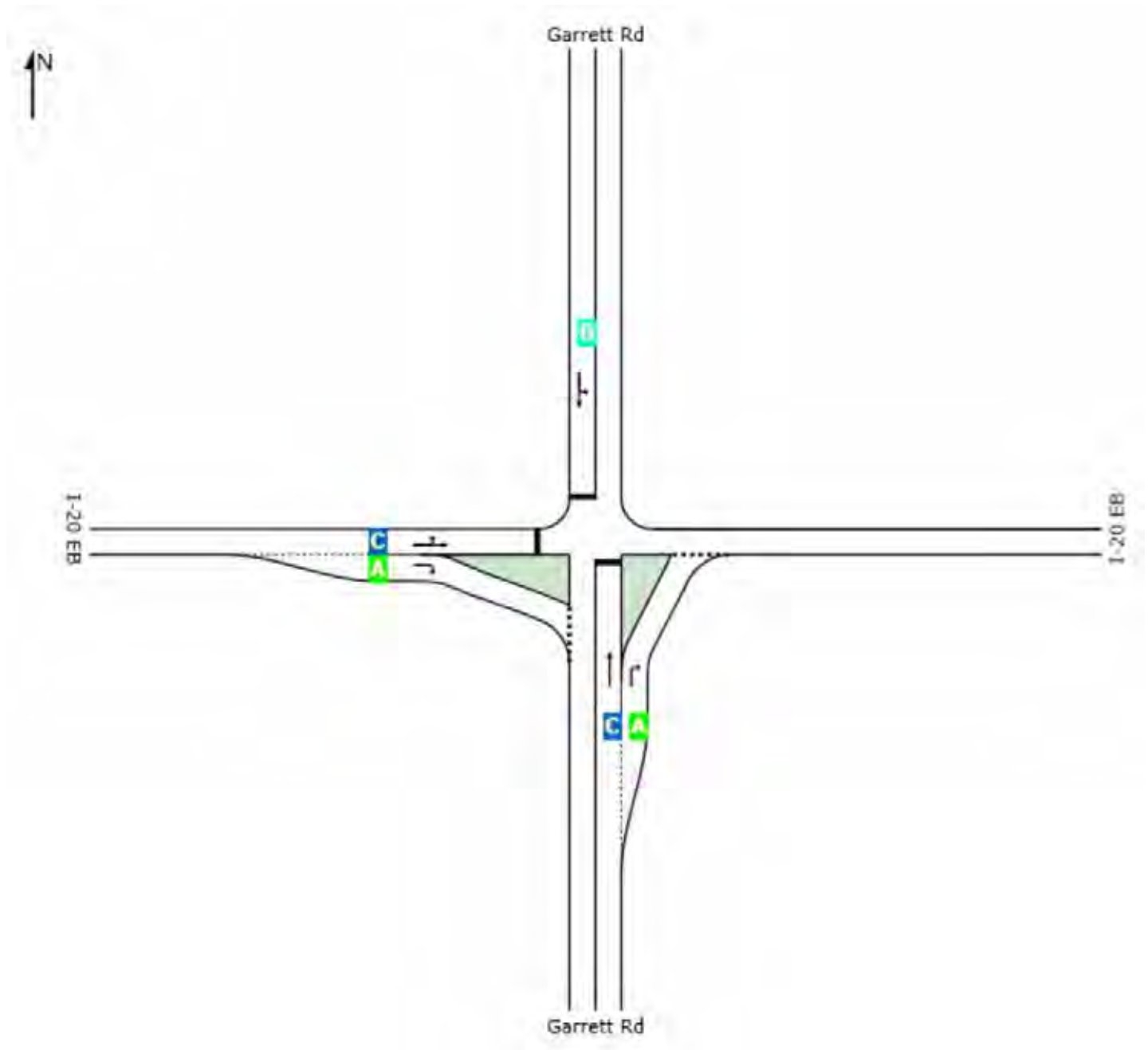
# LEVEL OF SERVICE

 **Site: AM: Garrett Rd @ I-20 EB**

Existing AM  
 Signals - Actuated Cycle Time = 91 seconds (Practical Cycle Time)

## All Movement Classes

	South	North	West	Intersection
LOS	C	B	C	C



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB

Existing PM  
Signals - Actuated

Volume Display Method: Total and %

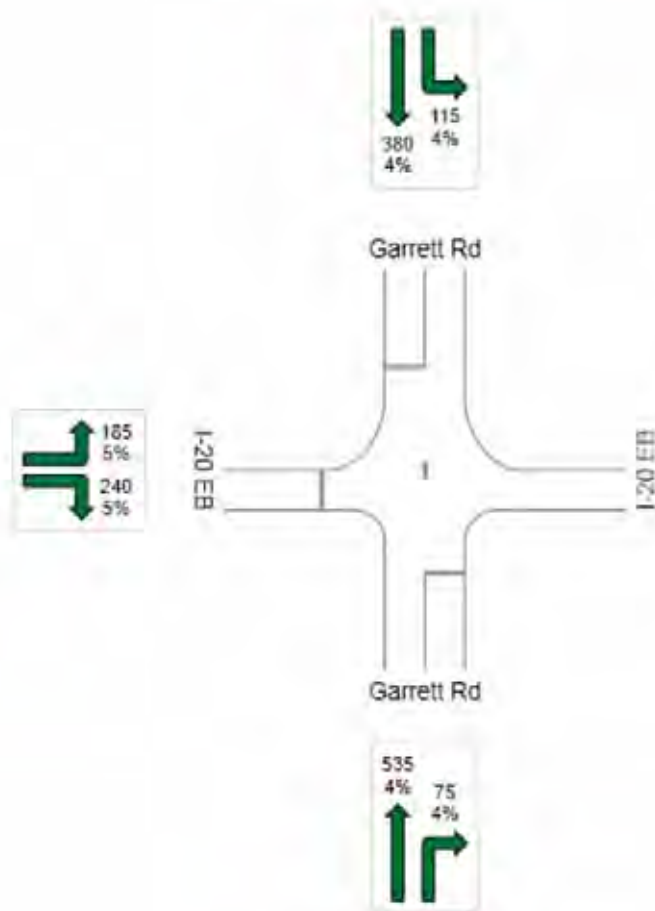
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1530

Light Vehicles (LV): 1465

Heavy Vehicles (HV): 65



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ I-20 EB**

Existing PM  
 Signals - Actuated Cycle Time = 135 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	9.6 mph	9.6 mph
Travel Distance (Total)	868.7 veh-mi/h	1042.5 pers-mi/h
Travel Time (Total)	90.0 veh-h/h	108.0 pers-h/h
Demand Flows (Total)	1753 veh/h	2104 pers/h
Percent Heavy Vehicles (Demand)	4.3 %	
Degree of Saturation	2.659	
Practical Spare Capacity	-66.2 %	
Effective Intersection Capacity	659 veh/h	
Control Delay (Total)	68.50 veh-h/h	82.20 pers-h/h
Control Delay (Average)	140.7 sec	140.7 sec
Control Delay (Worst Lane)	972.3 sec	
Control Delay (Worst Movement)	972.3 sec	972.3 sec
Geometric Delay (Average)	2.7 sec	
Stop-Line Delay (Average)	138.0 sec	
Idling Time (Average)	134.1 sec	
Intersection Level of Service (LOS)	LOS F	
95% Back of Queue - Vehicles (Worst Lane)	42.8 veh	
95% Back of Queue - Distance (Worst Lane)	1112.7 ft	
Queue Storage Ratio (Worst Lane)	6.72	
Total Effective Stops	1320 veh/h	1583 pers/h
Effective Stop Rate	0.75 per veh	0.75 per pers
Proportion Queued	0.59	0.59
Performance Index	237.5	237.5
Cost (Total)	1386.34 \$/h	1386.34 \$/h
Fuel Consumption (Total)	64.7 gal/h	
Carbon Dioxide (Total)	580.7 kg/h	
Hydrocarbons (Total)	0.279 kg/h	
Carbon Monoxide (Total)	2.468 kg/h	
NOx (Total)	1.130 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).  
 Intersection LOS value for Vehicles is based on average delay for all vehicle movements.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	841,436 veh/y	1,009,724 pers/y
Delay	32,880 veh-h/y	39,456 pers-h/y
Effective Stops	633,370 veh/y	760,044 pers/y
Travel Distance	416,982 veh-mi/y	500,379 pers-mi/y
Travel Time	43,212 veh-h/y	51,854 pers-h/y
Cost	665,445 \$/y	665,445 \$/y
Fuel Consumption	31,080 gal/y	
Carbon Dioxide	278,712 kg/y	
Hydrocarbons	134 kg/y	
Carbon Monoxide	1,185 kg/y	
NOx	542 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd @ I-20 EB**

Existing PM

Signals - Actuated Cycle Time = 135 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	575	4.0	0.912	49.0	LOS D	41.6	1073.8	0.97	0.92	17.3
18	R2	79	4.0	0.061	6.0	LOS A	0.3	8.0	0.08	0.60	34.3
Approach		654	4.0	0.912	43.8	LOS D	41.6	1073.8	0.86	0.88	18.4
North: Garrett Rd											
7	L2	147	4.0	0.505	12.0	LOS B	14.9	384.0	0.38	0.43	36.3
4	T1	458	4.0	0.505	5.6	LOS A	14.9	384.0	0.38	0.43	36.4
Approach		605	4.0	0.505	7.2	LOS A	14.9	384.0	0.38	0.43	36.4
West: I-20 EB											
5	L2	218	5.0	2.659	972.3	LOS F	42.8	1112.7	1.00	1.44	2.9
12	R2	276	5.0	0.411	7.1	LOS A	1.7	44.6	0.10	0.62	28.2
Approach		494	5.0	2.659	432.8	LOS F	42.8	1112.7	0.50	0.98	5.1
All Vehicles		1753	4.3	2.659	140.7	LOS F	42.8	1112.7	0.59	0.75	9.6

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

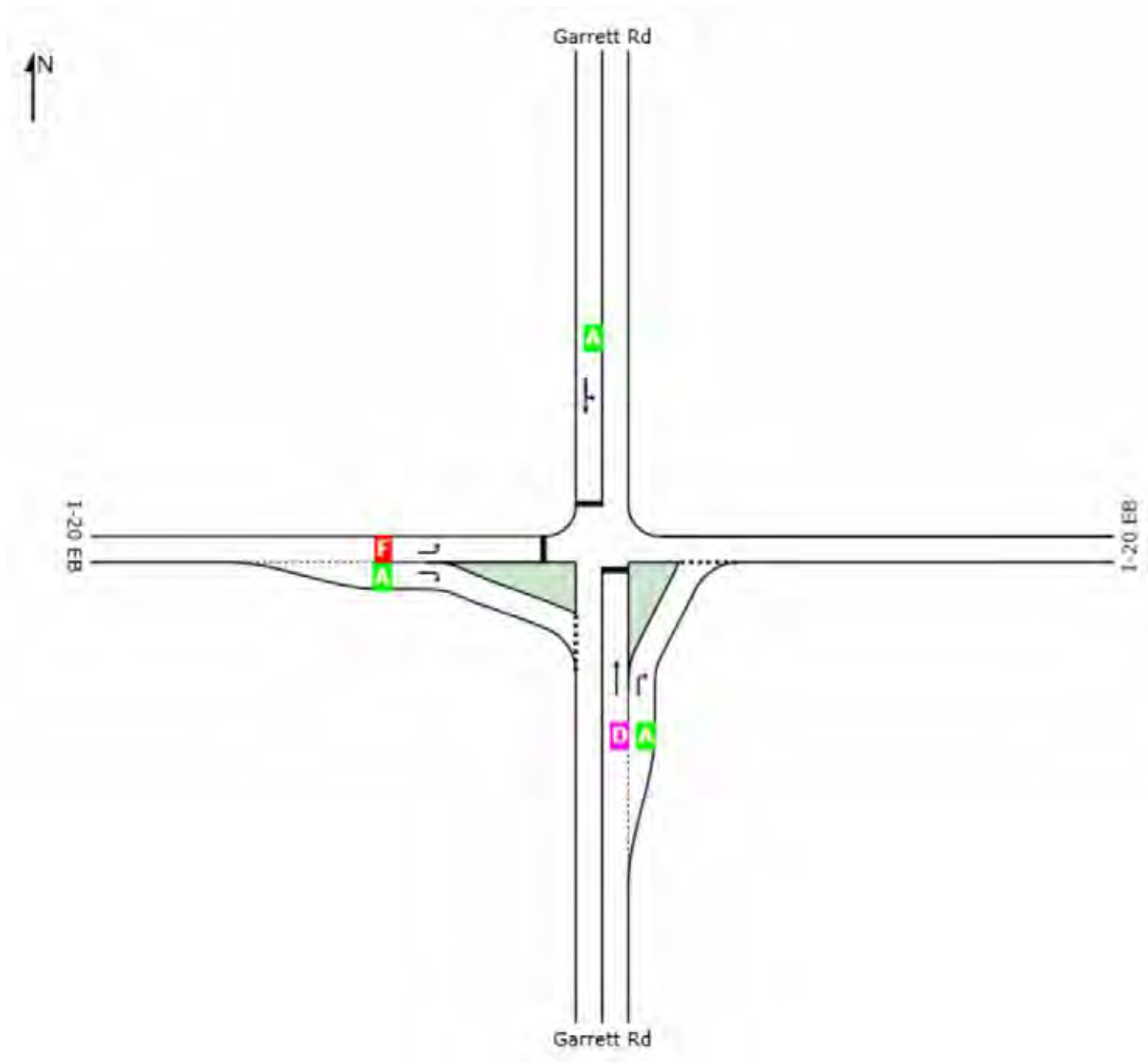
# LEVEL OF SERVICE

 **Site: PM: Garrett Rd @ I-20 EB**

Existing PM  
 Signals - Actuated Cycle Time = 135 seconds (Practical Cycle Time)

## All Movement Classes

	South	North	West	Intersection
LOS	D	A	F	F



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd @ I-20 WB**

Existing AM  
Stop (Two-Way)

Volume Display Method: Total and %

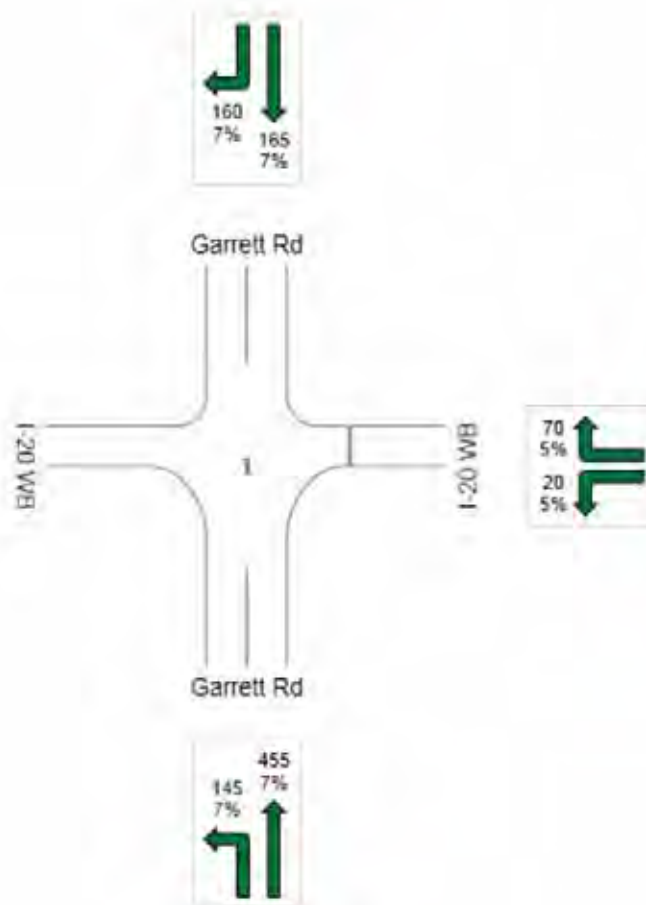
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1015

Light Vehicles (LV): 946

Heavy Vehicles (HV): 69



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

Existing AM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	37.1 mph	37.1 mph
Travel Distance (Total)	578.2 veh-mi/h	693.9 pers-mi/h
Travel Time (Total)	15.6 veh-h/h	18.7 pers-h/h
Demand Flows (Total)	1262 veh/h	1515 pers/h
Percent Heavy Vehicles (Demand)	6.8 %	
Degree of Saturation	0.482	
Practical Spare Capacity	103.5 %	
Effective Intersection Capacity	2621 veh/h	
Control Delay (Total)	1.89 veh-h/h	2.27 pers-h/h
Control Delay (Average)	5.4 sec	5.4 sec
Control Delay (Worst Lane)	65.7 sec	
Control Delay (Worst Movement)	65.7 sec	65.7 sec
Geometric Delay (Average)	2.4 sec	
Stop-Line Delay (Average)	3.0 sec	
Idling Time (Average)	1.2 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	5.3 veh	
95% Back of Queue - Distance (Worst Lane)	141.0 ft	
Queue Storage Ratio (Worst Lane)	0.11	
Total Effective Stops	329 veh/h	395 pers/h
Effective Stop Rate	0.26 per veh	0.26 per pers
Proportion Queued	0.46	0.46
Performance Index	19.0	19.0
Cost (Total)	296.88 \$/h	296.88 \$/h
Fuel Consumption (Total)	27.7 gal/h	
Carbon Dioxide (Total)	250.5 kg/h	
Hydrocarbons (Total)	0.071 kg/h	
Carbon Monoxide (Total)	1.067 kg/h	
NOx (Total)	0.732 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	605,970 veh/y	727,164 pers/y
Delay	907 veh-h/y	1,089 pers-h/y
Effective Stops	158,048 veh/y	189,657 pers/y
Travel Distance	277,554 veh-mi/y	333,065 pers-mi/y
Travel Time	7,471 veh-h/y	8,965 pers-h/y
Cost	142,504 \$/y	142,504 \$/y
Fuel Consumption	13,319 gal/y	
Carbon Dioxide	120,222 kg/y	
Hydrocarbons	34 kg/y	
Carbon Monoxide	512 kg/y	
NOx	352 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

Existing AM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
		Total	HV		sec		Vehicles	Distance		per veh	mph
		veh/h	%	v/c			veh	ft			
South: Garrett Rd											
3	L2	173	7.0	0.482	8.5	LOS A	5.3	141.0	0.55	0.16	36.2
8	T1	599	7.0	0.482	2.1	LOS A	5.3	141.0	0.55	0.16	40.6
Approach		771	7.0	0.482	3.5	NA	5.3	141.0	0.55	0.16	39.4
East: I-20 WB											
1	L2	20	5.0	0.261	65.7	LOS F	0.9	23.1	0.94	1.02	18.3
16	R2	78	5.0	0.198	14.6	LOS B	0.8	19.7	0.70	0.87	28.5
Approach		98	5.0	0.261	25.1	LOS D	0.9	23.1	0.75	0.90	24.9
North: Garrett Rd											
4	T1	212	7.0	0.119	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
14	R2	182	7.0	0.217	9.0	LOS A	1.2	31.1	0.46	0.64	30.7
Approach		393	7.0	0.217	4.2	LOS A	1.2	31.1	0.21	0.29	37.7
All Vehicles		1262	6.8	0.482	5.4	NA	5.3	141.0	0.46	0.26	37.1

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

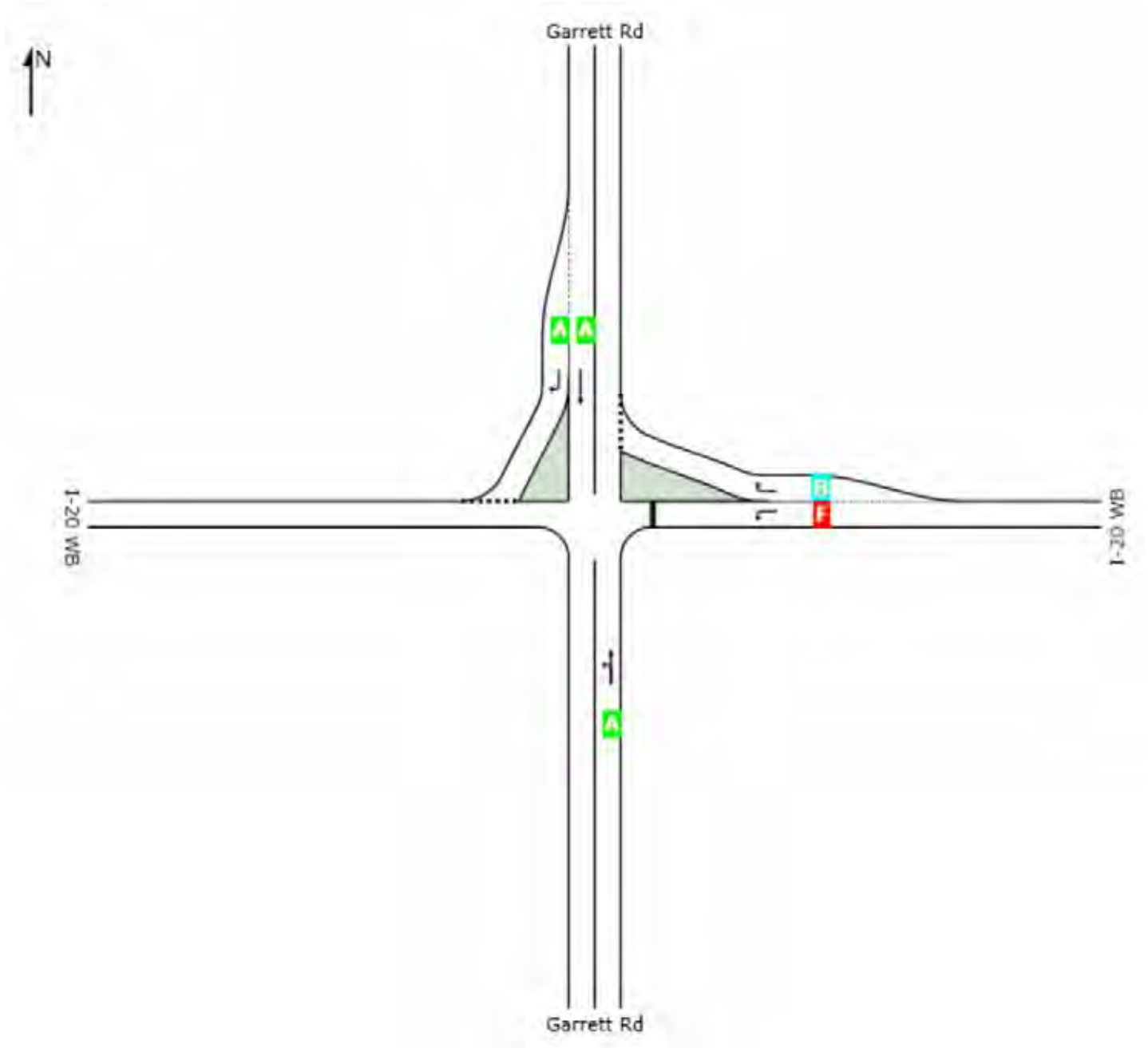
# LEVEL OF SERVICE

**STOP** Site: AM: Garrett Rd @ I-20 WB

Existing AM  
Stop (Two-Way)

## All Movement Classes

	South	East	North	Intersection
LOS	NA	D	A	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: PM: Garrett Rd @ I-20 WB**

Existing PM  
Stop (Two-Way)

Volume Display Method: Total and %

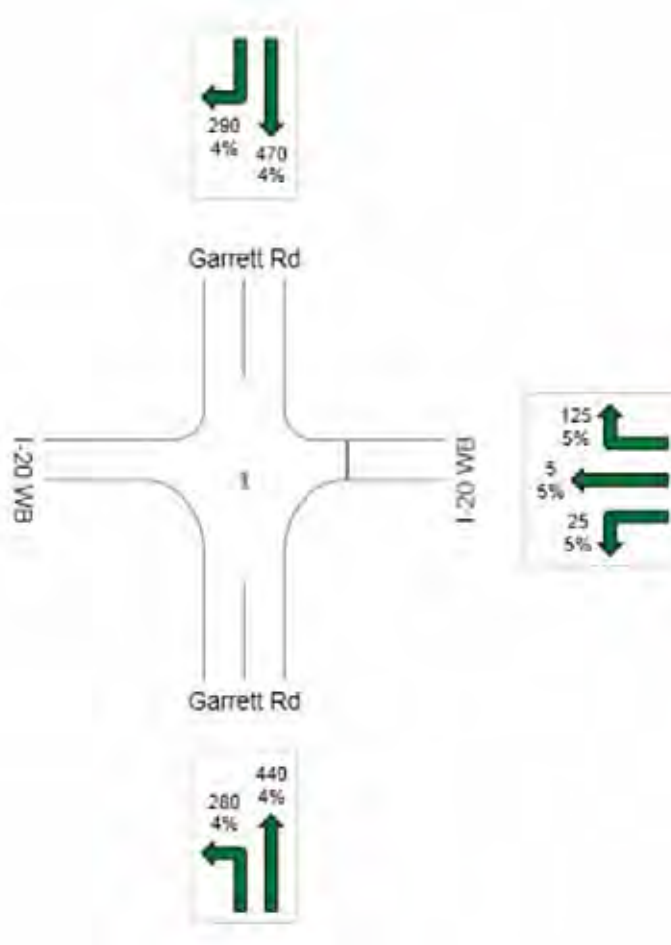
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1635

Light Vehicles (LV): 1568

Heavy Vehicles (HV): 67



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 WB

Existing PM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	26.3 mph	26.3 mph
Travel Distance (Total)	865.0 veh-mi/h	1038.0 pers-mi/h
Travel Time (Total)	32.9 veh-h/h	39.5 pers-h/h
Demand Flows (Total)	1875 veh/h	2250 pers/h
Percent Heavy Vehicles (Demand)	4.1 %	
Degree of Saturation	1.778	
Practical Spare Capacity	-55.0 %	
Effective Intersection Capacity	1055 veh/h	
Control Delay (Total)	12.68 veh-h/h	15.22 pers-h/h
Control Delay (Average)	24.3 sec	24.3 sec
Control Delay (Worst Lane)	602.7 sec	
Control Delay (Worst Movement)	603.2 sec	603.2 sec
Geometric Delay (Average)	3.1 sec	
Stop-Line Delay (Average)	21.2 sec	
Idling Time (Average)	16.7 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	12.2 veh	
95% Back of Queue - Distance (Worst Lane)	316.4 ft	
Queue Storage Ratio (Worst Lane)	0.27	
Total Effective Stops	990 veh/h	1188 pers/h
Effective Stop Rate	0.53 per veh	0.53 per pers
Proportion Queued	0.66	0.66
Performance Index	62.3	62.3
Cost (Total)	573.74 \$/h	573.74 \$/h
Fuel Consumption (Total)	44.9 gal/h	
Carbon Dioxide (Total)	402.8 kg/h	
Hydrocarbons (Total)	0.142 kg/h	
Carbon Monoxide (Total)	1.847 kg/h	
NOx (Total)	0.904 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	900,182 veh/y	1,080,218 pers/y
Delay	6,086 veh-h/y	7,304 pers-h/y
Effective Stops	475,004 veh/y	570,005 pers/y
Travel Distance	415,216 veh-mi/y	498,259 pers-mi/y
Travel Time	15,794 veh-h/y	18,953 pers-h/y
Cost	275,394 \$/y	275,394 \$/y
Fuel Consumption	21,535 gal/y	
Carbon Dioxide	193,336 kg/y	
Hydrocarbons	68 kg/y	
Carbon Monoxide	887 kg/y	
NOx	434 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 WB

Existing PM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	354	4.0	0.668	15.0	LOS C	11.4	293.5	1.00	0.53	33.2
8	T1	484	4.0	0.668	8.7	LOS A	11.4	293.5	1.00	0.53	34.3
Approach		838	4.0	0.668	11.4	NA	11.4	293.5	1.00	0.53	33.8
East: I-20 WB											
1	L2	42	5.0	1.778	602.6	LOS F	12.2	316.4	1.00	1.39	3.4
6	T1	6	5.0	1.778	603.2	LOS F	12.2	316.4	1.00	1.39	2.9
16	R2	139	5.0	0.265	12.3	LOS B	1.2	30.8	0.64	0.86	29.8
Approach		187	5.0	1.778	163.8	LOS F	12.2	316.4	0.73	1.00	8.3
North: Garrett Rd											
4	T1	505	4.0	0.277	0.0	LOS A	0.0	0.0	0.00	0.00	44.9
14	R2	345	4.0	0.560	16.0	LOS C	5.2	133.3	0.75	1.05	27.6
Approach		851	4.0	0.560	6.5	LOS A	5.2	133.3	0.31	0.42	36.7
All Vehicles		1875	4.1	1.778	24.3	NA	12.2	316.4	0.66	0.53	26.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

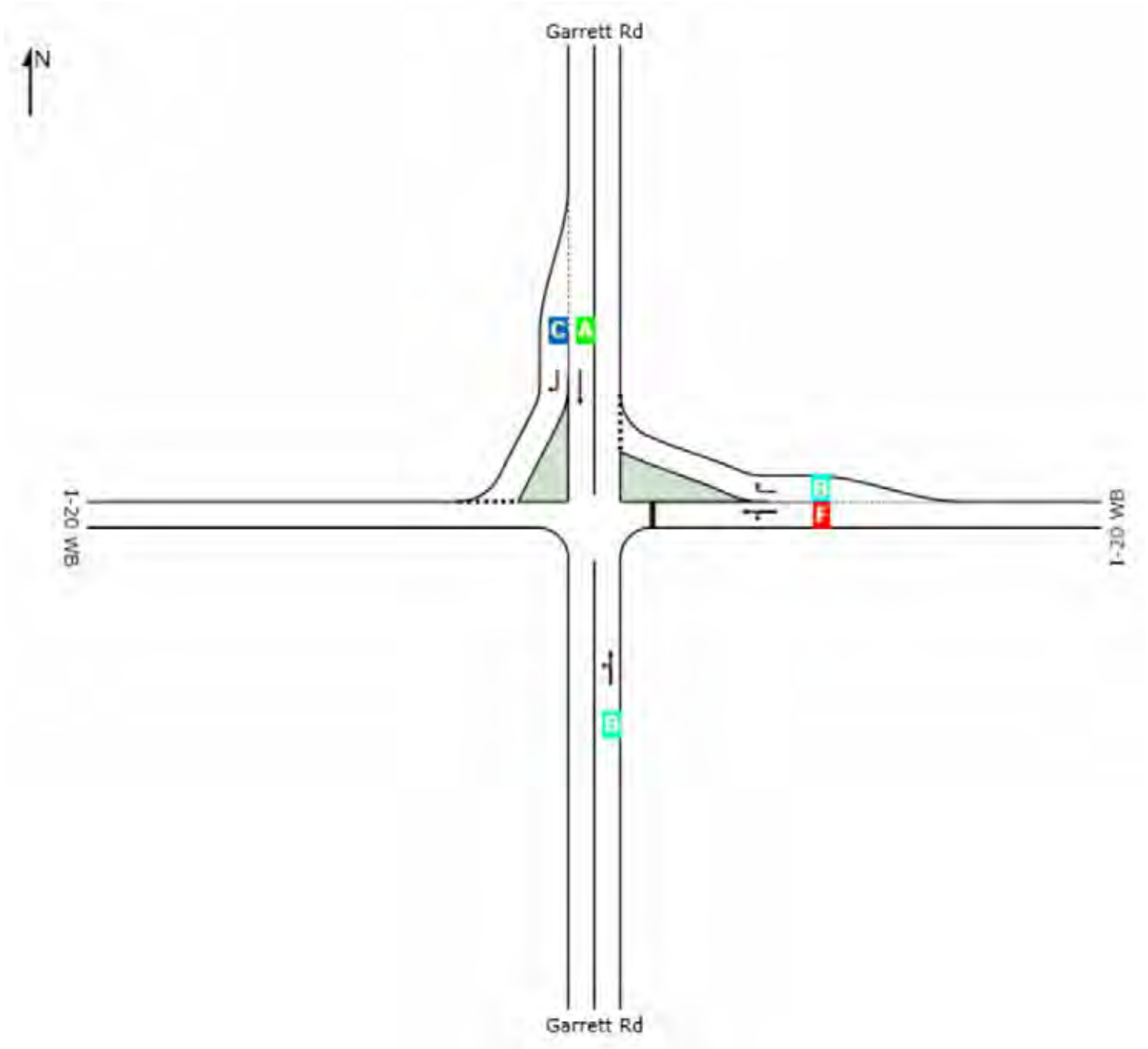
# LEVEL OF SERVICE

**STOP** Site: PM: Garrett Rd @ I-20 WB

Existing PM  
Stop (Two-Way)

## All Movement Classes

	South	East	North	Intersection
LOS	NA	F	A	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd @ Millhaven Rd**

Existing AM  
Stop (Two-Way)

Volume Display Method: Total and %

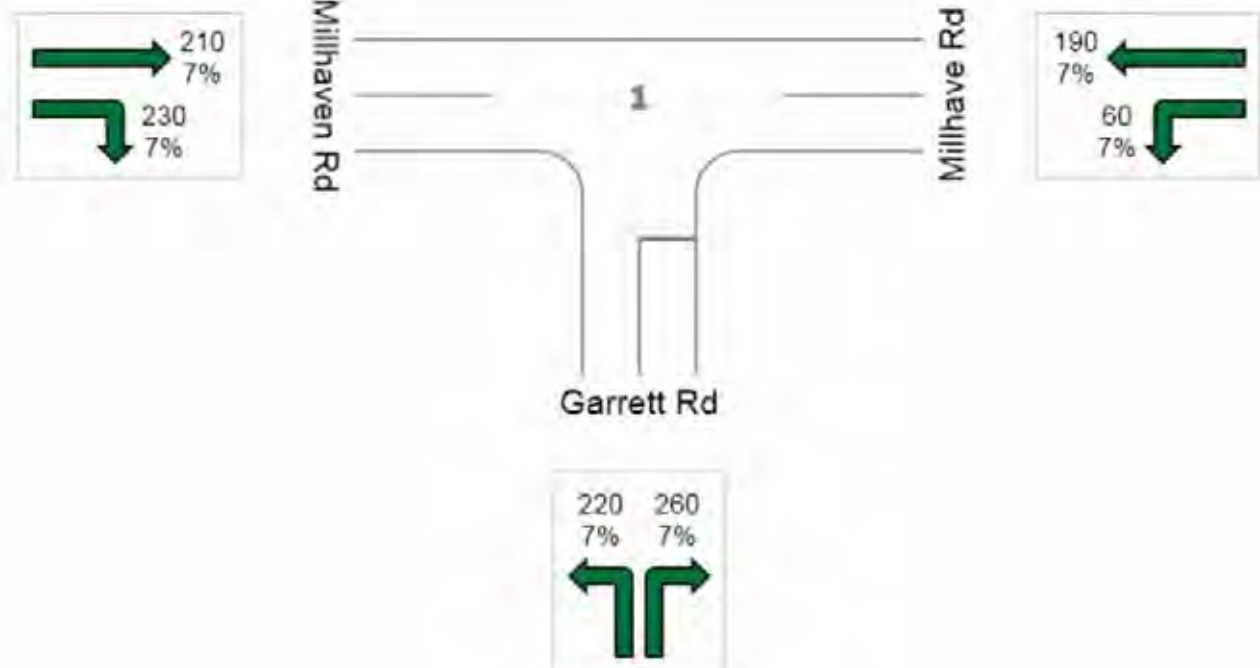
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1170

Light Vehicles (LV): 1088

Heavy Vehicles (HV): 82



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ Millhaven Rd

Existing AM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	9.5 mph	9.5 mph
Travel Distance (Total)	380.2 veh-mi/h	456.2 pers-mi/h
Travel Time (Total)	39.9 veh-h/h	47.9 pers-h/h
Demand Flows (Total)	1517 veh/h	1820 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	1.710	
Practical Spare Capacity	-53.2 %	
Effective Intersection Capacity	887 veh/h	
Control Delay (Total)	30.01 veh-h/h	36.01 pers-h/h
Control Delay (Average)	71.2 sec	71.2 sec
Control Delay (Worst Lane)	371.4 sec	
Control Delay (Worst Movement)	371.4 sec	371.4 sec
Geometric Delay (Average)	5.3 sec	
Stop-Line Delay (Average)	65.9 sec	
Idling Time (Average)	59.0 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	43.9 veh	
95% Back of Queue - Distance (Worst Lane)	1159.4 ft	
Queue Storage Ratio (Worst Lane)	3.36	
Total Effective Stops	1260 veh/h	1512 pers/h
Effective Stop Rate	0.83 per veh	0.83 per pers
Proportion Queued	0.34	0.34
Performance Index	83.8	83.8
Cost (Total)	644.16 \$/h	644.16 \$/h
Fuel Consumption (Total)	34.2 gal/h	
Carbon Dioxide (Total)	308.3 kg/h	
Hydrocarbons (Total)	0.136 kg/h	
Carbon Monoxide (Total)	1.192 kg/h	
NOx (Total)	0.789 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	728,061 veh/y	873,673 pers/y
Delay	14,403 veh-h/y	17,284 pers-h/y
Effective Stops	604,686 veh/y	725,623 pers/y
Travel Distance	182,497 veh-mi/y	218,996 pers-mi/y
Travel Time	19,159 veh-h/y	22,991 pers-h/y
Cost	309,195 \$/y	309,195 \$/y
Fuel Consumption	16,433 gal/y	
Carbon Dioxide	148,005 kg/y	
Hydrocarbons	65 kg/y	
Carbon Monoxide	572 kg/y	
NOx	379 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ Millhaven Rd

Existing AM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	272	7.0	1.710	371.4	LOS F	43.9	1159.4	1.00	2.59	2.4
18	R2	366	7.0	0.460	11.9	LOS B	3.7	98.2	0.53	0.86	24.4
Approach		638	7.0	1.710	165.0	LOS F	43.9	1159.4	0.73	1.60	4.5
East: Millhave Rd											
1	L2	77	7.0	0.143	11.5	LOS B	0.5	13.5	0.57	0.83	22.3
6	T1	235	7.0	0.066	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
Approach		311	7.0	0.143	2.8	NA	0.5	13.5	0.14	0.20	37.5
West: Millhaven Rd											
2	T1	280	7.0	0.079	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
12	R2	287	7.0	0.191	6.6	LOS A	0.0	0.0	0.00	0.61	23.1
Approach		567	7.0	0.191	3.4	NA	0.0	0.0	0.00	0.31	30.8
All Vehicles		1517	7.0	1.710	71.2	NA	43.9	1159.4	0.34	0.83	9.5

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

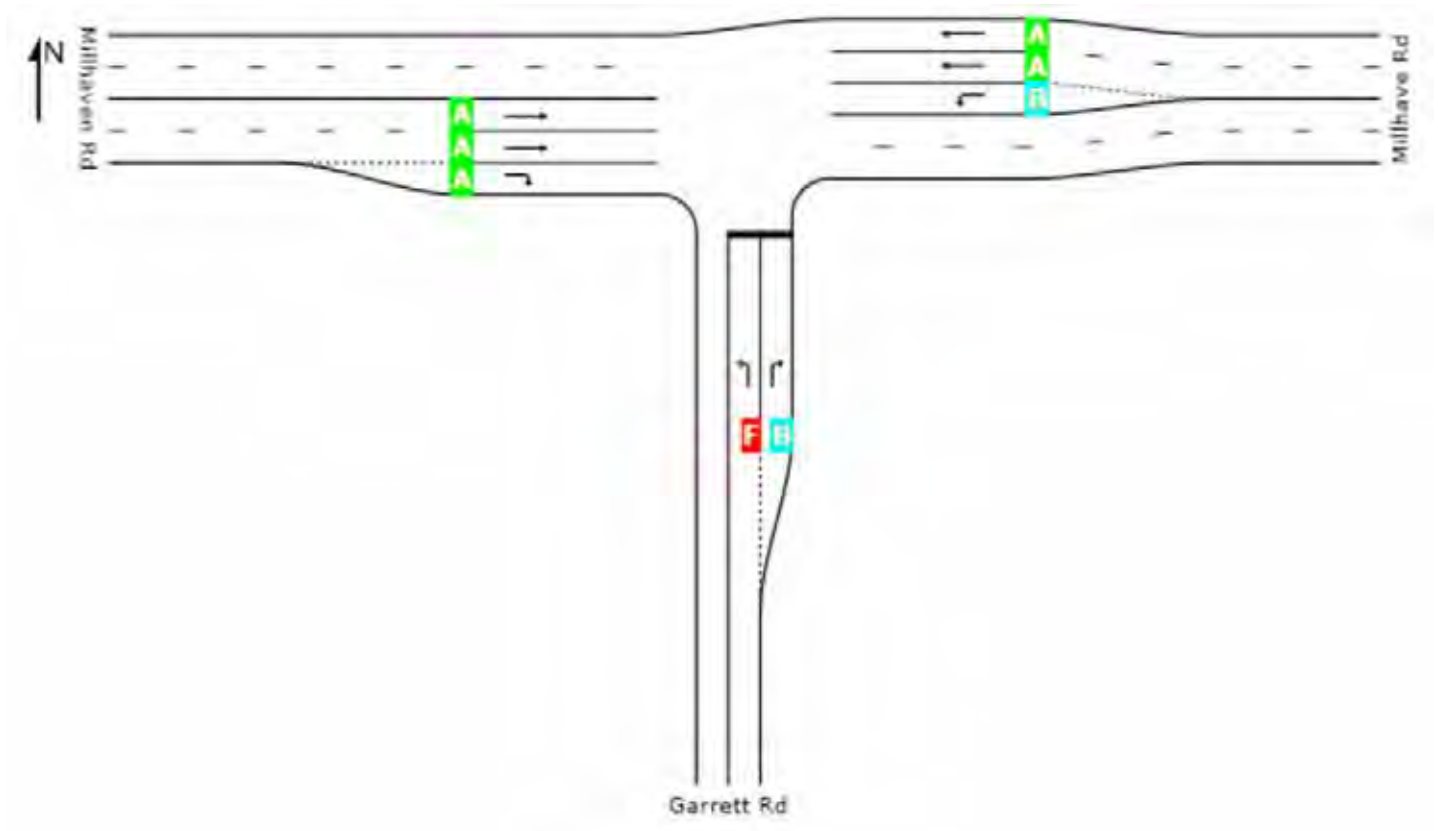
# LEVEL OF SERVICE

**STOP** Site: AM: Garrett Rd @ Millhaven Rd

Existing AM  
Stop (Two-Way)

## All Movement Classes

	South	East	West	Intersection
LOS	F	NA	NA	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: PM: Garrett Rd @ Millhaven Rd**

Existing PM  
Stop (Two-Way)

Volume Display Method: Total and %

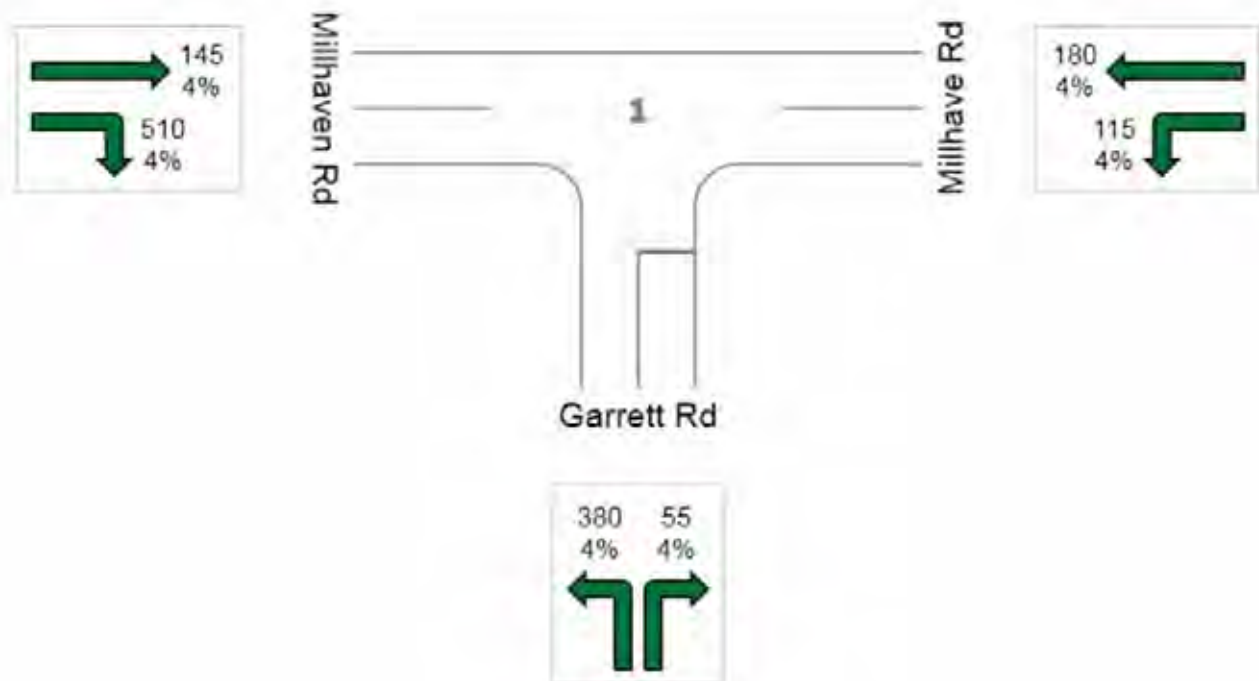
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1385

Light Vehicles (LV): 1330

Heavy Vehicles (HV): 55



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ Millhaven Rd

Existing PM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	3.0 mph	3.0 mph
Travel Distance (Total)	421.4 veh-mi/h	505.6 pers-mi/h
Travel Time (Total)	142.2 veh-h/h	170.7 pers-h/h
Demand Flows (Total)	1646 veh/h	1975 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	3.392	
Practical Spare Capacity	-76.4 %	
Effective Intersection Capacity	485 veh/h	
Control Delay (Total)	130.36 veh-h/h	156.43 pers-h/h
Control Delay (Average)	285.2 sec	285.2 sec
Control Delay (Worst Lane)	1130.9 sec	
Control Delay (Worst Movement)	1130.9 sec	1130.9 sec
Geometric Delay (Average)	5.6 sec	
Stop-Line Delay (Average)	279.5 sec	
Idling Time (Average)	267.9 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	103.1 veh	
95% Back of Queue - Distance (Worst Lane)	2660.2 ft	
Queue Storage Ratio (Worst Lane)	7.72	
Total Effective Stops	1810 veh/h	2172 pers/h
Effective Stop Rate	1.10 per veh	1.10 per pers
Proportion Queued	0.33	0.33
Performance Index	233.0	233.0
Cost (Total)	2063.62 \$/h	2063.62 \$/h
Fuel Consumption (Total)	68.7 gal/h	
Carbon Dioxide (Total)	615.0 kg/h	
Hydrocarbons (Total)	0.392 kg/h	
Carbon Monoxide (Total)	2.393 kg/h	
NOx (Total)	0.846 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	789,947 veh/y	947,937 pers/y
Delay	62,572 veh-h/y	75,086 pers-h/y
Effective Stops	868,745 veh/y	1,042,494 pers/y
Travel Distance	202,260 veh-mi/y	242,712 pers-mi/y
Travel Time	68,260 veh-h/y	81,913 pers-h/y
Cost	990,535 \$/y	990,535 \$/y
Fuel Consumption	32,982 gal/y	
Carbon Dioxide	295,188 kg/y	
Hydrocarbons	188 kg/y	
Carbon Monoxide	1,148 kg/y	
NOx	406 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ Millhaven Rd

Existing PM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	409	4.0	3.392	1130.9	LOS F	103.1	2660.2	1.00	3.01	0.8
18	R2	68	4.0	0.073	9.5	LOS A	0.4	9.3	0.26	0.86	26.1
Approach		477	4.0	3.392	971.1	LOS F	103.1	2660.2	0.89	2.70	0.9
East: Millhave Rd											
1	L2	164	4.0	0.390	16.2	LOS C	1.7	44.8	0.74	0.96	19.6
6	T1	261	4.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
Approach		425	4.0	0.390	6.2	NA	1.7	44.8	0.29	0.37	31.9
West: Millhaven Rd											
2	T1	151	4.0	0.041	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
12	R2	593	4.0	0.383	6.6	LOS A	0.0	0.0	0.00	0.61	23.2
Approach		744	4.0	0.383	5.3	NA	0.0	0.0	0.00	0.49	25.9
All Vehicles		1646	4.0	3.392	285.2	NA	103.1	2660.2	0.33	1.10	3.0

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

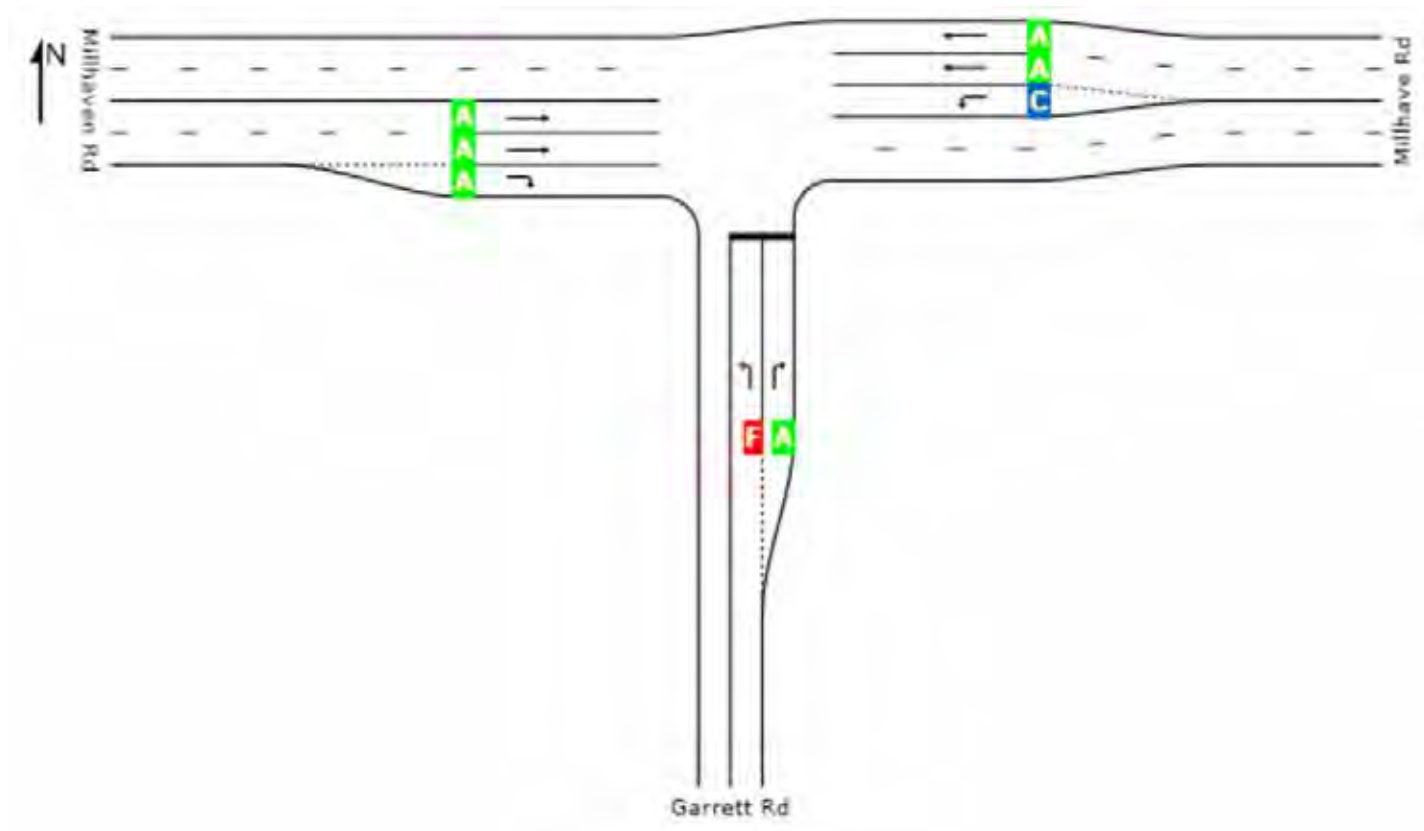
# LEVEL OF SERVICE

**STOP** Site: PM: Garrett Rd @ Millhaven Rd

Existing PM  
Stop (Two-Way)

## All Movement Classes

	South	East	West	Intersection
LOS	F	NA	NA	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: Millhaven Road @ Kansas Lane**

Existing AM  
Signals - Actuated

Volume Display Method: Total and %

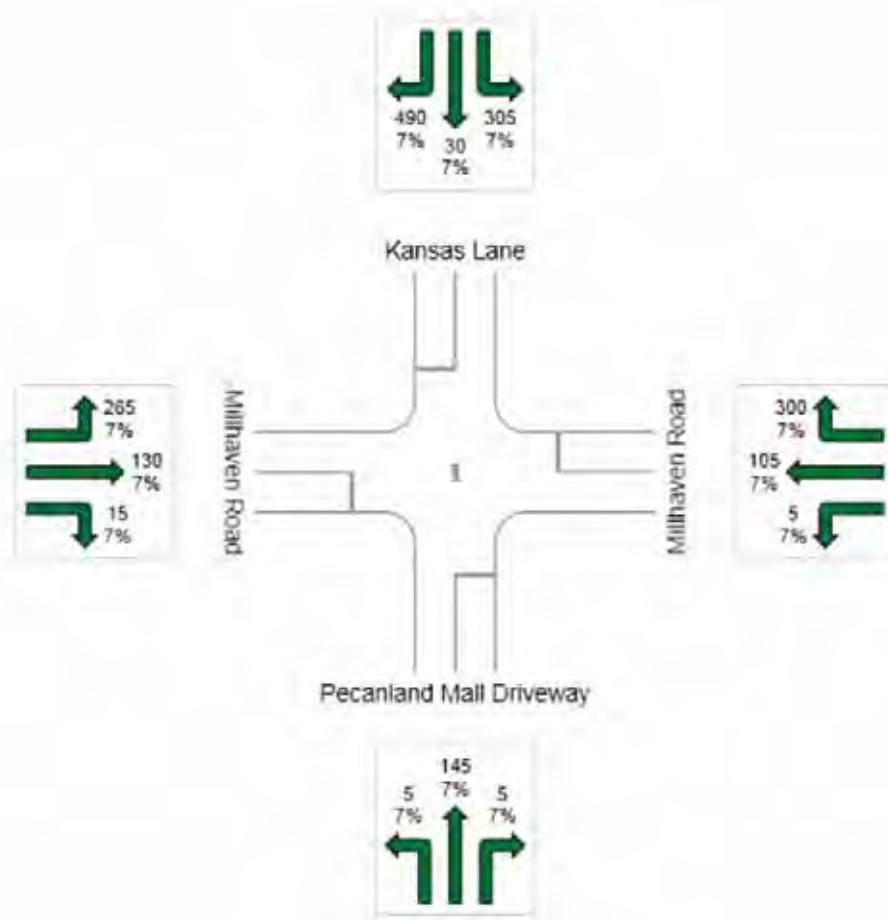
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1800

Light Vehicles (LV): 1674

Heavy Vehicles (HV): 126



# INTERSECTION SUMMARY

 **Site: Millhaven Road @ Kansas Lane**

Existing AM  
 Signals - Actuated Cycle Time = 88 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	22.0 mph	22.0 mph
Travel Distance (Total)	808.5 veh-mi/h	970.2 pers-mi/h
Travel Time (Total)	36.8 veh-h/h	44.1 pers-h/h
Demand Flows (Total)	2163 veh/h	2595 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.647	
Practical Spare Capacity	39.1 %	
Effective Intersection Capacity	3342 veh/h	
Control Delay (Total)	13.00 veh-h/h	15.60 pers-h/h
Control Delay (Average)	21.6 sec	21.6 sec
Control Delay (Worst Lane)	45.2 sec	
Control Delay (Worst Movement)	45.2 sec	45.2 sec
Geometric Delay (Average)	4.6 sec	
Stop-Line Delay (Average)	17.0 sec	
Idling Time (Average)	13.9 sec	
Intersection Level of Service (LOS)	LOS C	
95% Back of Queue - Vehicles (Worst Lane)	12.9 veh	
95% Back of Queue - Distance (Worst Lane)	341.7 ft	
Queue Storage Ratio (Worst Lane)	0.55	
Total Effective Stops	1595 veh/h	1914 pers/h
Effective Stop Rate	0.74 per veh	0.74 per pers
Proportion Queued	0.66	0.66
Performance Index	109.3	109.3
Cost (Total)	651.87 \$/h	651.87 \$/h
Fuel Consumption (Total)	54.6 gal/h	
Carbon Dioxide (Total)	492.9 kg/h	
Hydrocarbons (Total)	0.157 kg/h	
Carbon Monoxide (Total)	1.909 kg/h	
NOx (Total)	1.547 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).  
 Intersection LOS value for Vehicles is based on average delay for all vehicle movements.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,038,141 veh/y	1,245,769 pers/y
Delay	6,241 veh-h/y	7,489 pers-h/y
Effective Stops	765,739 veh/y	918,886 pers/y
Travel Distance	388,067 veh-mi/y	465,681 pers-mi/y
Travel Time	17,655 veh-h/y	21,186 pers-h/y
Cost	312,895 \$/y	312,895 \$/y
Fuel Consumption	26,228 gal/y	
Carbon Dioxide	236,615 kg/y	
Hydrocarbons	75 kg/y	
Carbon Monoxide	916 kg/y	
NOx	742 kg/y	

# MOVEMENT SUMMARY

 **Site: Millhaven Road @ Kansas Lane**

Existing AM

Signals - Actuated Cycle Time = 88 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Pecanland Mall Driveway											
3	L2	10	7.0	0.319	41.0	LOS D	4.1	108.7	0.87	0.70	21.9
8	T1	201	7.0	0.319	33.2	LOS C	4.5	118.7	0.87	0.70	15.2
18	R2	7	7.0	0.319	39.0	LOS D	4.5	118.7	0.87	0.70	21.1
Approach		218	7.0	0.319	33.8	LOS C	4.5	118.7	0.87	0.70	15.9
East: Millhaven Road											
1	L2	8	7.0	0.041	45.2	LOS D	0.3	8.6	0.88	0.67	18.0
6	T1	127	7.0	0.285	40.5	LOS D	2.7	72.6	0.92	0.70	24.0
16	R2	326	7.0	0.615	20.5	LOS C	7.3	193.0	0.86	0.82	15.6
Approach		461	7.0	0.615	26.4	LOS C	7.3	193.0	0.88	0.78	18.2
North: Kansas Lane											
7	L2	363	7.0	0.552	23.0	LOS C	11.5	304.5	0.76	0.79	22.4
4	T1	41	7.0	0.047	12.9	LOS B	1.0	25.3	0.53	0.41	25.8
14	R2	563	7.0	0.421	6.1	LOS A	3.3	87.0	0.19	0.65	32.9
Approach		967	7.0	0.552	12.7	LOS B	11.5	304.5	0.42	0.70	28.1
West: Millhaven Road											
5	L2	340	7.0	0.647	34.9	LOS C	12.9	341.7	0.90	0.92	15.9
2	T1	159	7.0	0.127	17.0	LOS B	2.6	67.5	0.64	0.53	32.6
12	R2	19	7.0	0.127	21.6	LOS C	2.2	59.1	0.64	0.55	29.1
Approach		517	7.0	0.647	28.9	LOS C	12.9	341.7	0.81	0.79	20.4
All Vehicles		2163	7.0	0.647	21.6	LOS C	12.9	341.7	0.66	0.74	22.0

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

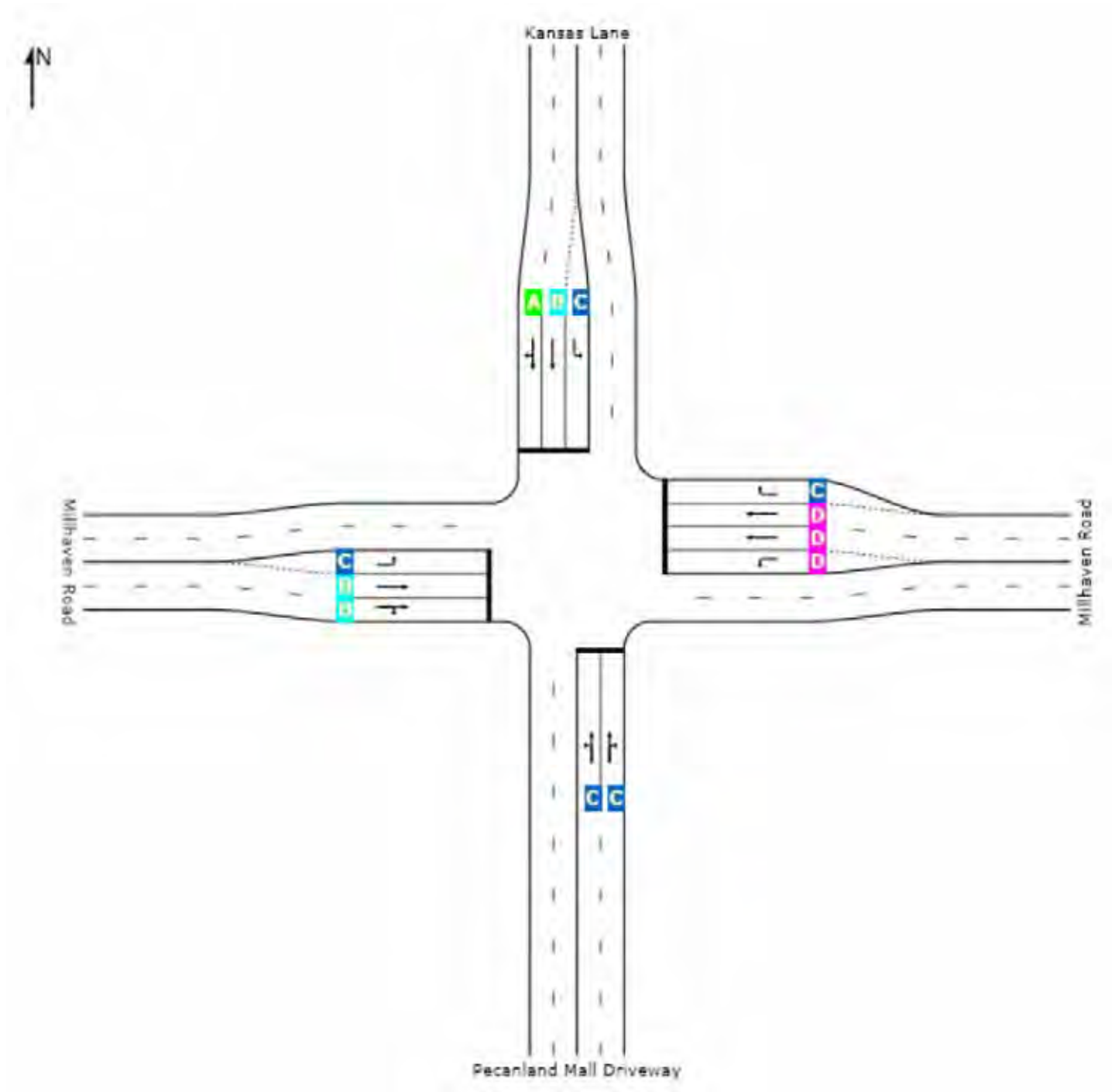
## Site: Millhaven Road @ Kansas Lane

Existing AM

Signals - Actuated Cycle Time = 88 seconds (Practical Cycle Time)

### All Movement Classes

	South	East	North	West	Intersection
LOS	C	C	B	C	C



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: Millhaven Road @ Kansas Lane

Existing PM  
Signals - Actuated

Volume Display Method: Total and %

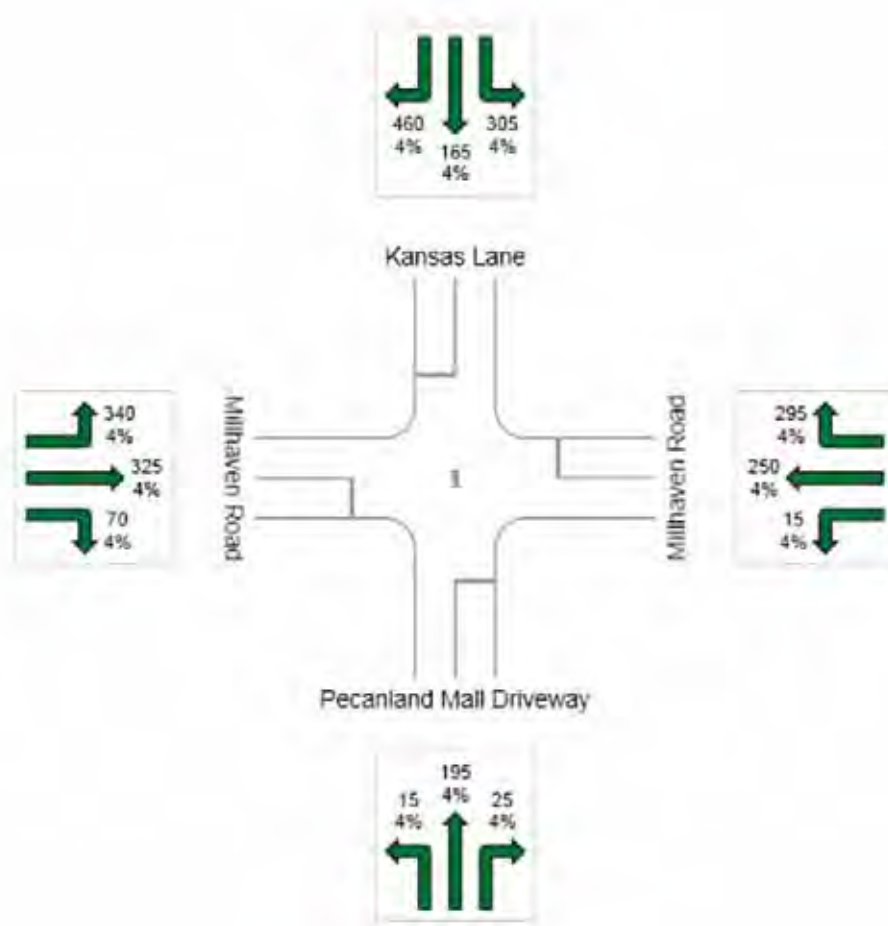
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2460

Light Vehicles (LV): 2362

Heavy Vehicles (HV): 98



# INTERSECTION SUMMARY

 **Site: Millhaven Road @ Kansas Lane**

Existing PM  
 Signals - Actuated Cycle Time = 98 seconds (Practical Cycle Time)

## Intersection Performance - Hourly Values

Performance Measure	Vehicles	Persons
Travel Speed (Average)	22.8 mph	22.8 mph
Travel Distance (Total)	1199.8 veh-mi/h	1439.8 pers-mi/h
Travel Time (Total)	52.7 veh-h/h	63.2 pers-h/h
Demand Flows (Total)	3057 veh/h	3668 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.702	
Practical Spare Capacity	28.3 %	
Effective Intersection Capacity	4357 veh/h	
Control Delay (Total)	19.93 veh-h/h	23.92 pers-h/h
Control Delay (Average)	23.5 sec	23.5 sec
Control Delay (Worst Lane)	43.2 sec	
Control Delay (Worst Movement)	43.2 sec	43.2 sec
Geometric Delay (Average)	3.8 sec	
Stop-Line Delay (Average)	19.7 sec	
Idling Time (Average)	16.4 sec	
Intersection Level of Service (LOS)	LOS C	
95% Back of Queue - Vehicles (Worst Lane)	16.8 veh	
95% Back of Queue - Distance (Worst Lane)	433.5 ft	
Queue Storage Ratio (Worst Lane)	1.16	
Total Effective Stops	2222 veh/h	2667 pers/h
Effective Stop Rate	0.73 per veh	0.73 per pers
Proportion Queued	0.68	0.68
Performance Index	174.1	174.1
Cost (Total)	902.77 \$/h	902.77 \$/h
Fuel Consumption (Total)	70.7 gal/h	
Carbon Dioxide (Total)	634.5 kg/h	
Hydrocarbons (Total)	0.227 kg/h	
Carbon Monoxide (Total)	2.793 kg/h	
NOx (Total)	1.491 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

## Intersection Performance - Annual Values

Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,467,284 veh/y	1,760,741 pers/y
Delay	9,568 veh-h/y	11,481 pers-h/y
Effective Stops	1,066,791 veh/y	1,280,150 pers/y
Travel Distance	575,903 veh-mi/y	691,084 pers-mi/y
Travel Time	25,285 veh-h/y	30,342 pers-h/y
Cost	433,331 \$/y	433,331 \$/y
Fuel Consumption	33,947 gal/y	
Carbon Dioxide	304,575 kg/y	
Hydrocarbons	109 kg/y	
Carbon Monoxide	1,341 kg/y	
NOx	716 kg/y	

# MOVEMENT SUMMARY

 **Site: Millhaven Road @ Kansas Lane**

Existing PM

Signals - Actuated Cycle Time = 98 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Pecanland Mall Driveway											
3	L2	22	4.0	0.399	42.2	LOS D	5.9	152.5	0.86	0.72	21.6
8	T1	250	4.0	0.399	32.7	LOS C	7.1	183.2	0.86	0.72	15.1
18	R2	38	4.0	0.399	37.0	LOS D	7.1	183.2	0.86	0.73	21.6
Approach		310	4.0	0.399	33.9	LOS C	7.1	183.2	0.86	0.72	16.8
East: Millhaven Road											
1	L2	25	4.0	0.117	43.2	LOS D	1.1	27.6	0.83	0.72	18.6
6	T1	269	4.0	0.360	38.1	LOS D	6.0	154.6	0.88	0.71	24.7
16	R2	328	4.0	0.610	22.2	LOS C	8.4	216.7	0.86	0.82	15.3
Approach		622	4.0	0.610	29.9	LOS C	8.4	216.7	0.87	0.77	19.7
North: Kansas Lane											
7	L2	381	4.0	0.694	29.8	LOS C	15.3	394.3	0.83	0.83	20.1
4	T1	223	4.0	0.278	19.5	LOS B	7.2	185.0	0.66	0.56	21.1
14	R2	605	4.0	0.463	6.1	LOS A	4.5	117.2	0.20	0.66	33.6
Approach		1209	4.0	0.694	16.0	LOS B	15.3	394.3	0.49	0.70	26.3
West: Millhaven Road											
5	L2	391	4.0	0.702	35.9	LOS D	16.8	433.5	0.92	0.94	15.8
2	T1	422	4.0	0.319	16.9	LOS B	8.6	220.6	0.65	0.59	32.5
12	R2	103	4.0	0.319	20.4	LOS C	7.1	183.6	0.64	0.63	29.3
Approach		916	4.0	0.702	25.4	LOS C	16.8	433.5	0.76	0.74	23.7
All Vehicles		3057	4.0	0.702	23.5	LOS C	16.8	433.5	0.68	0.73	22.8

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

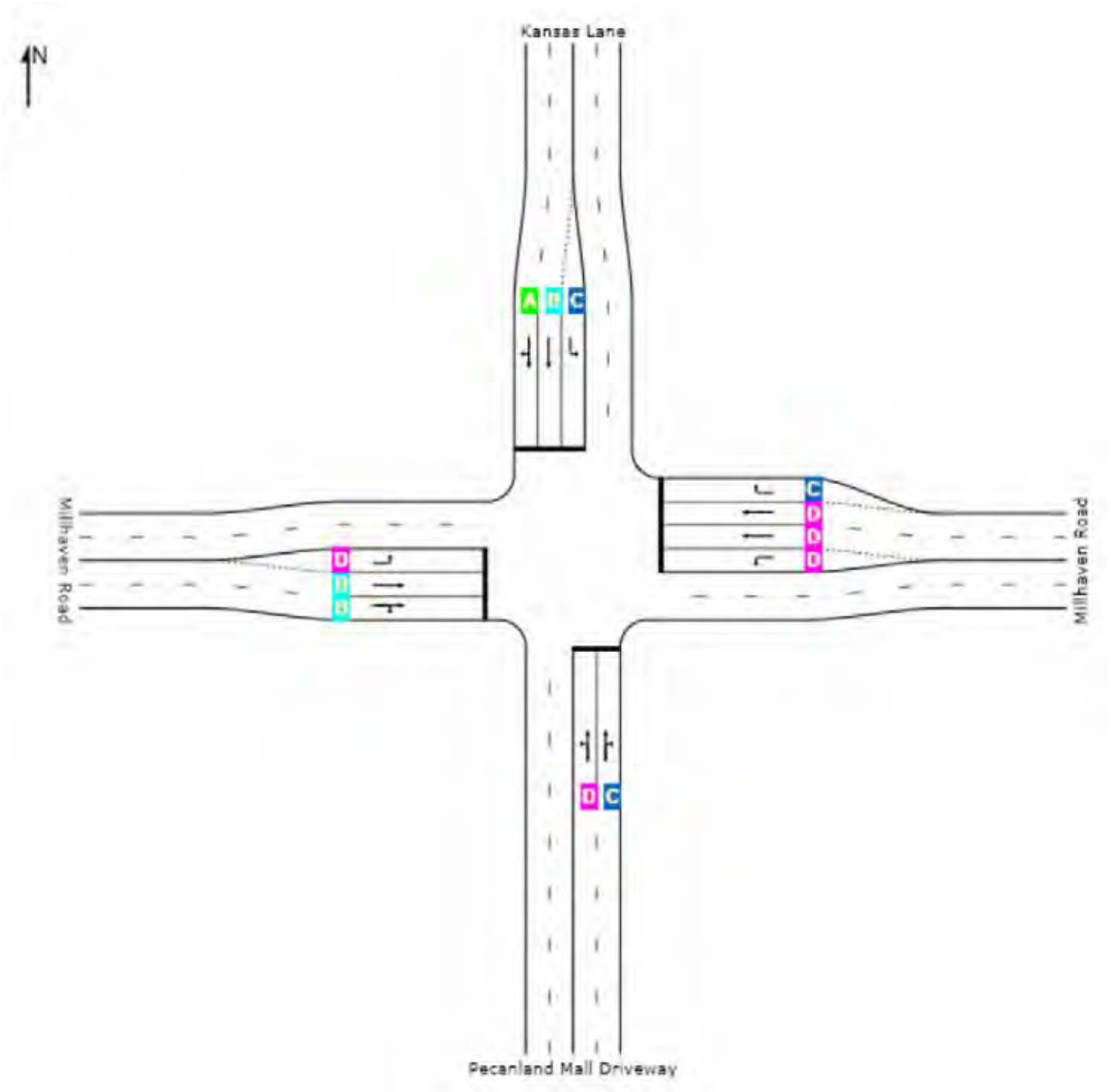
# LEVEL OF SERVICE

 **Site: Millhaven Road @ Kansas Lane**

Existing PM  
 Signals - Actuated Cycle Time = 98 seconds (Practical Cycle Time)

**All Movement Classes**

	South	East	North	West	Intersection
LOS	C	C	B	C	C



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ S. Frontage Rd

No-Build Alternative AM  
Signals - Actuated

Volume Display Method: Total and %

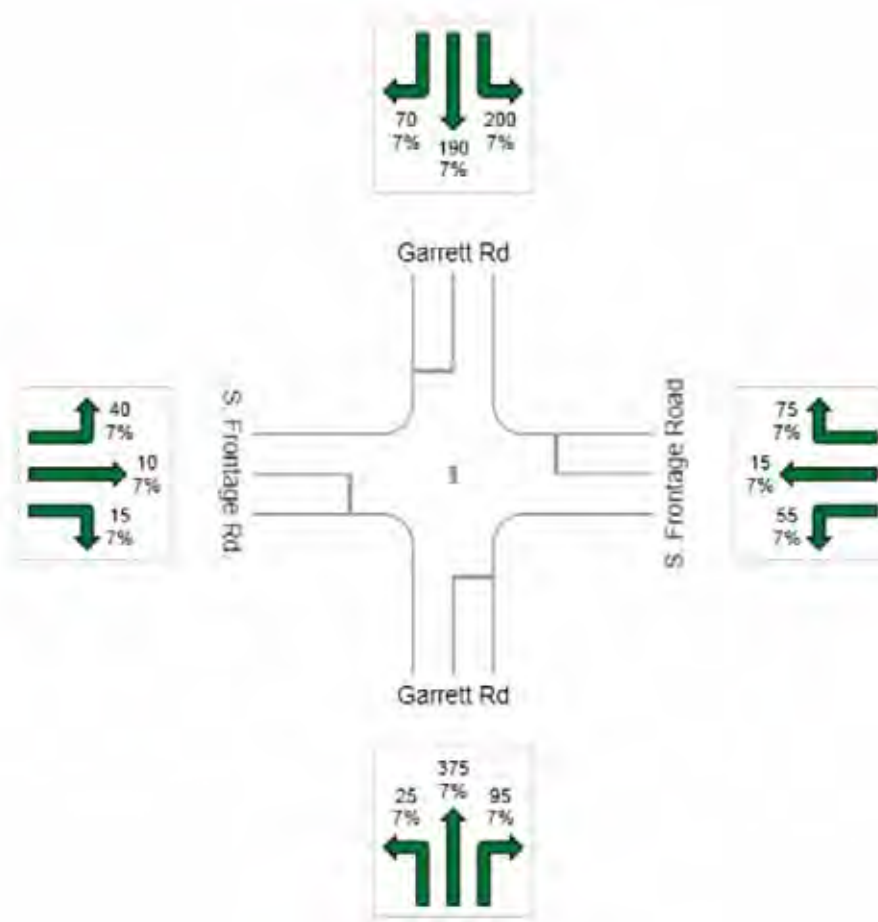
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1165

Light Vehicles (LV): 1083

Heavy Vehicles (HV): 82



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ S. Frontage Rd**

No-Build Alternative AM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	10.0 mph	10.0 mph
Travel Distance (Total)	439.0 veh-mi/h	526.7 pers-mi/h
Travel Time (Total)	43.7 veh-h/h	52.4 pers-h/h
Demand Flows (Total)	1451 veh/h	1741 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	1.096	
Practical Spare Capacity	-17.9 %	
Effective Intersection Capacity	1323 veh/h	
Control Delay (Total)	31.99 veh-h/h	38.38 pers-h/h
Control Delay (Average)	79.4 sec	79.4 sec
Control Delay (Worst Lane)	114.5 sec	
Control Delay (Worst Movement)	119.2 sec	119.2 sec
Geometric Delay (Average)	3.2 sec	
Stop-Line Delay (Average)	76.2 sec	
Idling Time (Average)	70.5 sec	
Intersection Level of Service (LOS)	LOS E	
95% Back of Queue - Vehicles (Worst Lane)	62.4 veh	
95% Back of Queue - Distance (Worst Lane)	1646.2 ft	
Queue Storage Ratio (Worst Lane)	6.70	
Total Effective Stops	1484 veh/h	1780 pers/h
Effective Stop Rate	1.02 per veh	1.02 per pers
Proportion Queued	0.93	0.93
Performance Index	454.5	454.5
Cost (Total)	760.01 \$/h	760.01 \$/h
Fuel Consumption (Total)	43.4 gal/h	
Carbon Dioxide (Total)	390.9 kg/h	
Hydrocarbons (Total)	0.162 kg/h	
Carbon Monoxide (Total)	1.434 kg/h	
NOx (Total)	1.120 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).  
 Intersection LOS value for Vehicles is based on average delay for all vehicle movements.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	696,265 veh/y	835,518 pers/y
Delay	15,353 veh-h/y	18,424 pers-h/y
Effective Stops	712,171 veh/y	854,605 pers/y
Travel Distance	210,698 veh-mi/y	252,838 pers-mi/y
Travel Time	20,978 veh-h/y	25,173 pers-h/y
Cost	364,804 \$/y	364,804 \$/y
Fuel Consumption	20,836 gal/y	
Carbon Dioxide	187,639 kg/y	
Hydrocarbons	78 kg/y	
Carbon Monoxide	688 kg/y	
NOx	538 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ S. Frontage Rd**

No-Build Alternative AM

Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3	L2	37	7.0	1.096	119.1	LOS F	62.4	1646.2	1.00	1.17	10.6
8	T1	441	7.0	1.096	112.5	LOS F	62.4	1646.2	1.00	1.17	5.8
18	R2	148	7.0	1.096	119.2	LOS F	62.4	1646.2	1.00	1.17	9.6
Approach		627	7.0	1.096	114.5	LOS F	62.4	1646.2	1.00	1.17	7.1
East: S. Frontage Road											
1	L2	55	7.0	0.556	70.4	LOS E	5.2	136.1	0.90	0.75	13.8
6	T1	15	7.0	0.556	63.9	LOS E	5.2	136.1	0.90	0.75	18.0
16	R2	103	7.0	0.109	12.9	LOS B	2.4	63.0	0.33	0.68	17.4
Approach		173	7.0	0.556	35.6	LOS D	5.2	136.1	0.56	0.71	16.0
North: Garrett Rd											
7	L2	253	7.0	0.931	60.9	LOS E	40.5	1069.4	1.00	1.02	13.1
4	T1	209	7.0	0.931	55.4	LOS E	40.5	1069.4	1.00	1.02	10.0
14	R2	79	7.0	0.931	60.9	LOS E	40.5	1069.4	1.00	1.02	14.5
Approach		541	7.0	0.931	58.8	LOS E	40.5	1069.4	1.00	1.02	12.3
West: S. Frontage Rd.											
5	L2	63	7.0	0.183	55.0	LOS E	3.9	102.2	0.81	0.74	12.7
2	T1	20	7.0	0.101	38.0	LOS D	2.4	64.4	0.73	0.66	23.6
12	R2	27	7.0	0.101	44.6	LOS D	2.4	64.4	0.73	0.66	20.1
Approach		110	7.0	0.183	49.4	LOS D	3.9	102.2	0.78	0.71	16.0
All Vehicles		1451	7.0	1.096	79.4	LOS E	62.4	1646.2	0.93	1.02	10.0

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

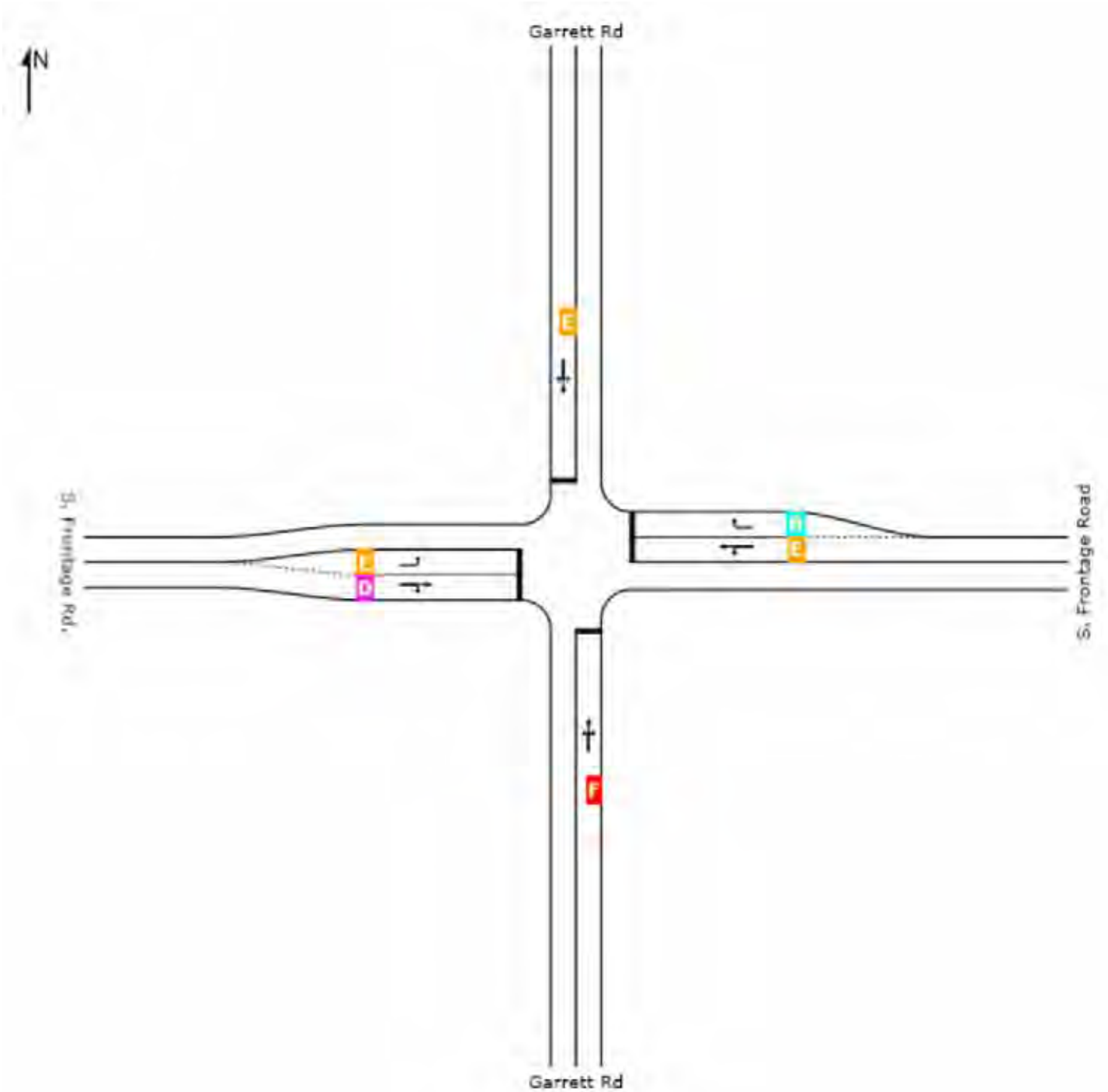
# LEVEL OF SERVICE

 **Site: AM: Garrett Rd @ S. Frontage Rd**

No-Build Alternative AM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

**All Movement Classes**

	South	East	North	West	Intersection
LOS	F	D	E	D	E



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ S. Frontage Rd

No-Build Alternative PM  
Signals - Actuated

Volume Display Method: Total and %

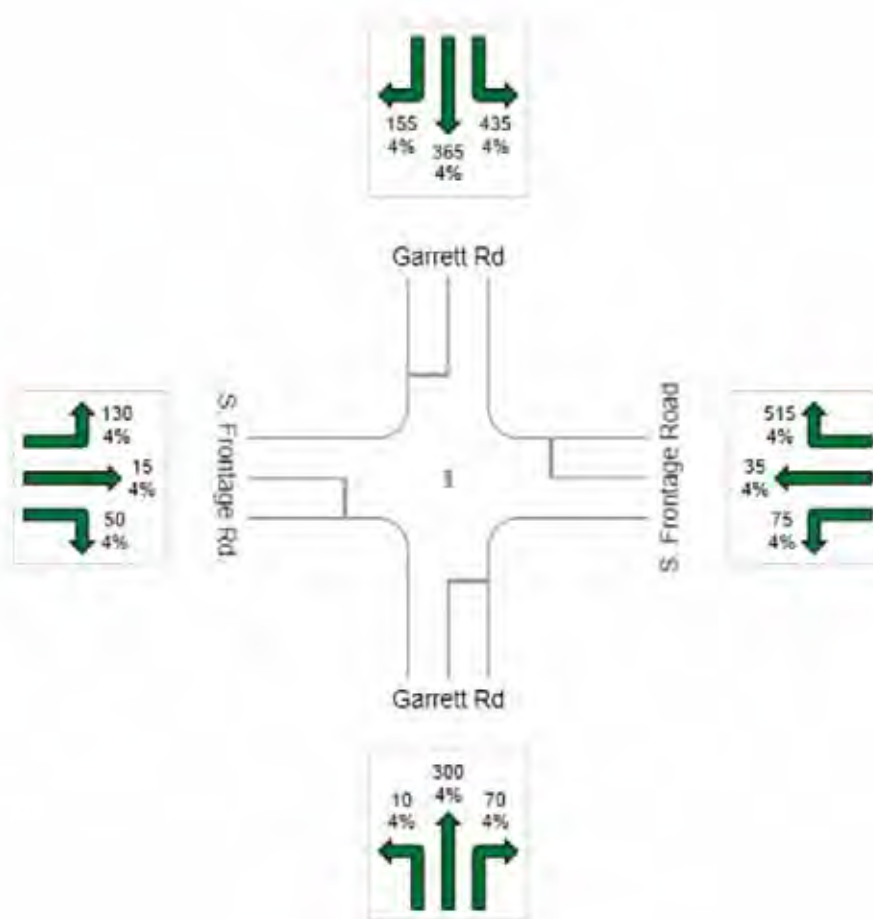
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2155

Light Vehicles (LV): 2069

Heavy Vehicles (HV): 86



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

No-Build Alternative PM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	7.4 mph	7.4 mph
Travel Distance (Total)	745.4 veh-mi/h	894.4 pers-mi/h
Travel Time (Total)	100.9 veh-h/h	121.0 pers-h/h
Demand Flows (Total)	2601 veh/h	3121 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	1.323	
Practical Spare Capacity	-32.0 %	
Effective Intersection Capacity	1966 veh/h	
Control Delay (Total)	76.51 veh-h/h	91.81 pers-h/h
Control Delay (Average)	105.9 sec	105.9 sec
Control Delay (Worst Lane)	354.4 sec	
Control Delay (Worst Movement)	357.2 sec	357.2 sec
Geometric Delay (Average)	4.0 sec	
Stop-Line Delay (Average)	101.9 sec	
Idling Time (Average)	96.8 sec	
Intersection Level of Service (LOS)	LOS F	
95% Back of Queue - Vehicles (Worst Lane)	107.1 veh	
95% Back of Queue - Distance (Worst Lane)	2763.1 ft	
Queue Storage Ratio (Worst Lane)	18.70	
Total Effective Stops	2668 veh/h	3202 pers/h
Effective Stop Rate	1.03 per veh	1.03 per pers
Proportion Queued	0.79	0.79
Performance Index	732.1	732.1
Cost (Total)	1566.66 \$/h	1566.66 \$/h
Fuel Consumption (Total)	73.0 gal/h	
Carbon Dioxide (Total)	654.2 kg/h	
Hydrocarbons (Total)	0.326 kg/h	
Carbon Monoxide (Total)	2.608 kg/h	
NOx (Total)	1.264 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

The results of iterative calculations indicate a somewhat unstable solution. See the Diagnostics section in the Detailed Output report.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,248,471 veh/y	1,498,166 pers/y
Delay	36,723 veh-h/y	44,068 pers-h/y
Effective Stops	1,280,838 veh/y	1,537,006 pers/y
Travel Distance	357,774 veh-mi/y	429,329 pers-mi/y
Travel Time	48,411 veh-h/y	58,093 pers-h/y
Cost	751,998 \$/y	751,998 \$/y
Fuel Consumption	35,059 gal/y	
Carbon Dioxide	314,024 kg/y	
Hydrocarbons	156 kg/y	
Carbon Monoxide	1,252 kg/y	
NOx	607 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

No-Build Alternative PM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3	L2	23	4.0	0.881	62.6	LOS E	38.1	984.0	1.00	0.92	14.9
8	T1	361	4.0	0.881	56.8	LOS E	38.1	984.0	1.00	0.92	6.8
18	R2	92	4.0	0.881	62.6	LOS E	38.1	984.0	1.00	0.92	13.4
Approach		476	4.0	0.881	58.2	LOS E	38.1	984.0	1.00	0.92	8.9
East: S. Frontage Road											
1	L2	100	4.0	1.323	357.2	LOS F	23.2	599.4	1.00	1.20	2.9
6	T1	76	4.0	1.323	350.8	LOS F	23.2	599.4	1.00	1.20	5.2
16	R2	606	4.0	0.620	7.0	LOS A	6.5	166.8	0.16	0.65	18.9
Approach		782	4.0	1.323	85.2	LOS F	23.2	599.4	0.35	0.78	9.1
North: Garrett Rd											
7	L2	483	4.0	1.252	160.2	LOS F	107.1	2763.1	1.00	1.32	6.2
4	T1	397	4.0	1.252	154.9	LOS F	107.1	2763.1	1.00	1.32	2.8
14	R2	176	4.0	1.252	160.2	LOS F	107.1	2763.1	1.00	1.32	7.0
Approach		1056	4.0	1.252	158.2	LOS F	107.1	2763.1	1.00	1.32	5.1
West: S. Frontage Rd.											
5	L2	169	4.0	0.780	69.1	LOS E	13.9	359.9	1.00	0.87	11.2
2	T1	27	4.0	0.179	14.7	LOS B	3.4	86.9	0.62	0.69	31.5
12	R2	91	4.0	0.179	21.3	LOS C	3.4	86.9	0.62	0.69	19.3
Approach		287	4.0	0.780	48.8	LOS D	13.9	359.9	0.85	0.80	14.3
All Vehicles		2601	4.0	1.323	105.9	LOS F	107.1	2763.1	0.79	1.03	7.4

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

The results of iterative calculations indicate a somewhat unstable solution. See the Diagnostics section in the Detailed Output report.

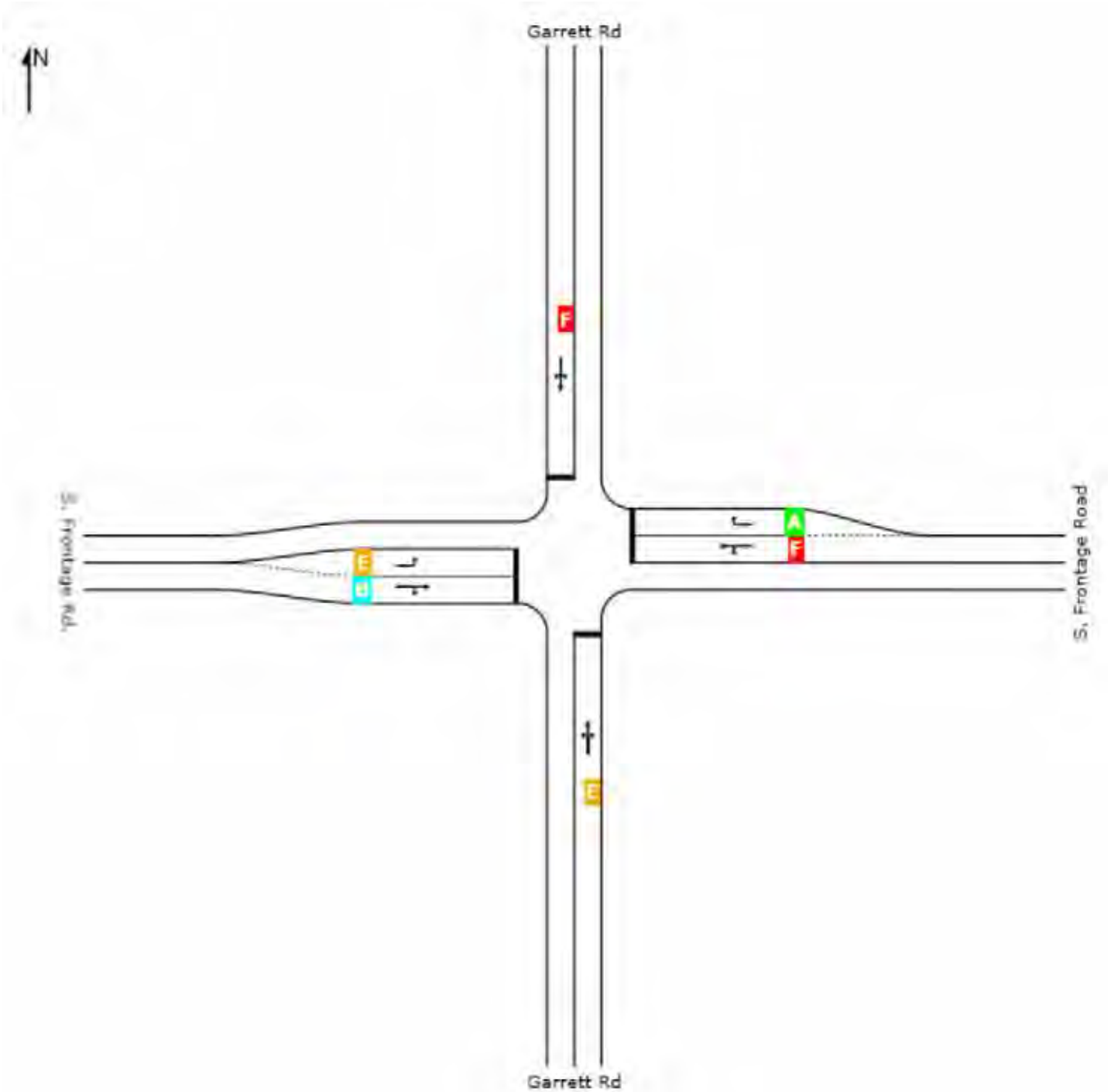
# LEVEL OF SERVICE

 **Site: PM: Garrett Rd @ S. Frontage Rd**

No-Build Alternative PM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

**All Movement Classes**

	South	East	North	West	Intersection
LOS	E	F	F	D	F



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 EB

No-Build Alternative AM  
Signals - Actuated

Volume Display Method: Total and %

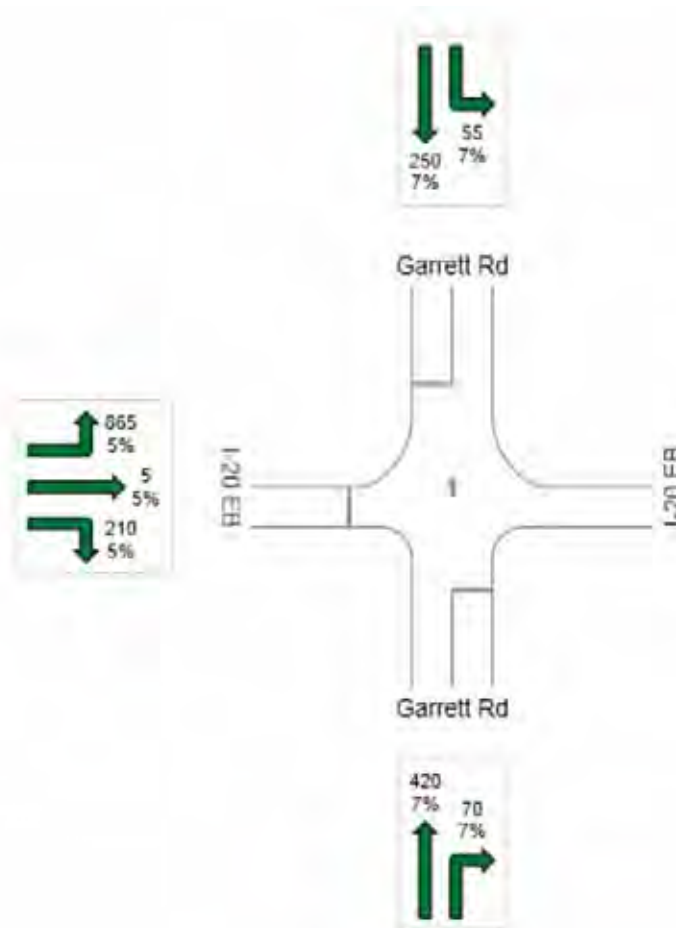
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1875

Light Vehicles (LV): 1765

Heavy Vehicles (HV): 110



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ I-20 EB**

No-Build Alternative AM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	4.9 mph	4.9 mph
Travel Distance (Total)	1488.6 veh-mi/h	1786.3 pers-mi/h
Travel Time (Total)	303.6 veh-h/h	364.3 pers-h/h
Demand Flows (Total)	2331 veh/h	2797 pers/h
Percent Heavy Vehicles (Demand)	5.8 %	
Degree of Saturation	2.572	
Practical Spare Capacity	-65.0 %	
Effective Intersection Capacity	906 veh/h	
Control Delay (Total)	267.38 veh-h/h	320.86 pers-h/h
Control Delay (Average)	413.0 sec	413.0 sec
Control Delay (Worst Lane)	812.7 sec	
Control Delay (Worst Movement)	812.7 sec	812.7 sec
Geometric Delay (Average)	4.2 sec	
Stop-Line Delay (Average)	408.8 sec	
Idling Time (Average)	405.9 sec	
Intersection Level of Service (LOS)	LOS F	
95% Back of Queue - Vehicles (Worst Lane)	225.4 veh	
95% Back of Queue - Distance (Worst Lane)	5860.5 ft	
Queue Storage Ratio (Worst Lane)	6.74	
Total Effective Stops	2564 veh/h	3076 pers/h
Effective Stop Rate	1.10 per veh	1.10 per pers
Proportion Queued	0.80	0.80
Performance Index	962.1	962.1
Cost (Total)	4699.73 \$/h	4699.73 \$/h
Fuel Consumption (Total)	168.5 gal/h	
Carbon Dioxide (Total)	1512.2 kg/h	
Hydrocarbons (Total)	0.874 kg/h	
Carbon Monoxide (Total)	5.860 kg/h	
NOx (Total)	2.702 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).  
 Intersection LOS value for Vehicles is based on average delay for all vehicle movements.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,118,672 veh/y	1,342,407 pers/y
Delay	128,344 veh-h/y	154,013 pers-h/y
Effective Stops	1,230,487 veh/y	1,476,584 pers/y
Travel Distance	714,525 veh-mi/y	857,430 pers-mi/y
Travel Time	145,707 veh-h/y	174,848 pers-h/y
Cost	2,255,868 \$/y	2,255,868 \$/y
Fuel Consumption	80,902 gal/y	
Carbon Dioxide	725,876 kg/y	
Hydrocarbons	420 kg/y	
Carbon Monoxide	2,813 kg/y	
NOx	1,297 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ I-20 EB**

No-Build Alternative AM

Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	483	7.0	0.944	64.1	LOS E	40.7	1075.6	0.99	0.96	14.6
18	R2	89	7.0	0.068	6.0	LOS A	0.4	9.5	0.07	0.60	33.6
Approach		571	7.0	0.944	55.1	LOS E	40.7	1075.6	0.85	0.90	15.9
North: Garrett Rd											
7	L2	75	7.0	0.431	23.8	LOS C	16.3	430.5	0.56	0.53	30.3
4	T1	325	7.0	0.431	17.5	LOS B	16.3	430.5	0.56	0.53	28.0
Approach		400	7.0	0.431	18.7	LOS B	16.3	430.5	0.56	0.53	28.6
West: I-20 EB											
5	L2	1123	5.0	2.572	812.7	LOS F	225.4	5860.5	1.00	1.49	3.5
2	T1	10	5.0	2.572	806.3	LOS F	225.4	5860.5	1.00	1.49	3.4
12	R2	226	5.0	0.862	11.3	LOS B	3.7	96.6	0.08	0.63	26.8
Approach		1359	5.0	2.572	679.5	LOS F	225.4	5860.5	0.85	1.35	3.9
All Vehicles		2331	5.8	2.572	413.0	LOS F	225.4	5860.5	0.80	1.10	4.9

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

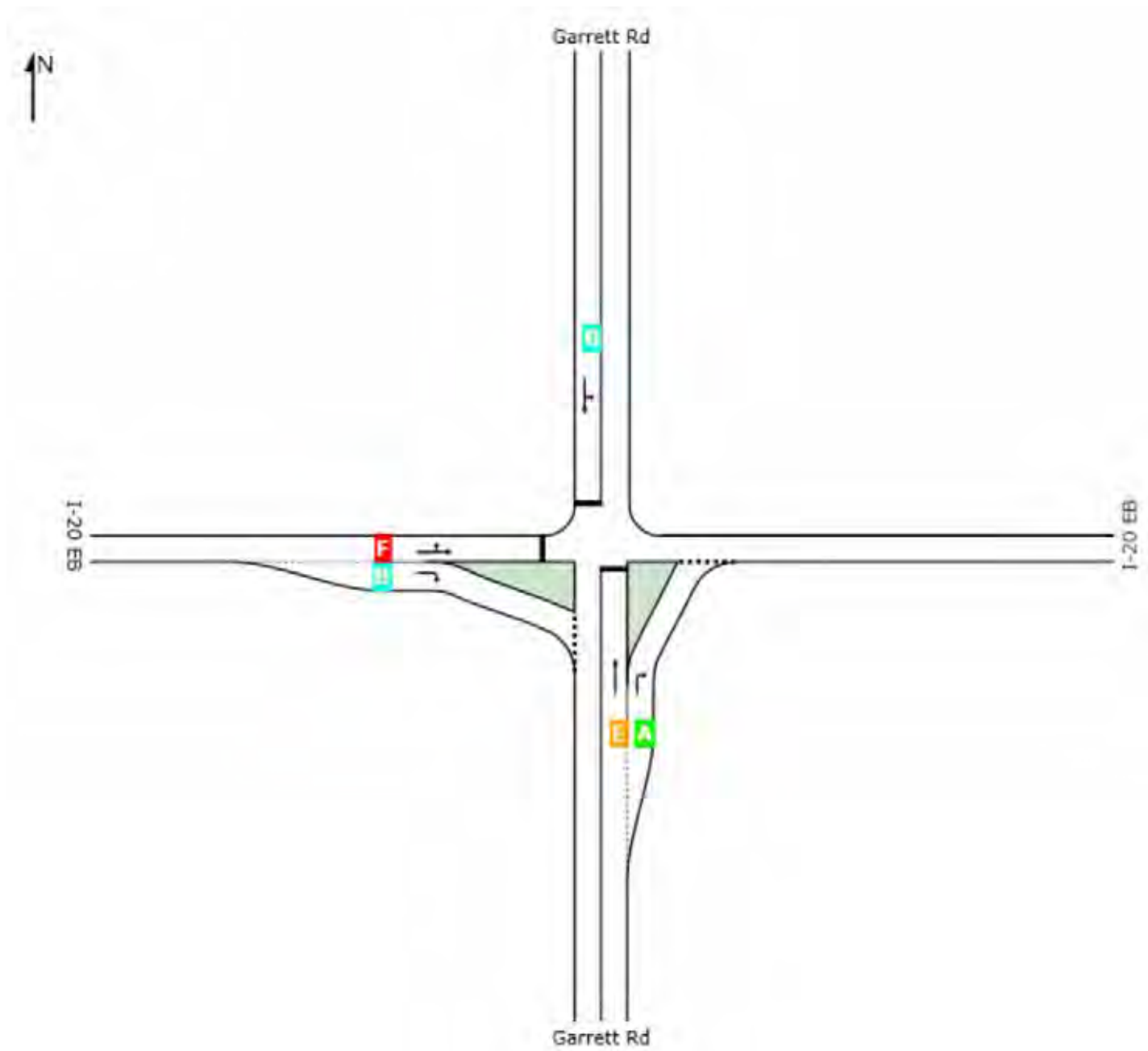
# LEVEL OF SERVICE

 **Site: AM: Garrett Rd @ I-20 EB**

No-Build Alternative AM  
 Signals - Actuated Cycle Time = 150 seconds (Practical Cycle Time)

## All Movement Classes

	South	North	West	Intersection
LOS	E	B	F	F



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB

No-Build Alternative PM  
Signals - Actuated

Volume Display Method: Total and %

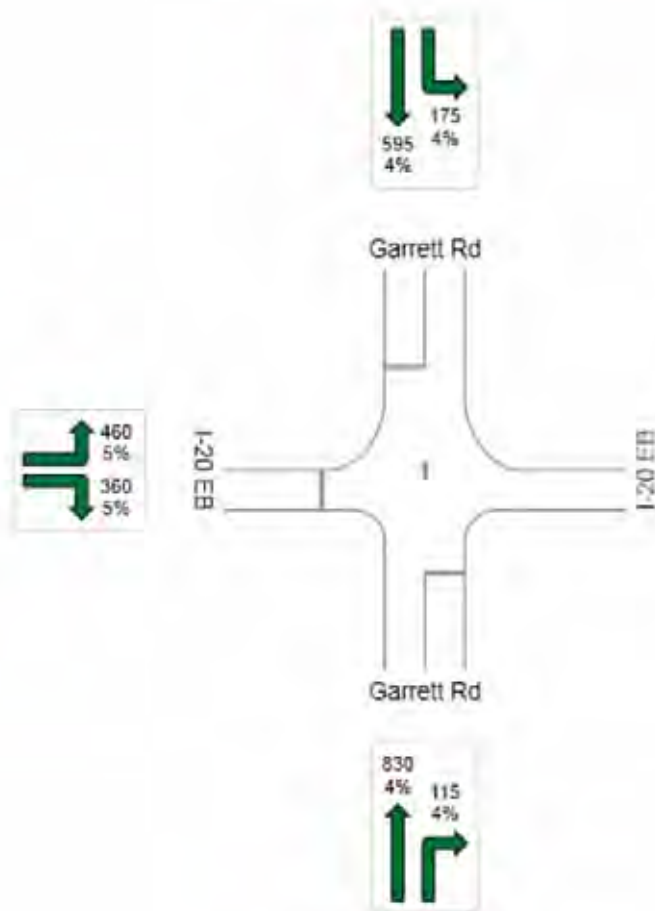
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2535

Light Vehicles (LV): 2425

Heavy Vehicles (HV): 110



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ I-20 EB**

No-Build Alternative PM  
 Signals - Actuated Cycle Time = 135 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	3.3 mph	3.3 mph
Travel Distance (Total)	1624.9 veh-mi/h	1949.9 pers-mi/h
Travel Time (Total)	488.9 veh-h/h	586.7 pers-h/h
Demand Flows (Total)	3017 veh/h	3620 pers/h
Percent Heavy Vehicles (Demand)	4.4 %	
Degree of Saturation	4.511	
Practical Spare Capacity	-80.1 %	
Effective Intersection Capacity	669 veh/h	
Control Delay (Total)	449.20 veh-h/h	539.05 pers-h/h
Control Delay (Average)	536.0 sec	536.0 sec
Control Delay (Worst Lane)	1715.1 sec	
Control Delay (Worst Movement)	1715.1 sec	1715.1 sec
Geometric Delay (Average)	3.1 sec	
Stop-Line Delay (Average)	532.9 sec	
Idling Time (Average)	522.1 sec	
Intersection Level of Service (LOS)	LOS F	
95% Back of Queue - Vehicles (Worst Lane)	168.4 veh	
95% Back of Queue - Distance (Worst Lane)	4377.4 ft	
Queue Storage Ratio (Worst Lane)	20.42	
Total Effective Stops	4241 veh/h	5089 pers/h
Effective Stop Rate	1.41 per veh	1.41 per pers
Proportion Queued	0.96	0.96
Performance Index	1037.9	1037.9
Cost (Total)	7201.52 \$/h	7201.52 \$/h
Fuel Consumption (Total)	238.3 gal/h	
Carbon Dioxide (Total)	2135.0 kg/h	
Hydrocarbons (Total)	1.340 kg/h	
Carbon Monoxide (Total)	8.254 kg/h	
NOx (Total)	3.292 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).  
 Intersection LOS value for Vehicles is based on average delay for all vehicle movements.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,448,078 veh/y	1,737,694 pers/y
Delay	215,618 veh-h/y	258,742 pers-h/y
Effective Stops	2,035,655 veh/y	2,442,786 pers/y
Travel Distance	779,952 veh-mi/y	935,942 pers-mi/y
Travel Time	234,693 veh-h/y	281,631 pers-h/y
Cost	3,456,730 \$/y	3,456,730 \$/y
Fuel Consumption	114,399 gal/y	
Carbon Dioxide	1,024,786 kg/y	
Hydrocarbons	643 kg/y	
Carbon Monoxide	3,962 kg/y	
NOx	1,580 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd @ I-20 EB**

No-Build Alternative PM

Signals - Actuated Cycle Time = 135 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	874	4.0	1.466	281.4	LOS F	117.0	3017.4	1.00	1.79	4.4
18	R2	140	4.0	0.192	6.7	LOS A	1.3	34.5	0.18	0.62	33.7
Approach		1014	4.0	1.466	243.4	LOS F	117.0	3017.4	0.89	1.63	5.0
North: Garrett Rd											
7	L2	206	4.0	1.041	54.0	LOS D	56.0	1444.4	1.00	1.06	21.6
4	T1	676	4.0	1.041	47.7	LOS D	56.0	1444.4	1.00	1.06	17.2
Approach		882	4.0	1.041	49.2	LOS D	56.0	1444.4	1.00	1.06	18.4
West: I-20 EB											
5	L2	742	5.0	4.511	1715.1	LOS F	168.4	4377.4	1.00	1.67	1.7
12	R2	379	5.0	1.121	143.9	LOS F	33.0	859.0	1.00	1.08	10.1
Approach		1121	5.0	4.511	1183.9	LOS F	168.4	4377.4	1.00	1.47	2.2
All Vehicles		3017	4.4	4.511	536.0	LOS F	168.4	4377.4	0.96	1.41	3.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

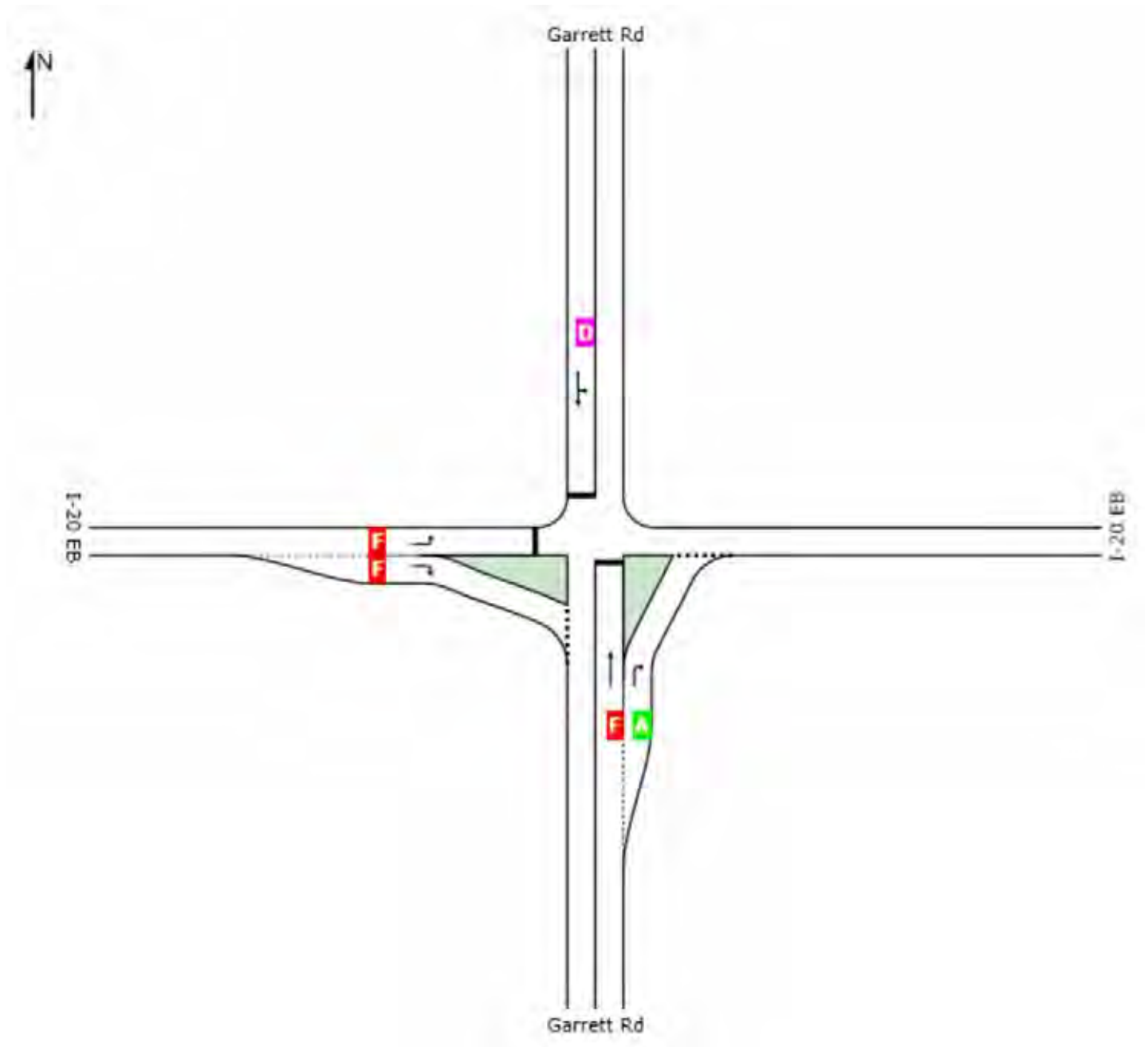
 **Site: PM: Garrett Rd @ I-20 EB**

No-Build Alternative PM

Signals - Actuated Cycle Time = 135 seconds (Practical Cycle Time)

## All Movement Classes

	South	North	West	Intersection
LOS	F	D	F	F



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd @ I-20 WB**

No-Build Alternative - AM  
Stop (Two-Way)

**Volume Display Method: Total and %**

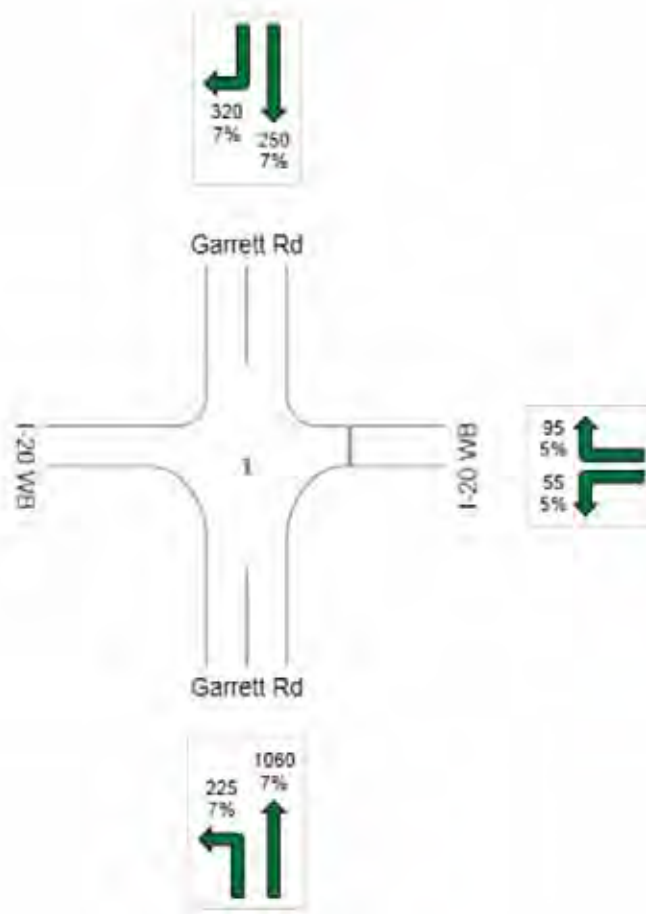
**Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles**

**Total Intersection Volumes (veh)**

**All Movement Classes: 2005**

**Light Vehicles (LV): 1868**

**Heavy Vehicles (HV): 137**



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

No-Build Alternative - AM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	4.7 mph	4.7 mph
Travel Distance (Total)	1144.0 veh-mi/h	1372.8 pers-mi/h
Travel Time (Total)	242.5 veh-h/h	291.0 pers-h/h
Demand Flows (Total)	2507 veh/h	3009 pers/h
Percent Heavy Vehicles (Demand)	6.9 %	
Degree of Saturation	10.281	
Practical Spare Capacity	-92.2 %	
Effective Intersection Capacity	244 veh/h	
Control Delay (Total)	215.81 veh-h/h	258.97 pers-h/h
Control Delay (Average)	309.9 sec	309.9 sec
Control Delay (Worst Lane)	4590.7 sec	
Control Delay (Worst Movement)	4590.7 sec	4590.7 sec
Geometric Delay (Average)	2.1 sec	
Stop-Line Delay (Average)	307.7 sec	
Idling Time (Average)	301.1 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	64.7 veh	
95% Back of Queue - Distance (Worst Lane)	1708.0 ft	
Queue Storage Ratio (Worst Lane)	1.35	
Total Effective Stops	1085 veh/h	1302 pers/h
Effective Stop Rate	0.43 per veh	0.43 per pers
Proportion Queued	0.83	0.83
Performance Index	322.5	322.5
Cost (Total)	3644.77 \$/h	3644.77 \$/h
Fuel Consumption (Total)	135.0 gal/h	
Carbon Dioxide (Total)	1212.3 kg/h	
Hydrocarbons (Total)	0.682 kg/h	
Carbon Monoxide (Total)	4.620 kg/h	
NOx (Total)	2.388 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,203,503 veh/y	1,444,204 pers/y
Delay	103,588 veh-h/y	124,306 pers-h/y
Effective Stops	520,949 veh/y	625,138 pers/y
Travel Distance	549,109 veh-mi/y	658,931 pers-mi/y
Travel Time	116,400 veh-h/y	139,679 pers-h/y
Cost	1,749,489 \$/y	1,749,489 \$/y
Fuel Consumption	64,786 gal/y	
Carbon Dioxide	581,905 kg/y	
Hydrocarbons	328 kg/y	
Carbon Monoxide	2,218 kg/y	
NOx	1,146 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

No-Build Alternative - AM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	268	7.0	1.041	37.6	LOS E	64.7	1708.0	1.00	0.33	23.9
8	T1	1395	7.0	1.041	31.1	LOS D	64.7	1708.0	1.00	0.33	23.9
Approach		1663	7.0	1.041	32.2	NA	64.7	1708.0	1.00	0.33	23.9
East: I-20 WB											
1	L2	55	5.0	9.167	4252.4	LOS F	33.7	876.0	1.00	1.19	0.5
16	R2	106	5.0	10.281	4590.7	LOS F	54.6	1420.5	1.00	1.30	0.3
Approach		161	5.0	10.281	4474.8	LOS F	54.6	1420.5	1.00	1.26	0.4
North: Garrett Rd											
4	T1	321	7.0	0.180	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
14	R2	364	7.0	0.521	13.6	LOS B	4.9	129.9	0.70	0.91	27.8
Approach		684	7.0	0.521	7.2	LOS A	4.9	129.9	0.37	0.49	34.6
All Vehicles		2507	6.9	10.281	309.9	NA	64.7	1708.0	0.83	0.43	4.7

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

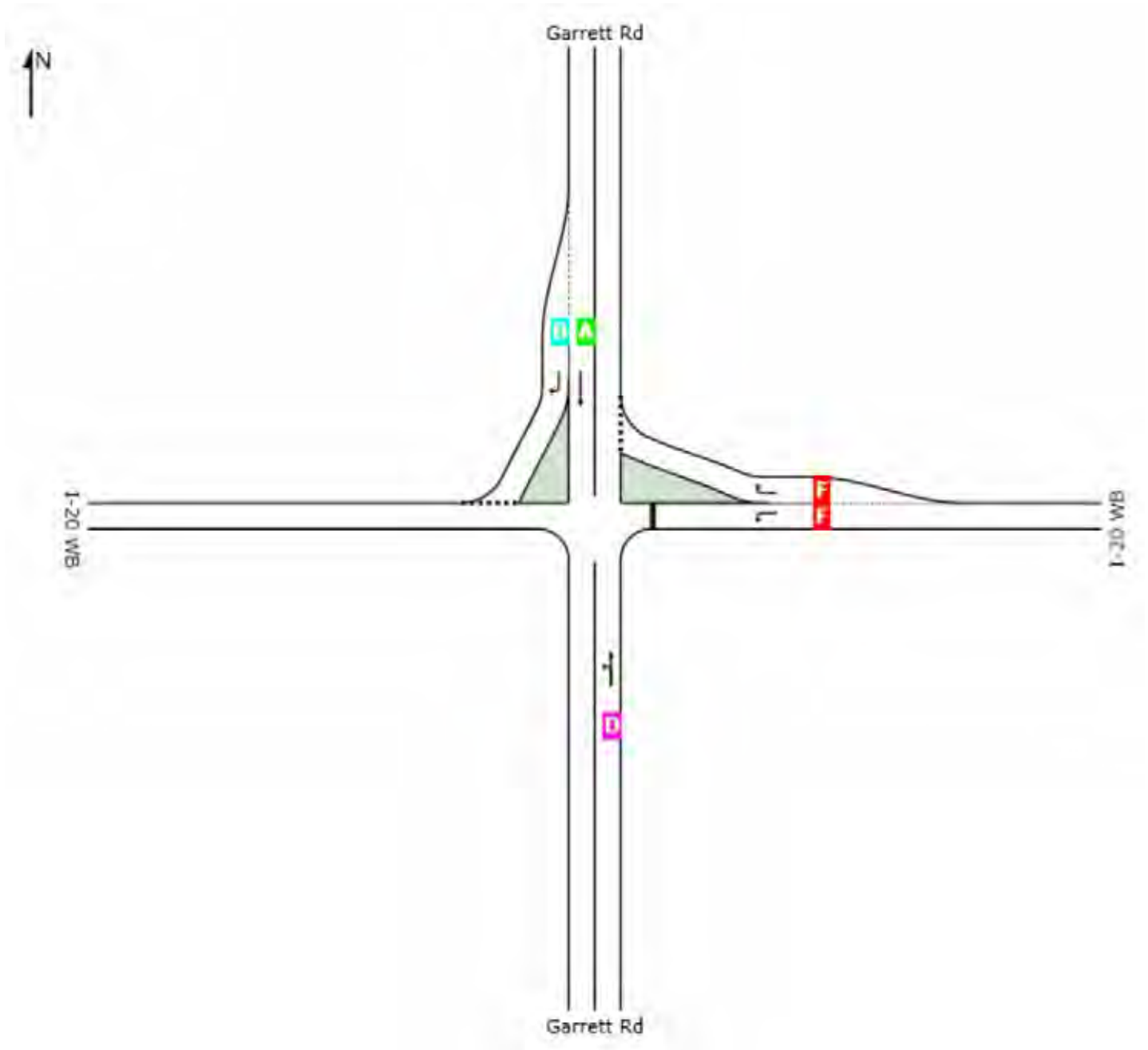
# LEVEL OF SERVICE

**STOP** Site: AM: Garrett Rd @ I-20 WB

No-Build Alternative - AM  
 Stop (Two-Way)

## All Movement Classes

	South	East	North	Intersection
LOS	NA	F	A	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: PM: Garrett Rd @ I-20 WB**

No-Build Alternative PM  
Stop (Two-Way)

Volume Display Method: Total and %

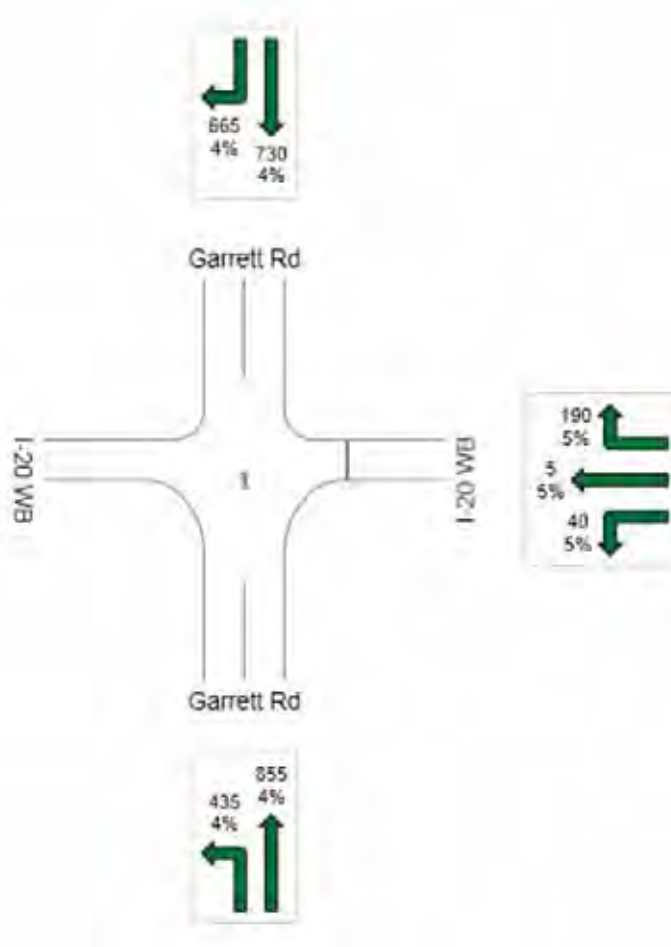
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2920

Light Vehicles (LV): 2801

Heavy Vehicles (HV): 119



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 WB

No-Build Alternative PM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	3.3 mph	3.3 mph
Travel Distance (Total)	1482.8 veh-mi/h	1779.3 pers-mi/h
Travel Time (Total)	455.5 veh-h/h	546.6 pers-h/h
Demand Flows (Total)	3272 veh/h	3927 pers/h
Percent Heavy Vehicles (Demand)	4.1 %	
Degree of Saturation	21.585	
Practical Spare Capacity	-96.3 %	
Effective Intersection Capacity	152 veh/h	
Control Delay (Total)	419.58 veh-h/h	503.50 pers-h/h
Control Delay (Average)	461.6 sec	461.6 sec
Control Delay (Worst Lane)	10358.3 sec	
Control Delay (Worst Movement)	10358.9 sec	10358.9 sec
Geometric Delay (Average)	3.0 sec	
Stop-Line Delay (Average)	458.6 sec	
Idling Time (Average)	421.4 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	155.4 veh	
95% Back of Queue - Distance (Worst Lane)	4009.4 ft	
Queue Storage Ratio (Worst Lane)	3.03	
Total Effective Stops	7391 veh/h	8869 pers/h
Effective Stop Rate	2.26 per veh	2.26 per pers
Proportion Queued	0.76	0.76
Performance Index	710.1	710.1
Cost (Total)	6589.51 \$/h	6589.51 \$/h
Fuel Consumption (Total)	214.2 gal/h	
Carbon Dioxide (Total)	1918.6 kg/h	
Hydrocarbons (Total)	1.230 kg/h	
Carbon Monoxide (Total)	7.393 kg/h	
NOx (Total)	2.751 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,570,703 veh/y	1,884,843 pers/y
Delay	201,398 veh-h/y	241,678 pers-h/y
Effective Stops	3,547,503 veh/y	4,257,004 pers/y
Travel Distance	711,732 veh-mi/y	854,079 pers-mi/y
Travel Time	218,625 veh-h/y	262,350 pers-h/y
Cost	3,162,963 \$/y	3,162,963 \$/y
Fuel Consumption	102,833 gal/y	
Carbon Dioxide	920,921 kg/y	
Hydrocarbons	590 kg/y	
Carbon Monoxide	3,549 kg/y	
NOx	1,321 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 WB

No-Build Alternative PM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	506	4.0	1.402	195.1	LOS F	148.5	3830.9	1.00	1.54	8.2
8	T1	940	4.0	1.402	189.3	LOS F	148.5	3830.9	1.00	1.54	7.2
Approach		1445	4.0	1.402	191.3	NA	148.5	3830.9	1.00	1.54	7.5
East: I-20 WB											
1	L2	51	5.0	21.585	10358.2	LOS F	37.6	978.7	1.00	1.20	0.2
6	T1	8	5.0	21.585	10358.9	LOS F	37.6	978.7	1.00	1.20	0.2
16	R2	218	5.0	1.783	410.7	LOS F	35.9	934.7	1.00	2.83	3.5
Approach		278	5.0	21.585	2532.7	LOS F	37.6	978.7	1.00	2.49	0.7
North: Garrett Rd											
4	T1	785	4.0	0.413	0.0	LOS A	0.0	0.0	0.00	0.00	44.9
14	R2	764	4.0	2.479	694.5	LOS F	155.4	4009.4	1.00	5.85	1.9
Approach		1549	4.0	2.479	342.6	LOS F	155.4	4009.4	0.49	2.89	4.0
All Vehicles		3272	4.1	21.585	461.6	NA	155.4	4009.4	0.76	2.26	3.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

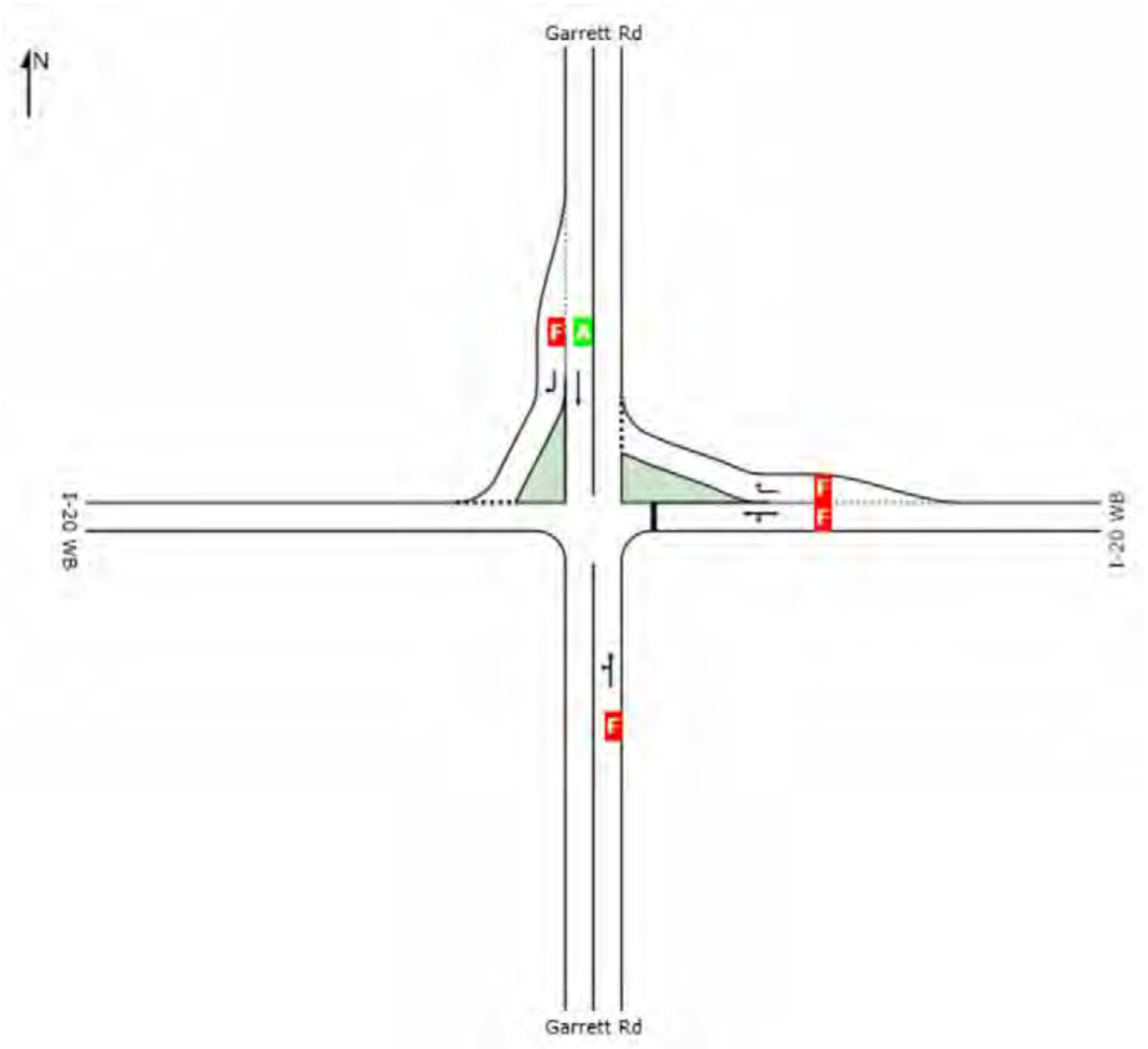
# LEVEL OF SERVICE

**STOP** Site: PM: Garrett Rd @ I-20 WB

No-Build Alternative PM  
 Stop (Two-Way)

## All Movement Classes

	South	East	North	Intersection
LOS	NA	F	F	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd @ Millhaven Rd**

No-Build Alternative AM  
Stop (Two-Way)

Volume Display Method: Total and %

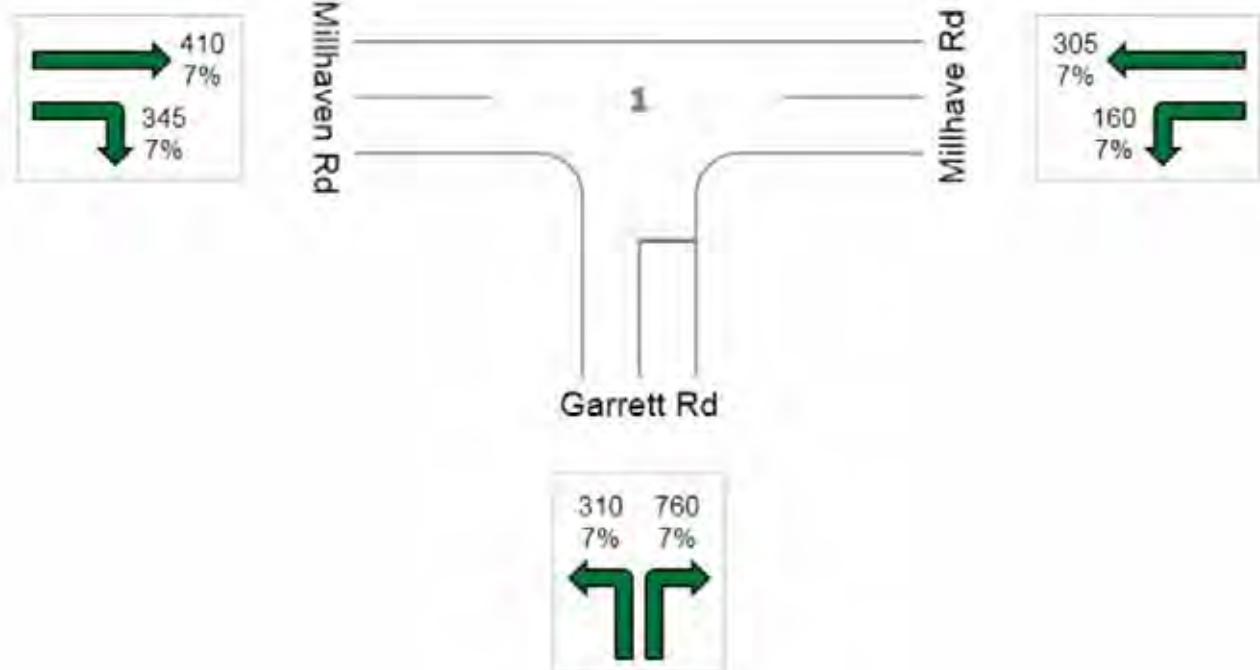
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2290

Light Vehicles (LV): 2130

Heavy Vehicles (HV): 160



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ Millhaven Rd

No-Build Alternative AM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	1.0 mph	1.0 mph
Travel Distance (Total)	733.2 veh-mi/h	879.8 pers-mi/h
Travel Time (Total)	746.7 veh-h/h	896.1 pers-h/h
Demand Flows (Total)	3013 veh/h	3615 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	13.547	
Practical Spare Capacity	-94.1 %	
Effective Intersection Capacity	222 veh/h	
Control Delay (Total)	728.10 veh-h/h	873.72 pers-h/h
Control Delay (Average)	870.0 sec	870.0 sec
Control Delay (Worst Lane)	5806.2 sec	
Control Delay (Worst Movement)	5806.2 sec	5806.2 sec
Geometric Delay (Average)	5.7 sec	
Stop-Line Delay (Average)	864.3 sec	
Idling Time (Average)	837.5 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	169.0 veh	
95% Back of Queue - Distance (Worst Lane)	4462.9 ft	
Queue Storage Ratio (Worst Lane)	11.34	
Total Effective Stops	5851 veh/h	7022 pers/h
Effective Stop Rate	1.94 per veh	1.94 per pers
Proportion Queued	0.54	0.54
Performance Index	1032.1	1032.1
Cost (Total)	10690.32 \$/h	10690.32 \$/h
Fuel Consumption (Total)	301.9 gal/h	
Carbon Dioxide (Total)	2710.9 kg/h	
Hydrocarbons (Total)	1.928 kg/h	
Carbon Monoxide (Total)	9.844 kg/h	
NOx (Total)	4.279 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,446,109 veh/y	1,735,330 pers/y
Delay	349,487 veh-h/y	419,384 pers-h/y
Effective Stops	2,808,628 veh/y	3,370,354 pers/y
Travel Distance	351,919 veh-mi/y	422,302 pers-mi/y
Travel Time	358,433 veh-h/y	430,120 pers-h/y
Cost	5,131,352 \$/y	5,131,352 \$/y
Fuel Consumption	144,929 gal/y	
Carbon Dioxide	1,301,251 kg/y	
Hydrocarbons	925 kg/y	
Carbon Monoxide	4,725 kg/y	
NOx	2,054 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ Millhaven Rd

No-Build Alternative AM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	383	7.0	13.547	5806.2	LOS F	148.1	3909.6	1.00	1.72	0.2
18	R2	1070	7.0	1.757	364.2	LOS F	169.0	4462.9	1.00	4.38	2.0
Approach		1453	7.0	13.547	1797.5	LOS F	169.0	4462.9	1.00	3.68	0.4
East: Millhave Rd											
1	L2	205	7.0	0.724	30.8	LOS D	4.2	110.8	0.91	1.19	14.1
6	T1	377	7.0	0.106	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
Approach		582	7.0	0.724	10.9	NA	4.2	110.8	0.32	0.42	27.6
West: Millhaven Rd											
2	T1	547	7.0	0.154	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
12	R2	431	7.0	0.287	6.6	LOS A	0.0	0.0	0.00	0.61	23.1
Approach		978	7.0	0.287	2.9	NA	0.0	0.0	0.00	0.27	32.2
All Vehicles		3013	7.0	13.547	870.0	NA	169.0	4462.9	0.54	1.94	1.0

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

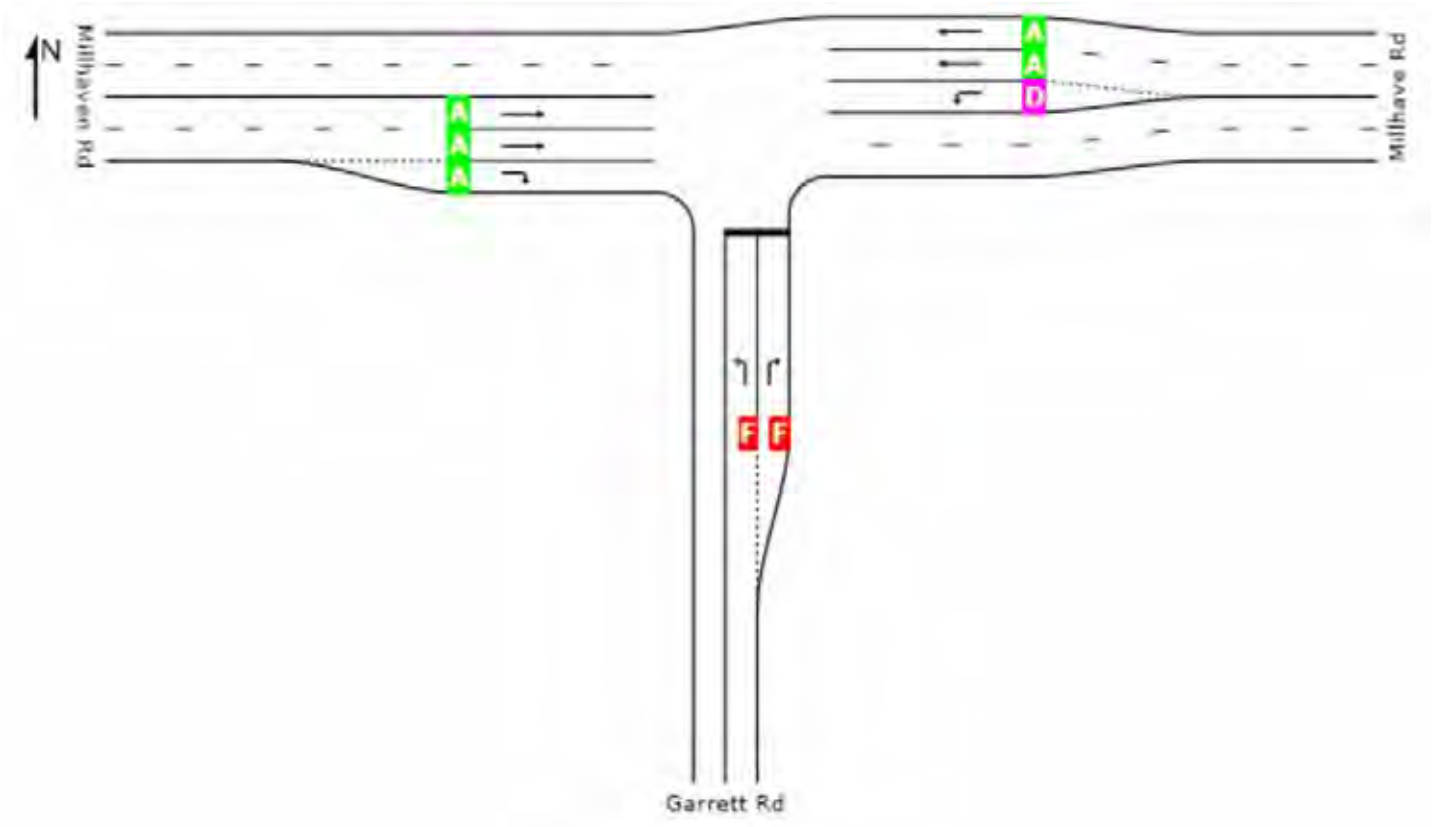
# LEVEL OF SERVICE

**STOP** Site: AM: Garrett Rd @ Millhaven Rd

No-Build Alternative AM  
Stop (Two-Way)

## All Movement Classes

	South	East	West	Intersection
LOS	F	NA	NA	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ Millhaven Rd

No-Build Alternative PM  
Stop (Two-Way)

Volume Display Method: Total and %

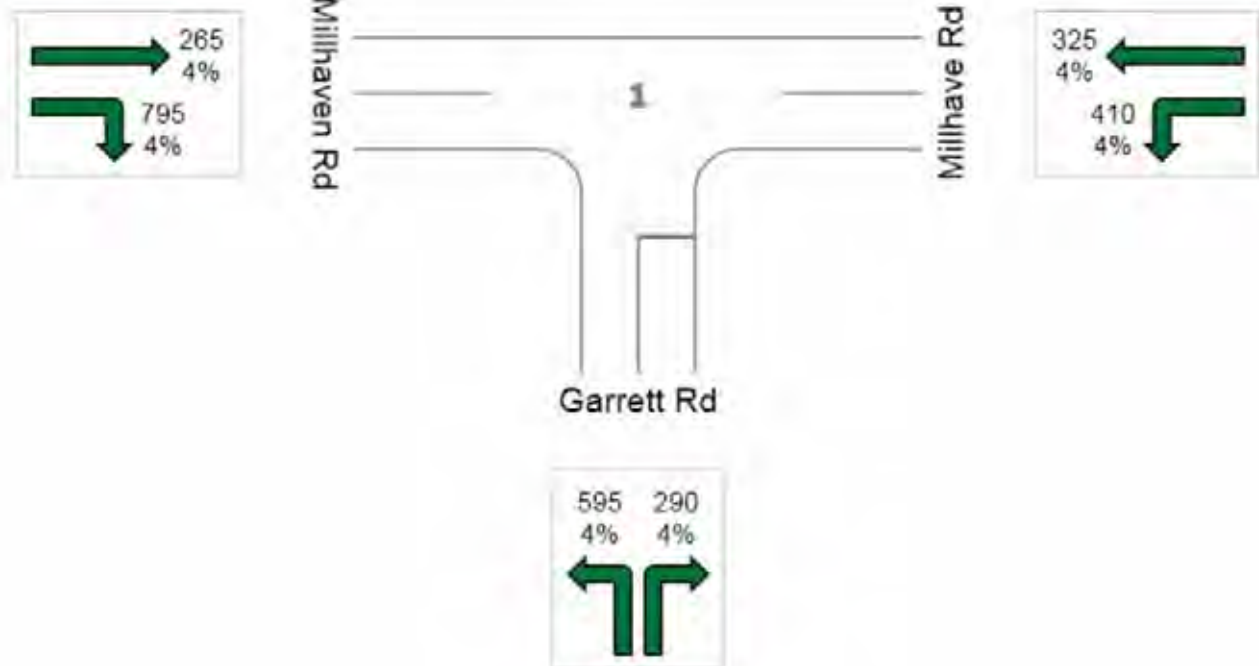
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2680

Light Vehicles (LV): 2573

Heavy Vehicles (HV): 107



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ Millhaven Rd

No-Build Alternative PM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	0.1 mph	0.1 mph
Travel Distance (Total)	809.3 veh-mi/h	971.1 pers-mi/h
Travel Time (Total)	8568.4 veh-h/h	10282.0 pers-h/h
Demand Flows (Total)	3255 veh/h	3906 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	104.236	
Practical Spare Capacity	-99.2 %	
Effective Intersection Capacity	31 veh/h	
Control Delay (Total)	8545.93 veh-h/h	10255.11 pers-h/h
Control Delay (Average)	9451.7 sec	9451.7 sec
Control Delay (Worst Lane)	47034.5 sec	
Control Delay (Worst Movement)	47034.5 sec	47034.5 sec
Geometric Delay (Average)	5.8 sec	
Stop-Line Delay (Average)	9445.9 sec	
Idling Time (Average)	9432.6 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	444.5 veh	
95% Back of Queue - Distance (Worst Lane)	11468.4 ft	
Queue Storage Ratio (Worst Lane)	33.27	
Total Effective Stops	3917 veh/h	4700 pers/h
Effective Stop Rate	1.20 per veh	1.20 per pers
Proportion Queued	0.43	0.43
Performance Index	8945.8	8945.8
Cost (Total)	119013.30 \$/h	119013.30 \$/h
Fuel Consumption (Total)	2860.0 gal/h	
Carbon Dioxide (Total)	25566.1 kg/h	
Hydrocarbons (Total)	20.867 kg/h	
Carbon Monoxide (Total)	92.581 kg/h	
NOx (Total)	19.459 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,562,399 veh/y	1,874,879 pers/y
Delay	4,102,044 veh-h/y	4,922,454 pers-h/y
Effective Stops	1,880,041 veh/y	2,256,049 pers/y
Travel Distance	388,452 veh-mi/y	466,143 pers-mi/y
Travel Time	4,112,816 veh-h/y	4,935,380 pers-h/y
Cost	57,126,380 \$/y	57,126,380 \$/y
Fuel Consumption	1,372,822 gal/y	
Carbon Dioxide	12,271,740 kg/y	
Hydrocarbons	10,016 kg/y	
Carbon Monoxide	44,439 kg/y	
NOx	9,340 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ Millhaven Rd

No-Build Alternative PM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	640	4.0	104.236	47034.5	LOS F	444.5	11468.4	1.00	1.18	0.0
18	R2	358	4.0	0.430	11.0	LOS B	3.0	76.4	0.50	0.84	25.2
Approach		998	4.0	104.236	30161.9	LOS F	444.5	11468.4	0.82	1.06	0.0
East: Millhave Rd											
1	L2	586	4.0	3.434	1132.5	LOS F	141.8	3658.7	1.00	3.91	0.7
6	T1	471	4.0	0.124	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
Approach		1057	4.0	3.434	627.7	NA	141.8	3658.7	0.55	2.17	1.3
West: Millhaven Rd											
2	T1	276	4.0	0.073	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
12	R2	924	4.0	0.574	6.6	LOS A	0.0	0.0	0.00	0.61	23.2
Approach		1200	4.0	0.574	5.1	NA	0.0	0.0	0.00	0.47	26.3
All Vehicles		3255	4.0	104.236	9451.7	NA	444.5	11468.4	0.43	1.20	0.1

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

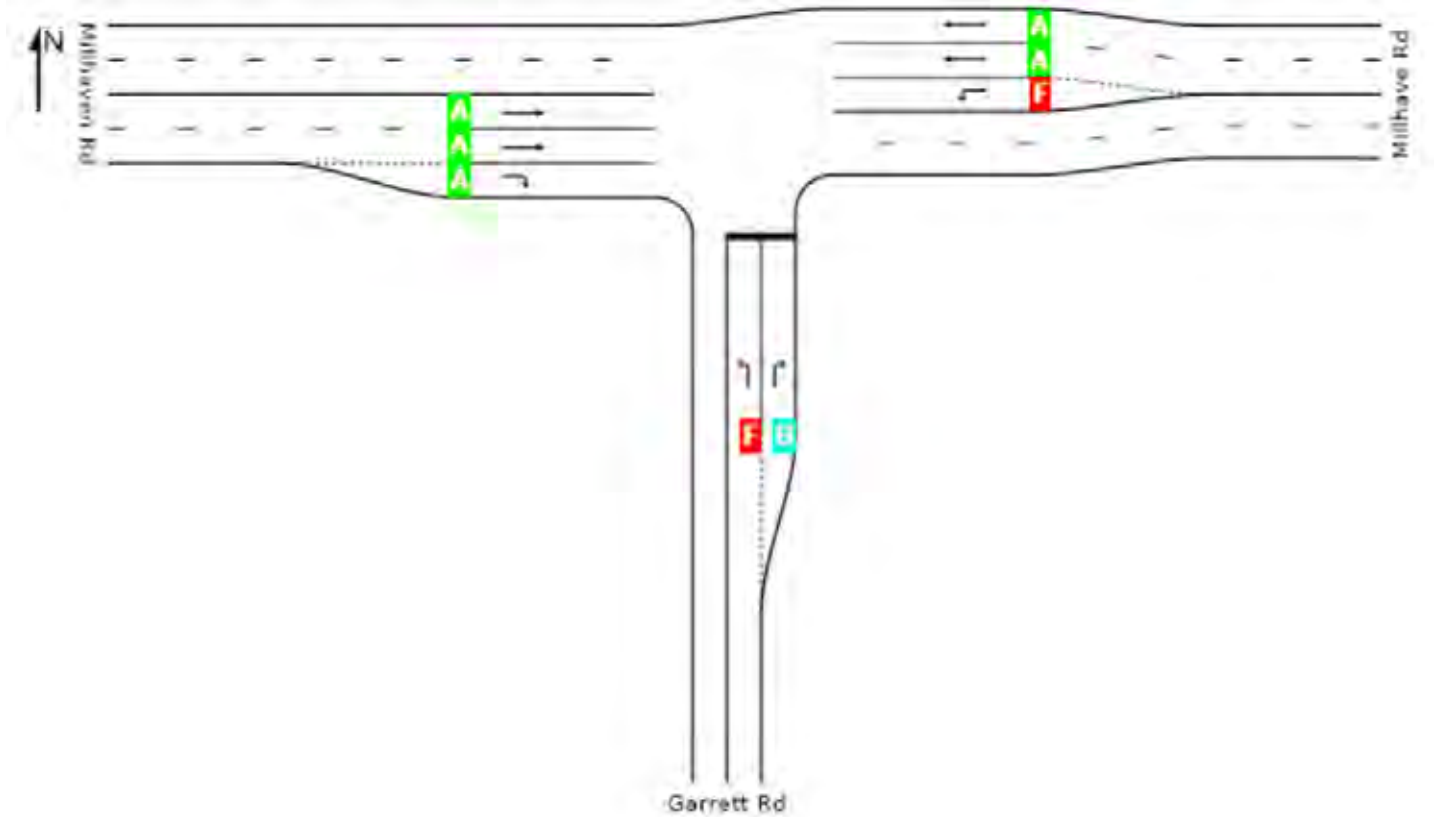
# LEVEL OF SERVICE

**STOP** Site: PM: Garrett Rd @ Millhaven Rd

No-Build Alternative PM  
Stop (Two-Way)

## All Movement Classes

	South	East	West	Intersection
LOS	F	NA	NA	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: No-Build AM: Millhaven Road @ Kansas Lane**

No-Build Alternative - AM  
Signals - Actuated

Volume Display Method: Total and %

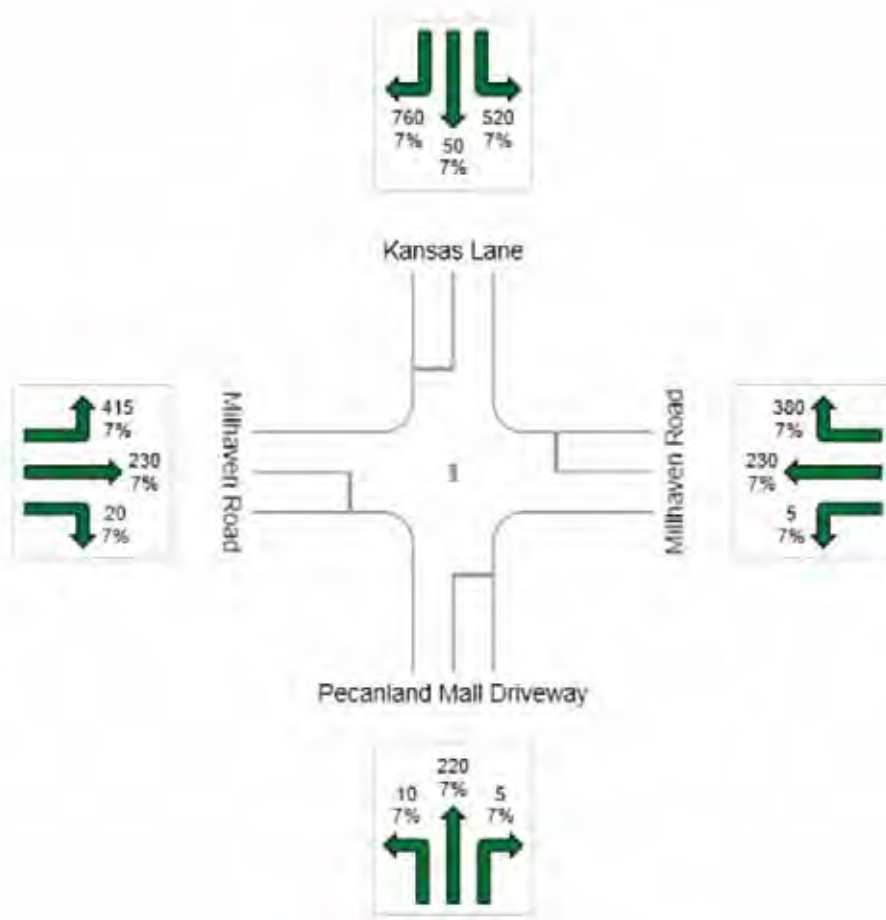
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2845

Light Vehicles (LV): 2646

Heavy Vehicles (HV): 199



# INTERSECTION SUMMARY

 **Site: No-Build AM: Millhaven Road @ Kansas Lane**

No-Build Alternative - AM  
 Signals - Actuated Cycle Time = 101 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	18.3 mph	18.3 mph
Travel Distance (Total)	1307.6 veh-mi/h	1569.2 pers-mi/h
Travel Time (Total)	71.5 veh-h/h	85.8 pers-h/h
Demand Flows (Total)	3429 veh/h	4114 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	1.064	
Practical Spare Capacity	-15.4 %	
Effective Intersection Capacity	3222 veh/h	
Control Delay (Total)	34.07 veh-h/h	40.88 pers-h/h
Control Delay (Average)	35.8 sec	35.8 sec
Control Delay (Worst Lane)	66.1 sec	
Control Delay (Worst Movement)	66.1 sec	66.1 sec
Geometric Delay (Average)	4.4 sec	
Stop-Line Delay (Average)	31.3 sec	
Idling Time (Average)	27.1 sec	
Intersection Level of Service (LOS)	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	36.9 veh	
95% Back of Queue - Distance (Worst Lane)	974.3 ft	
Queue Storage Ratio (Worst Lane)	2.27	
Total Effective Stops	2860 veh/h	3431 pers/h
Effective Stop Rate	0.83 per veh	0.83 per pers
Proportion Queued	0.77	0.77
Performance Index	248.8	248.8
Cost (Total)	1241.08 \$/h	1241.08 \$/h
Fuel Consumption (Total)	93.6 gal/h	
Carbon Dioxide (Total)	844.1 kg/h	
Hydrocarbons (Total)	0.288 kg/h	
Carbon Monoxide (Total)	3.240 kg/h	
NOx (Total)	2.589 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).  
 Intersection LOS value for Vehicles is based on average delay for all vehicle movements.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,645,750 veh/y	1,974,900 pers/y
Delay	16,352 veh-h/y	19,623 pers-h/y
Effective Stops	1,372,568 veh/y	1,647,082 pers/y
Travel Distance	627,666 veh-mi/y	753,199 pers-mi/y
Travel Time	34,326 veh-h/y	41,191 pers-h/y
Cost	595,718 \$/y	595,718 \$/y
Fuel Consumption	44,918 gal/y	
Carbon Dioxide	405,144 kg/y	
Hydrocarbons	138 kg/y	
Carbon Monoxide	1,555 kg/y	
NOx	1,243 kg/y	

# LEVEL OF SERVICE

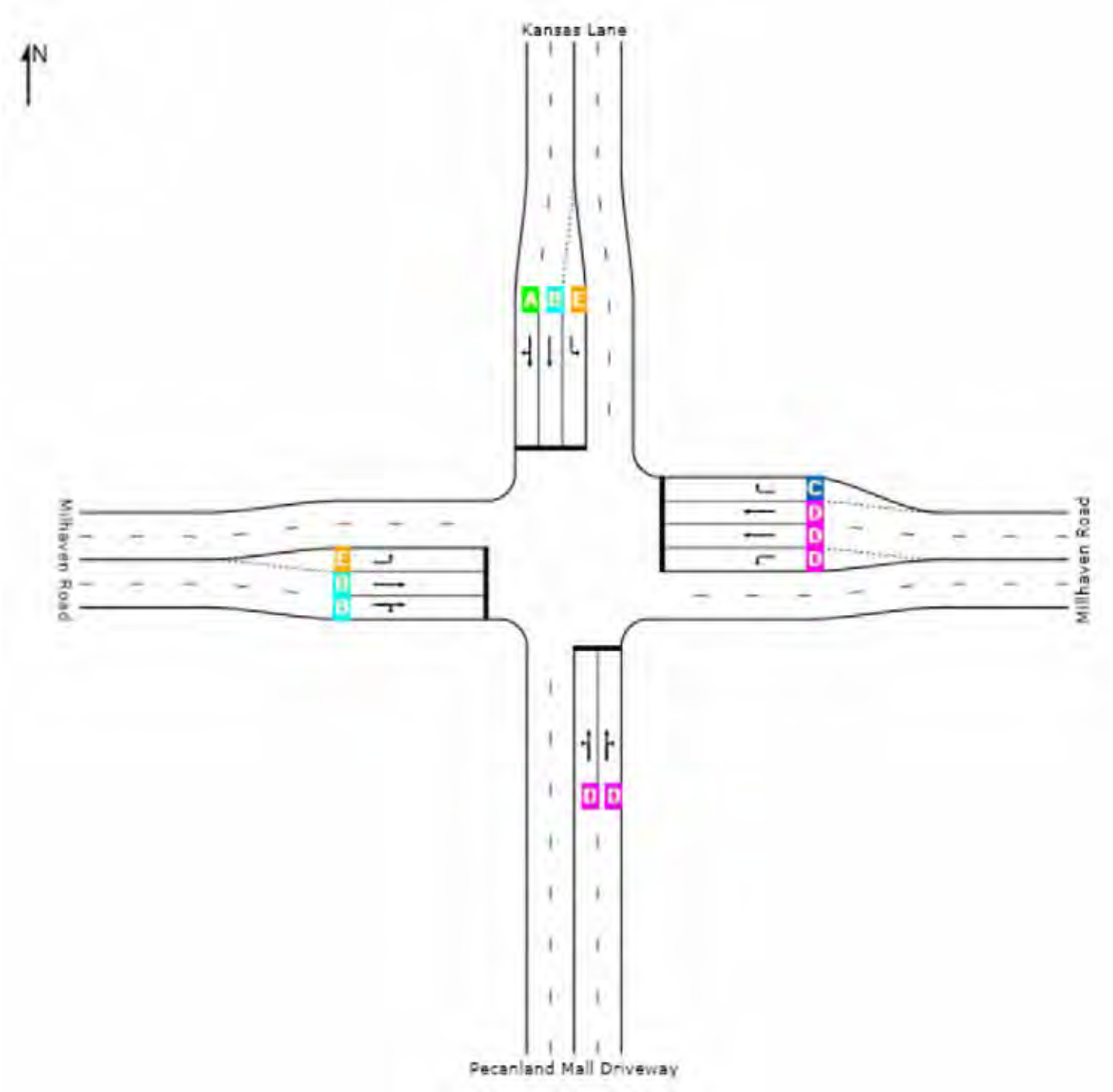
 **Site: No-Build AM: Millhaven Road @ Kansas Lane**

No-Build Alternative - AM

Signals - Actuated Cycle Time = 101 seconds (Practical Cycle Time)

**All Movement Classes**

	South	East	North	West	Intersection
LOS	D	C	C	D	D



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.

# MOVEMENT SUMMARY

 **Site: No-Build AM: Millhaven Road @ Kansas Lane**

No-Build Alternative - AM

Signals - Actuated Cycle Time = 101 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Pecanland Mall Driveway											
3	L2	20	7.0	0.504	47.0	LOS D	6.7	178.0	0.90	0.75	20.2
8	T1	306	7.0	0.504	40.6	LOS D	9.2	242.6	0.90	0.76	13.3
18	R2	7	7.0	0.504	47.4	LOS D	9.2	242.6	0.90	0.76	18.9
Approach		332	7.0	0.504	41.1	LOS D	9.2	242.6	0.90	0.76	14.0
East: Millhaven Road											
1	L2	8	7.0	0.035	44.4	LOS D	0.3	9.1	0.82	0.68	18.2
6	T1	277	7.0	0.415	41.2	LOS D	6.6	174.0	0.90	0.73	23.8
16	R2	413	7.0	0.711	22.0	LOS C	11.3	298.6	0.88	0.84	15.4
Approach		698	7.0	0.711	29.9	LOS C	11.3	298.6	0.89	0.79	19.0
North: Kansas Lane											
7	L2	619	7.0	1.048	65.2	LOS E	36.9	974.3	1.00	1.06	12.5
4	T1	68	7.0	0.083	16.5	LOS B	1.9	51.4	0.57	0.45	23.1
14	R2	874	7.0	0.682	6.6	LOS A	13.7	362.9	0.38	0.71	32.3
Approach		1561	7.0	1.048	30.3	LOS C	36.9	974.3	0.63	0.84	20.2
West: Millhaven Road											
5	L2	532	7.0	1.064	66.1	LOS E	34.3	906.3	1.00	1.08	11.7
2	T1	280	7.0	0.199	18.2	LOS B	4.9	129.6	0.63	0.54	32.1
12	R2	25	7.0	0.199	23.3	LOS C	4.5	117.5	0.63	0.56	28.4
Approach		837	7.0	1.064	48.8	LOS D	34.3	906.3	0.87	0.89	16.5
All Vehicles		3429	7.0	1.064	35.8	LOS D	36.9	974.3	0.77	0.83	18.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: No-Build PM: Millhaven Road @ Kansas Lane**

No-Build Alternative - PM  
Signals - Actuated

Volume Display Method: Total and %

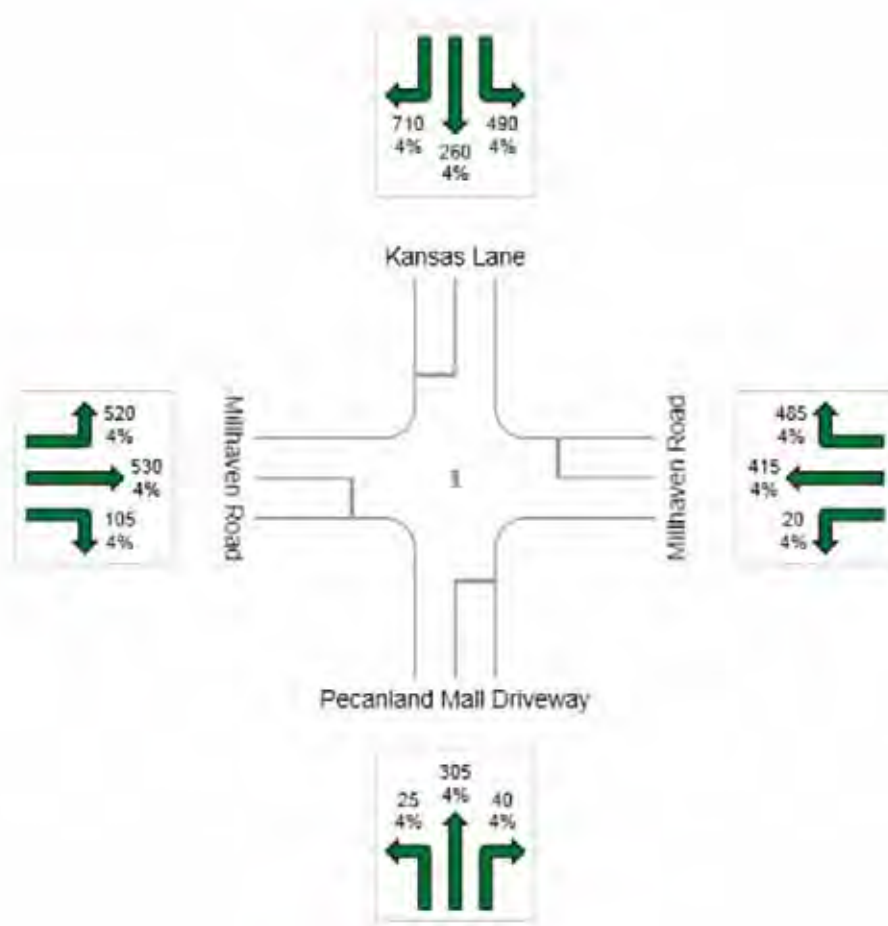
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3905

Light Vehicles (LV): 3749

Heavy Vehicles (HV): 156



# INTERSECTION SUMMARY

 **Site: No-Build PM: Millhaven Road @ Kansas Lane**

No-Build Alternative - PM  
 Signals - Actuated Cycle Time = 124 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	14.5 mph	14.5 mph
Travel Distance (Total)	1908.6 veh-mi/h	2290.4 pers-mi/h
Travel Time (Total)	131.9 veh-h/h	158.3 pers-h/h
Demand Flows (Total)	4845 veh/h	5814 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	1.402	
Practical Spare Capacity	-35.8 %	
Effective Intersection Capacity	3455 veh/h	
Control Delay (Total)	79.95 veh-h/h	95.94 pers-h/h
Control Delay (Average)	59.4 sec	59.4 sec
Control Delay (Worst Lane)	220.9 sec	
Control Delay (Worst Movement)	220.9 sec	220.9 sec
Geometric Delay (Average)	3.8 sec	
Stop-Line Delay (Average)	55.6 sec	
Idling Time (Average)	50.6 sec	
Intersection Level of Service (LOS)	LOS E	
95% Back of Queue - Vehicles (Worst Lane)	68.6 veh	
95% Back of Queue - Distance (Worst Lane)	1769.7 ft	
Queue Storage Ratio (Worst Lane)	3.37	
Total Effective Stops	4267 veh/h	5121 pers/h
Effective Stop Rate	0.88 per veh	0.88 per pers
Proportion Queued	0.82	0.82
Performance Index	476.0	476.0
Cost (Total)	2141.22 \$/h	2141.22 \$/h
Fuel Consumption (Total)	131.0 gal/h	
Carbon Dioxide (Total)	1174.9 kg/h	
Hydrocarbons (Total)	0.487 kg/h	
Carbon Monoxide (Total)	5.005 kg/h	
NOx (Total)	2.562 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).  
 Intersection LOS value for Vehicles is based on average delay for all vehicle movements.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	2,325,764 veh/y	2,790,917 pers/y
Delay	38,375 veh-h/y	46,050 pers-h/y
Effective Stops	2,048,326 veh/y	2,457,991 pers/y
Travel Distance	916,149 veh-mi/y	1,099,379 pers-mi/y
Travel Time	63,329 veh-h/y	75,995 pers-h/y
Cost	1,027,786 \$/y	1,027,786 \$/y
Fuel Consumption	62,891 gal/y	
Carbon Dioxide	563,958 kg/y	
Hydrocarbons	234 kg/y	
Carbon Monoxide	2,403 kg/y	
NOx	1,230 kg/y	

# LEVEL OF SERVICE

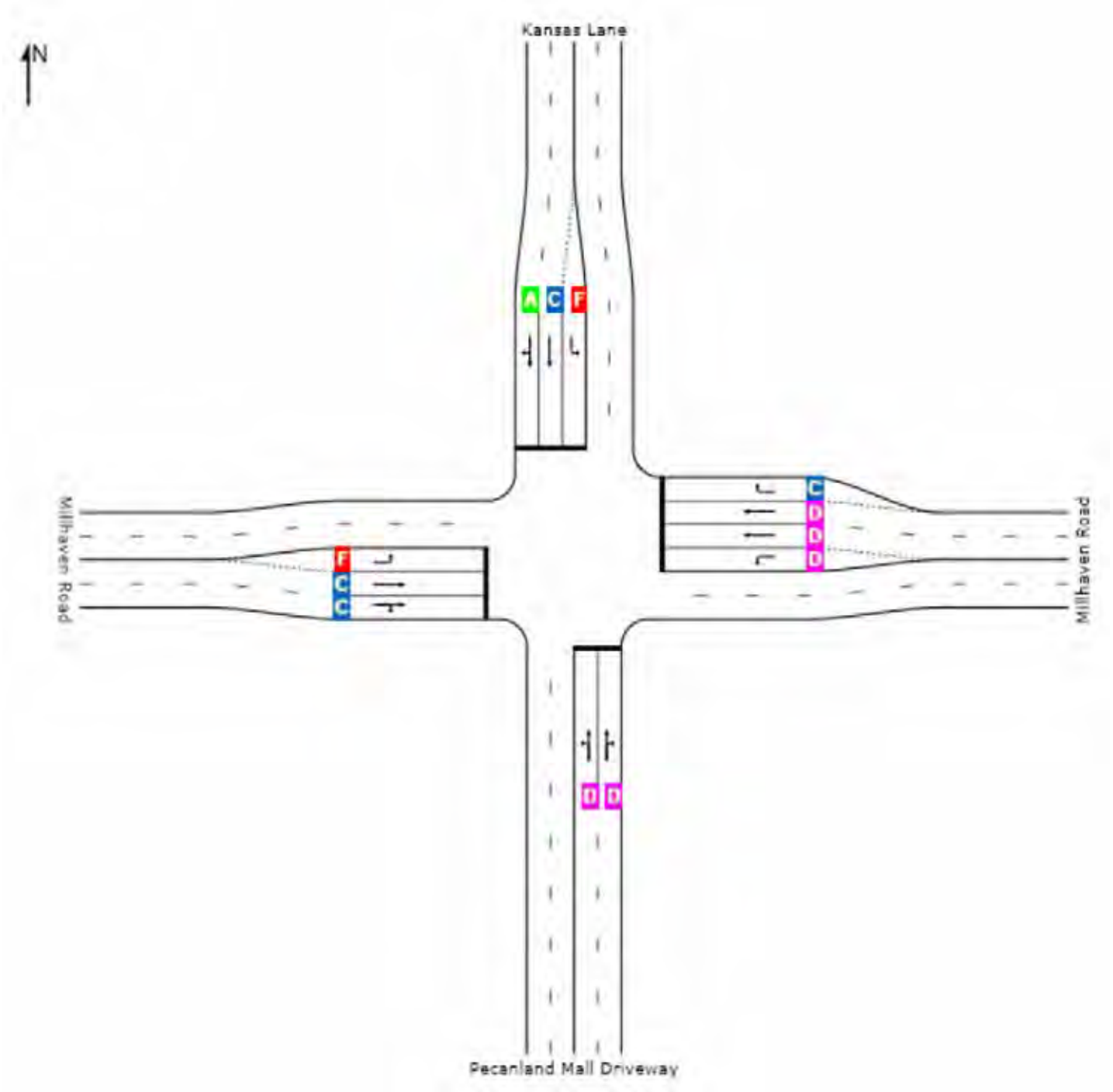
 **Site: No-Build PM: Millhaven Road @ Kansas Lane**

No-Build Alternative - PM

Signals - Actuated Cycle Time = 124 seconds (Practical Cycle Time)

**All Movement Classes**

	South	East	North	West	Intersection
LOS	D	D	D	F	E



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.

# MOVEMENT SUMMARY

 **Site: No-Build PM: Millhaven Road @ Kansas Lane**

No-Build Alternative - PM

Signals - Actuated Cycle Time = 124 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Pecanland Mall Driveway											
3	L2	37	4.0	0.663	52.5	LOS D	9.5	246.3	0.92	0.79	19.0
8	T1	391	4.0	0.663	44.5	LOS D	19.3	497.6	0.92	0.81	12.3
18	R2	61	4.0	0.663	50.6	LOS D	19.3	497.6	0.92	0.82	18.1
Approach		488	4.0	0.663	45.9	LOS D	19.3	497.6	0.92	0.81	13.8
East: Millhaven Road											
1	L2	33	4.0	0.204	51.0	LOS D	1.8	46.8	0.82	0.75	16.9
6	T1	446	4.0	0.522	46.7	LOS D	12.7	328.9	0.90	0.75	22.4
16	R2	539	4.0	0.881	30.0	LOS C	24.1	620.9	0.98	0.89	13.9
Approach		1018	4.0	0.881	38.0	LOS D	24.1	620.9	0.94	0.83	17.9
North: Kansas Lane											
7	L2	612	4.0	1.097	89.2	LOS F	43.6	1125.8	1.00	1.10	10.1
4	T1	351	4.0	0.397	22.5	LOS C	14.2	367.0	0.67	0.58	19.5
14	R2	934	4.0	0.742	9.0	LOS A	20.8	537.5	0.51	0.80	31.5
Approach		1898	4.0	1.097	37.4	LOS D	43.6	1125.8	0.70	0.85	17.9
West: Millhaven Road											
5	L2	598	4.0	1.402	220.9	LOS F	68.6	1769.7	1.00	1.36	5.1
2	T1	688	4.0	0.541	27.3	LOS C	20.4	526.7	0.77	0.70	28.0
12	R2	154	4.0	0.541	31.6	LOS C	18.4	474.5	0.77	0.73	24.5
Approach		1440	4.0	1.402	108.1	LOS F	68.6	1769.7	0.87	0.98	11.2
All Vehicles		4845	4.0	1.402	59.4	LOS E	68.6	1769.7	0.82	0.88	14.5

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ S. Frontage Rd

Built Alt 1 AM  
Roundabout

Volume Display Method: Total and %

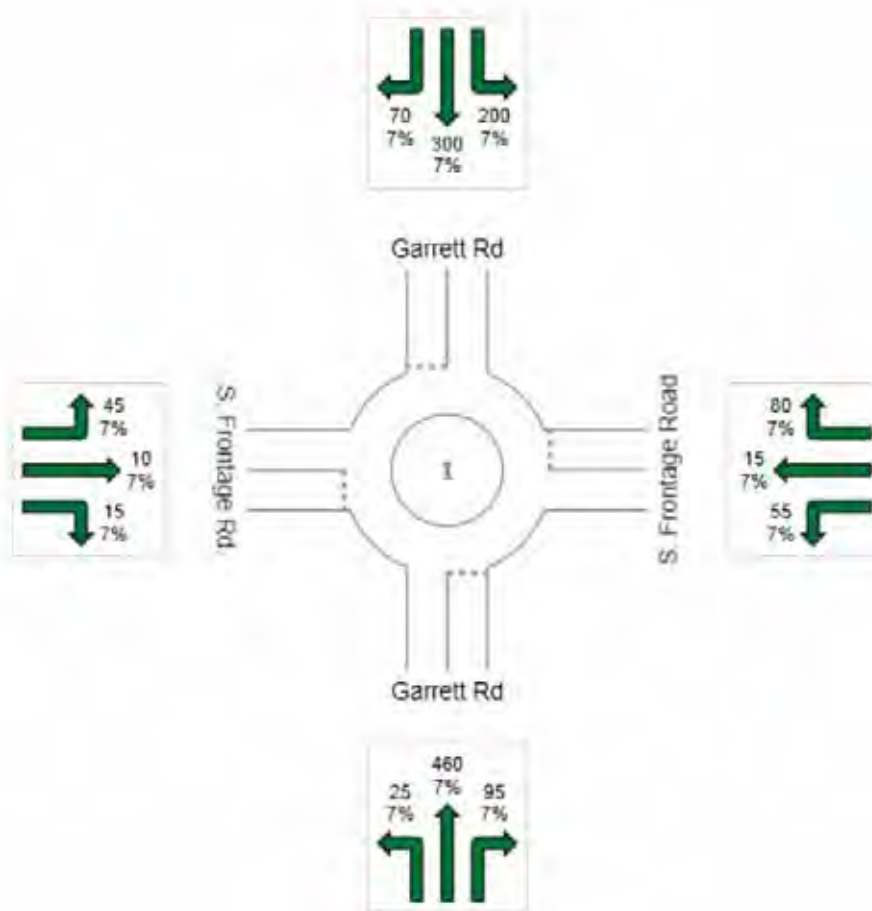
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1370

Light Vehicles (LV): 1274

Heavy Vehicles (HV): 96



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ S. Frontage Rd

Built Alt 1 AM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	27.6 mph	27.6 mph
Travel Distance (Total)	528.5 veh-mi/h	634.2 pers-mi/h
Travel Time (Total)	19.2 veh-h/h	23.0 pers-h/h
Demand Flows (Total)	1686 veh/h	2023 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.347	
Practical Spare Capacity	144.6 %	
Effective Intersection Capacity	4853 veh/h	
Control Delay (Total)	0.63 veh-h/h	0.76 pers-h/h
Control Delay (Average)	1.4 sec	1.4 sec
Control Delay (Worst Lane)	2.4 sec	
Control Delay (Worst Movement)	2.4 sec	2.4 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	1.4 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.8 veh	
95% Back of Queue - Distance (Worst Lane)	46.4 ft	
Queue Storage Ratio (Worst Lane)	0.18	
Total Effective Stops	513 veh/h	615 pers/h
Effective Stop Rate	0.30 per veh	0.30 per pers
Proportion Queued	0.44	0.44
Performance Index	25.1	25.1
Cost (Total)	394.55 \$/h	394.55 \$/h
Fuel Consumption (Total)	38.0 gal/h	
Carbon Dioxide (Total)	342.8 kg/h	
Hydrocarbons (Total)	0.102 kg/h	
Carbon Monoxide (Total)	1.285 kg/h	
NOx (Total)	1.115 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	809,384 veh/y	971,261 pers/y
Delay	304 veh-h/y	364 pers-h/y
Effective Stops	246,195 veh/y	295,434 pers/y
Travel Distance	253,676 veh-mi/y	304,411 pers-mi/y
Travel Time	9,200 veh-h/y	11,040 pers-h/y
Cost	189,386 \$/y	189,386 \$/y
Fuel Consumption	18,236 gal/y	
Carbon Dioxide	164,560 kg/y	
Hydrocarbons	49 kg/y	
Carbon Monoxide	617 kg/y	
NOx	535 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ S. Frontage Rd

Built Alt 1 AM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3	L2	37	7.0	0.347	1.8	LOS A	1.7	45.6	0.50	0.36	36.1
8	T1	541	7.0	0.347	1.7	LOS A	1.8	46.4	0.50	0.36	19.8
18	R2	148	7.0	0.347	1.5	LOS A	1.8	46.4	0.49	0.36	34.5
Approach		727	7.0	0.347	1.6	LOS A	1.8	46.4	0.49	0.36	23.8
East: S. Frontage Road											
1	L2	55	7.0	0.108	2.4	LOS A	0.4	11.7	0.55	0.48	34.0
6	T1	15	7.0	0.108	2.4	LOS A	0.4	11.7	0.55	0.48	35.9
16	R2	110	7.0	0.108	2.1	LOS A	0.5	12.1	0.54	0.47	22.3
Approach		180	7.0	0.108	2.2	LOS A	0.5	12.1	0.55	0.47	26.8
North: Garrett Rd											
7	L2	253	7.0	0.265	0.7	LOS A	1.6	43.1	0.34	0.18	32.9
4	T1	330	7.0	0.265	0.6	LOS A	1.7	43.7	0.33	0.17	33.7
14	R2	79	7.0	0.265	0.6	LOS A	1.7	43.7	0.33	0.17	35.3
Approach		661	7.0	0.265	0.7	LOS A	1.7	43.7	0.33	0.18	33.6
West: S. Frontage Rd.											
5	L2	71	7.0	0.078	1.9	LOS A	0.3	8.1	0.51	0.42	22.2
2	T1	20	7.0	0.062	2.4	LOS A	0.2	6.2	0.52	0.43	38.5
12	R2	27	7.0	0.062	2.4	LOS A	0.2	6.2	0.52	0.43	36.0
Approach		118	7.0	0.078	2.1	LOS A	0.3	8.1	0.51	0.43	27.1
All Vehicles		1686	7.0	0.347	1.4	LOS A	1.8	46.4	0.44	0.30	27.6

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

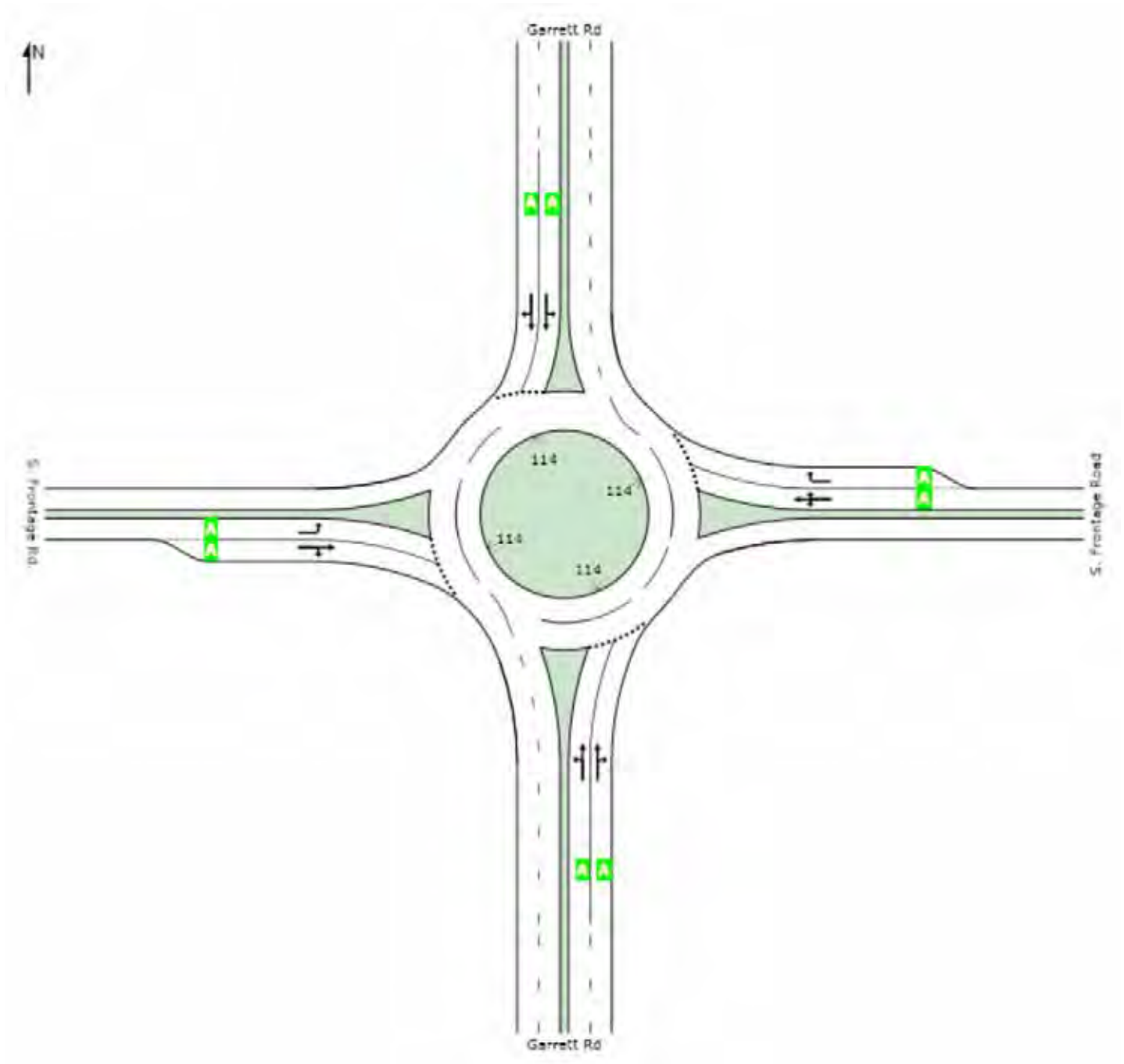
# LEVEL OF SERVICE

**Site: AM: Garrett Rd @ S. Frontage Rd**

Built Alt 1 AM  
Roundabout

## All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.



# QUEUE DISTANCE (%ILE)

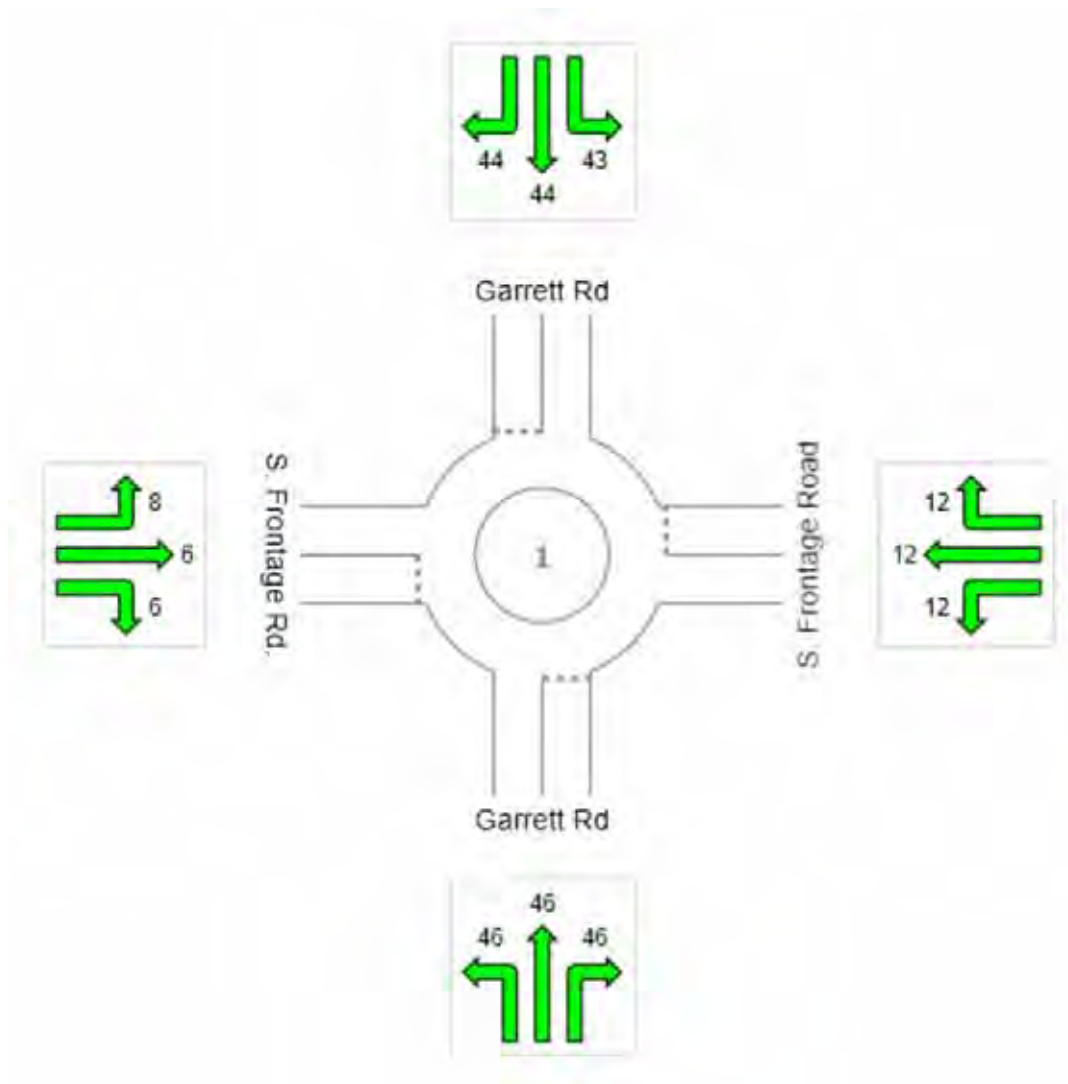
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: AM: Garrett Rd @ S. Frontage Rd**

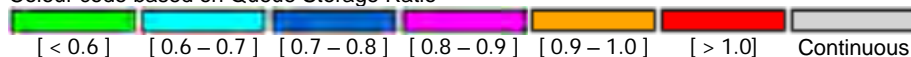
Built Alt 1 AM  
Roundabout

## All Movement Classes

	South	East	North	West	Intersection
Vehicle Queue (%ile)	46	12	44	8	46



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ S. Frontage Rd

Build Alt 1 AM  
Signals - Actuated

Volume Display Method: Total and %

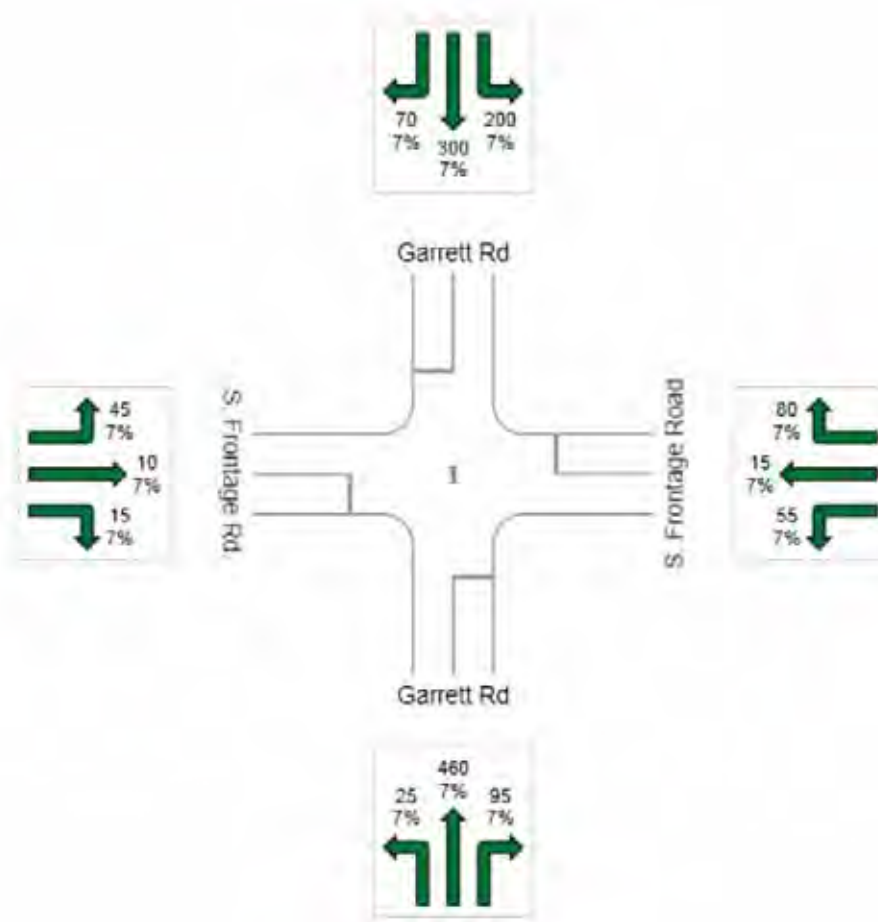
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1370

Light Vehicles (LV): 1274

Heavy Vehicles (HV): 96



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ S. Frontage Rd**

Build Alt 1 AM

Signals - Actuated Cycle Time = 85 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	22.6 mph	22.6 mph
Travel Distance (Total)	509.3 veh-mi/h	611.1 pers-mi/h
Travel Time (Total)	22.5 veh-h/h	27.0 pers-h/h
Demand Flows (Total)	1740 veh/h	2088 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.855	
Practical Spare Capacity	5.2 %	
Effective Intersection Capacity	2035 veh/h	
Control Delay (Total)	9.33 veh-h/h	11.20 pers-h/h
Control Delay (Average)	19.3 sec	19.3 sec
Control Delay (Worst Lane)	42.9 sec	
Control Delay (Worst Movement)	44.4 sec	44.4 sec
Geometric Delay (Average)	2.8 sec	
Stop-Line Delay (Average)	16.5 sec	
Idling Time (Average)	13.2 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	29.9 veh	
95% Back of Queue - Distance (Worst Lane)	790.4 ft	
Queue Storage Ratio (Worst Lane)	2.16	
Total Effective Stops	1236 veh/h	1483 pers/h
Effective Stop Rate	0.71 per veh	0.71 per pers
Proportion Queued	0.70	0.70
Performance Index	132.1	132.1
Cost (Total)	459.63 \$/h	459.63 \$/h
Fuel Consumption (Total)	37.8 gal/h	
Carbon Dioxide (Total)	341.1 kg/h	
Hydrocarbons (Total)	0.111 kg/h	
Carbon Monoxide (Total)	1.300 kg/h	
NOx (Total)	1.075 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	835,130 veh/y	1,002,156 pers/y
Delay	4,479 veh-h/y	5,374 pers-h/y
Effective Stops	593,130 veh/y	711,755 pers/y
Travel Distance	244,448 veh-mi/y	293,338 pers-mi/y
Travel Time	10,817 veh-h/y	12,980 pers-h/y
Cost	220,622 \$/y	220,622 \$/y
Fuel Consumption	18,161 gal/y	
Carbon Dioxide	163,742 kg/y	
Hydrocarbons	53 kg/y	
Carbon Monoxide	624 kg/y	
NOx	516 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ S. Frontage Rd**

Build Alt 1 AM

Signals - Actuated Cycle Time = 85 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
<b>South: Garrett Rd</b>											
3	L2	37	7.0	0.091	22.1	LOS C	1.0	25.6	0.59	0.71	26.2
8	T1	541	7.0	0.855	23.4	LOS C	29.9	790.4	0.94	0.87	18.4
18	R2	148	7.0	0.855	30.0	LOS C	29.9	790.4	0.94	0.87	23.7
Approach		727	7.0	0.855	24.7	LOS C	29.9	790.4	0.93	0.87	20.3
<b>East: S. Frontage Road</b>											
1	L2	73	7.0	0.378	44.4	LOS D	3.9	103.5	0.92	0.76	18.6
6	T1	20	7.0	0.378	37.6	LOS D	3.9	103.5	0.92	0.76	23.4
16	R2	103	7.0	0.064	7.0	LOS A	0.2	5.3	0.13	0.64	19.0
Approach		196	7.0	0.378	24.1	LOS C	3.9	103.5	0.50	0.70	19.4
<b>North: Garrett Rd</b>											
7	L2	238	7.0	0.393	16.9	LOS B	4.6	121.3	0.62	0.75	25.1
4	T1	390	7.0	0.220	8.0	LOS A	5.0	131.0	0.48	0.45	29.8
14	R2	80	7.0	0.220	11.7	LOS B	3.9	103.1	0.47	0.51	31.6
Approach		707	7.0	0.393	11.4	LOS B	5.0	131.0	0.53	0.56	27.9
<b>West: S. Frontage Rd.</b>											
5	L2	61	7.0	0.160	33.1	LOS C	2.1	55.3	0.80	0.72	16.3
2	T1	14	7.0	0.084	12.2	LOS B	1.1	29.4	0.58	0.63	33.0
12	R2	35	7.0	0.084	18.8	LOS B	1.1	29.4	0.58	0.63	28.8
Approach		110	7.0	0.160	25.9	LOS C	2.1	55.3	0.71	0.68	21.3
All Vehicles		1740	7.0	0.855	19.3	LOS B	29.9	790.4	0.70	0.71	22.6

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

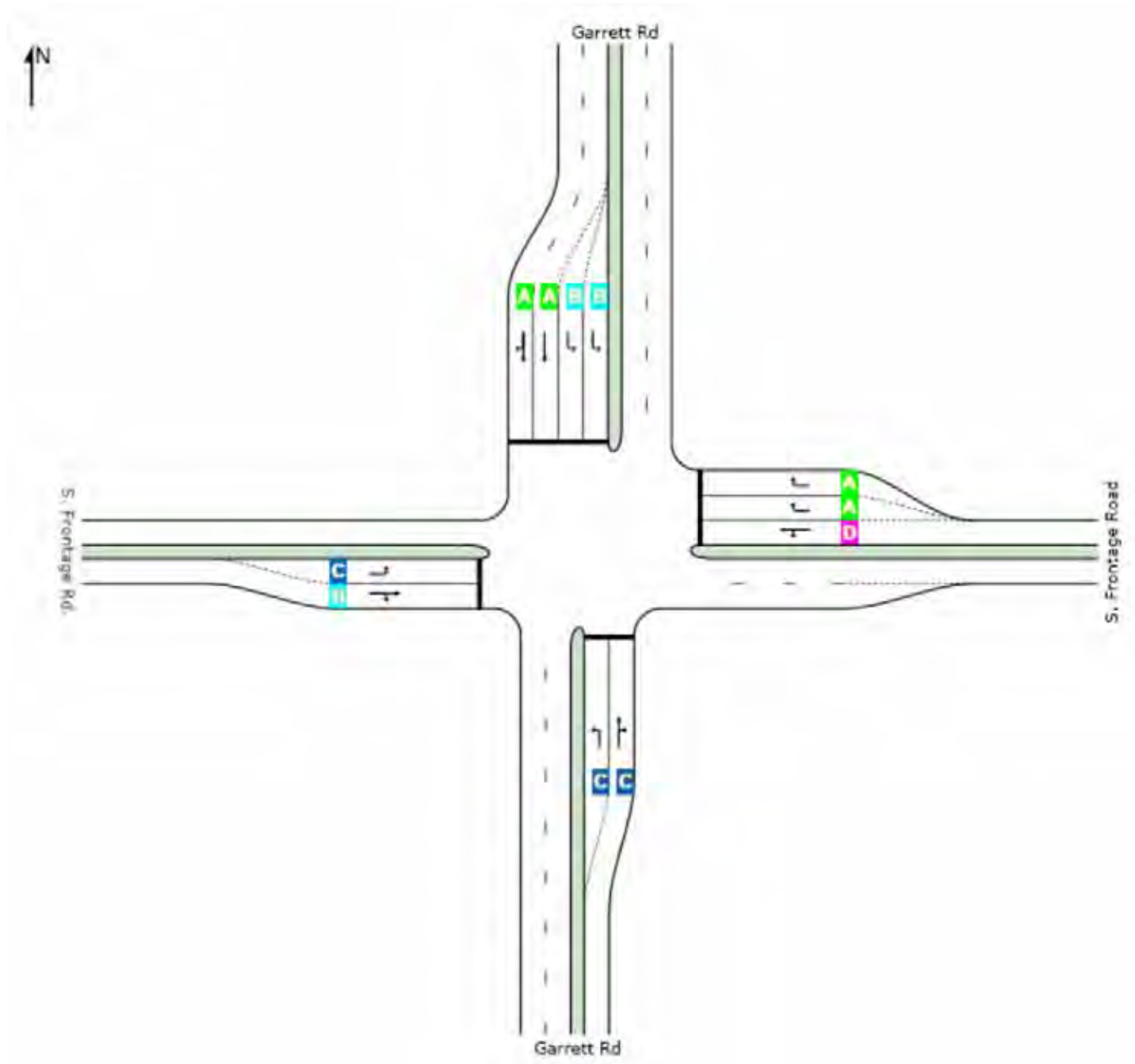
 **Site: AM: Garrett Rd @ S. Frontage Rd**

Build Alt 1 AM

Signals - Actuated Cycle Time = 85 seconds (Practical Cycle Time)

## All Movement Classes

	South	East	North	West	Intersection
LOS	C	C	B	C	B



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ S. Frontage Rd

Build Alt 1 AM  
Stop (Two-Way)

Volume Display Method: Total and %

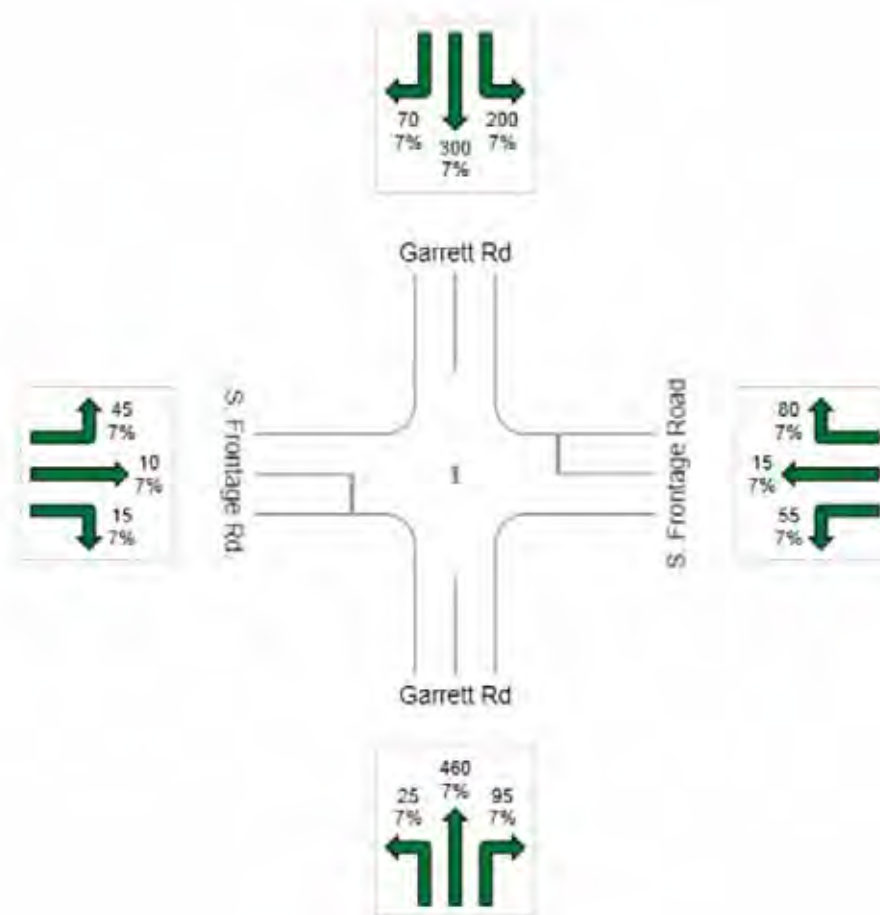
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1370

Light Vehicles (LV): 1274

Heavy Vehicles (HV): 96



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ S. Frontage Rd

Build Alt 1 AM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	4.7 mph	4.7 mph
Travel Distance (Total)	506.8 veh-mi/h	608.1 pers-mi/h
Travel Time (Total)	107.3 veh-h/h	128.8 pers-h/h
Demand Flows (Total)	1740 veh/h	2088 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	5.480	
Practical Spare Capacity	-85.4 %	
Effective Intersection Capacity	317 veh/h	
Control Delay (Total)	94.52 veh-h/h	113.42 pers-h/h
Control Delay (Average)	195.6 sec	195.6 sec
Control Delay (Worst Lane)	2300.3 sec	
Control Delay (Worst Movement)	2301.4 sec	2301.4 sec
Geometric Delay (Average)	3.4 sec	
Stop-Line Delay (Average)	192.2 sec	
Idling Time (Average)	190.2 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	38.7 veh	
95% Back of Queue - Distance (Worst Lane)	1021.8 ft	
Queue Storage Ratio (Worst Lane)	1.00	
Total Effective Stops	785 veh/h	942 pers/h
Effective Stop Rate	0.45 per veh	0.45 per pers
Proportion Queued	0.28	0.28
Performance Index	199.5	199.5
Cost (Total)	1555.86 \$/h	1555.86 \$/h
Fuel Consumption (Total)	58.3 gal/h	
Carbon Dioxide (Total)	524.3 kg/h	
Hydrocarbons (Total)	0.294 kg/h	
Carbon Monoxide (Total)	2.033 kg/h	
NOx (Total)	1.074 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	835,130 veh/y	1,002,156 pers/y
Delay	45,368 veh-h/y	54,441 pers-h/y
Effective Stops	376,804 veh/y	452,165 pers/y
Travel Distance	243,256 veh-mi/y	291,907 pers-mi/y
Travel Time	51,503 veh-h/y	61,804 pers-h/y
Cost	746,815 \$/y	746,815 \$/y
Fuel Consumption	27,961 gal/y	
Carbon Dioxide	251,658 kg/y	
Hydrocarbons	141 kg/y	
Carbon Monoxide	976 kg/y	
NOx	515 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ S. Frontage Rd

Build Alt 1 AM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3	L2	37	7.0	0.062	10.3	LOS B	0.2	5.7	0.51	0.75	31.9
8	T1	541	7.0	0.388	0.0	LOS A	0.0	0.0	0.00	0.14	41.5
18	R2	148	7.0	0.388	6.6	LOS A	0.0	0.0	0.00	0.14	37.9
Approach		727	7.0	0.388	1.9	NA	0.2	5.7	0.03	0.17	39.3
East: S. Frontage Road											
1	L2	73	7.0	5.480	2299.9	LOS F	38.7	1021.8	1.00	1.40	0.6
6	T1	20	7.0	5.480	2301.4	LOS F	38.7	1021.8	1.00	1.40	0.9
16	R2	103	7.0	0.177	21.8	LOS C	0.7	19.0	0.75	1.00	17.6
Approach		196	7.0	5.480	1107.3	LOS F	38.7	1021.8	0.87	1.19	1.2
North: Garrett Rd											
7	L2	238	7.0	0.537	18.0	LOS C	2.6	69.5	0.79	1.01	24.6
4	T1	390	7.0	0.211	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
14	R2	80	7.0	0.051	5.6	LOS A	0.0	0.0	0.00	0.60	33.4
Approach		707	7.0	0.537	6.7	NA	2.6	69.5	0.27	0.41	32.2
West: S. Frontage Rd.											
5	L2	61	7.0	4.245	1816.8	LOS F	26.1	688.8	1.00	1.32	0.7
2	T1	14	7.0	0.783	138.5	LOS F	3.4	90.0	0.92	1.24	11.2
12	R2	35	7.0	0.783	137.1	LOS F	3.4	90.0	0.92	1.24	9.4
Approach		110	7.0	4.245	1067.7	LOS F	26.1	688.8	0.96	1.28	1.4
All Vehicles		1740	7.0	5.480	195.6	NA	38.7	1021.8	0.28	0.45	4.7

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



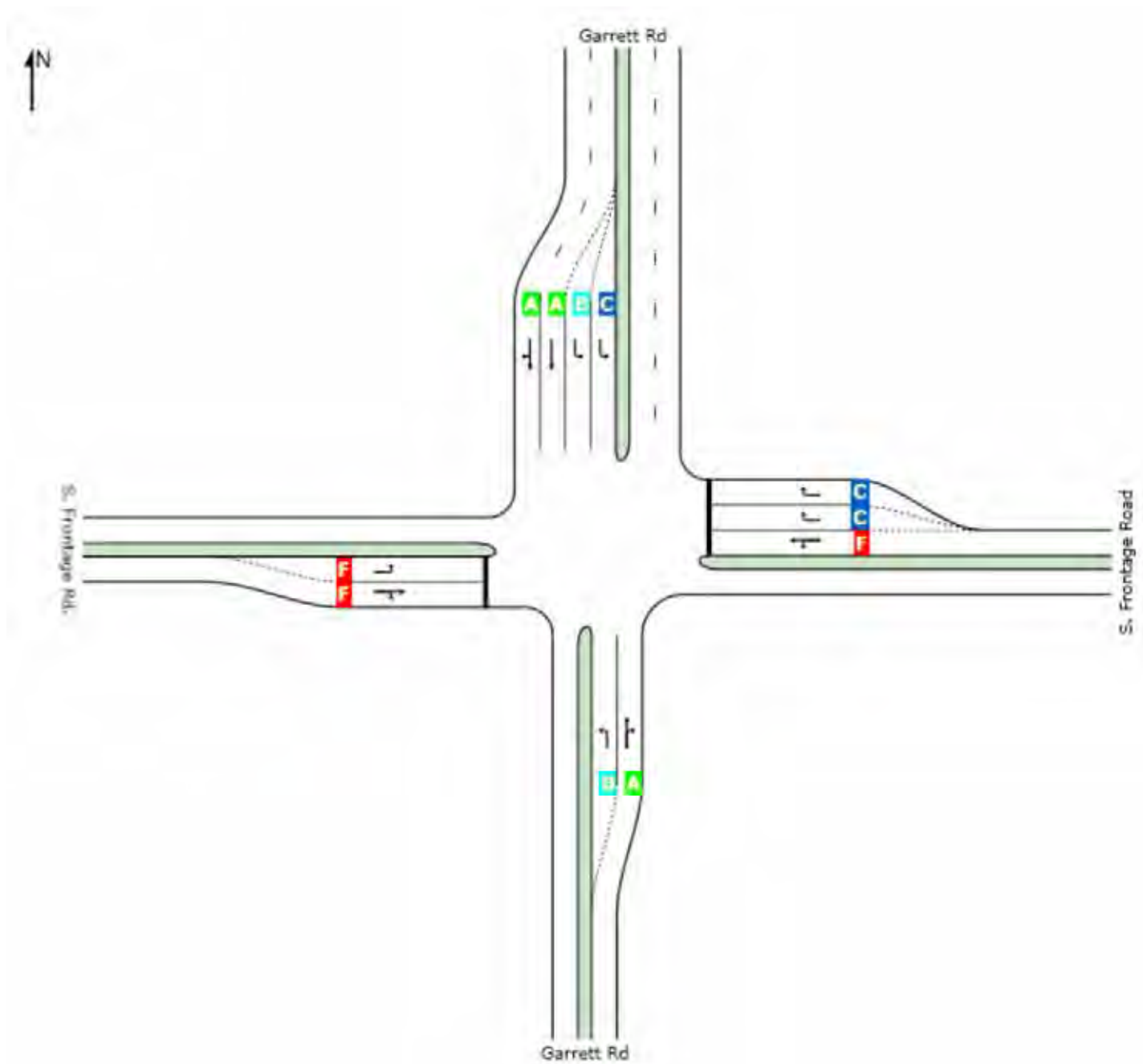
# LEVEL OF SERVICE

**STOP** Site: AM: Garrett Rd @ S. Frontage Rd

Build Alt 1 AM  
 Stop (Two-Way)

## All Movement Classes

	South	East	North	West	Intersection
LOS	NA	F	NA	F	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM  
Roundabout

Volume Display Method: Total and %

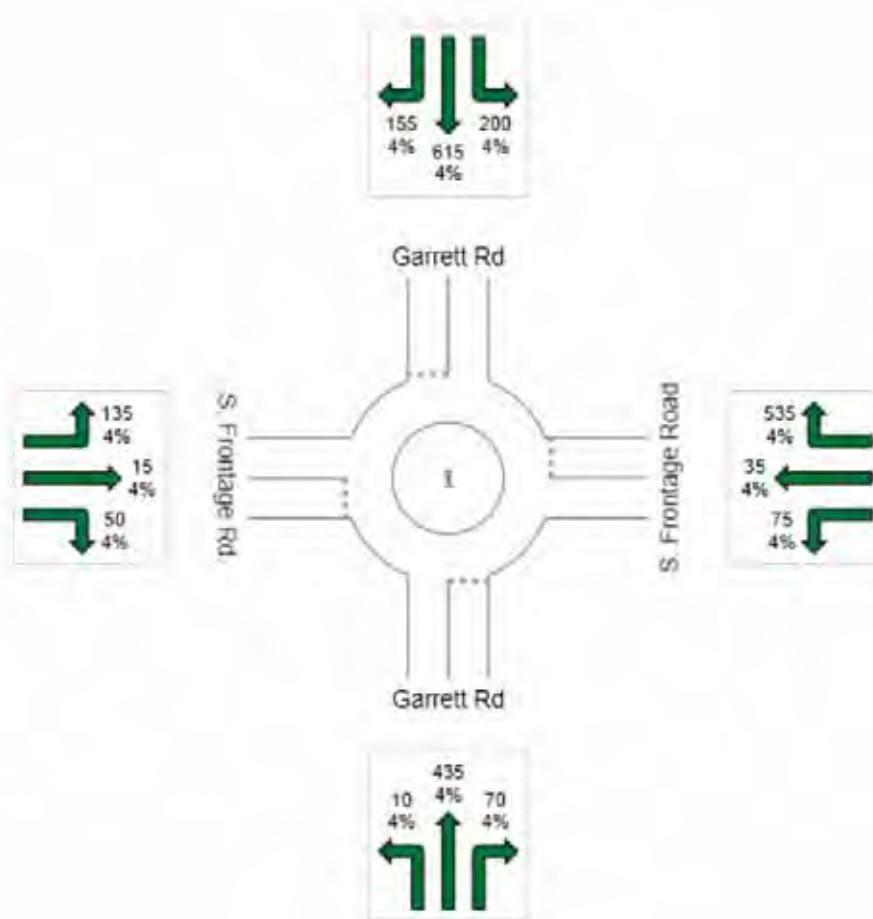
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2330

Light Vehicles (LV): 2237

Heavy Vehicles (HV): 93



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	27.3 mph	27.3 mph
Travel Distance (Total)	642.8 veh-mi/h	771.4 pers-mi/h
Travel Time (Total)	23.6 veh-h/h	28.3 pers-h/h
Demand Flows (Total)	2853 veh/h	3424 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.490	
Practical Spare Capacity	73.4 %	
Effective Intersection Capacity	5819 veh/h	
Control Delay (Total)	1.82 veh-h/h	2.18 pers-h/h
Control Delay (Average)	2.3 sec	2.3 sec
Control Delay (Worst Lane)	4.2 sec	
Control Delay (Worst Movement)	4.2 sec	4.2 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	2.3 sec	
Idling Time (Average)	0.1 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	4.0 veh	
95% Back of Queue - Distance (Worst Lane)	104.2 ft	
Queue Storage Ratio (Worst Lane)	0.45	
Total Effective Stops	1427 veh/h	1712 pers/h
Effective Stop Rate	0.50 per veh	0.50 per pers
Proportion Queued	0.60	0.60
Performance Index	47.2	47.2
Cost (Total)	547.90 \$/h	547.90 \$/h
Fuel Consumption (Total)	47.1 gal/h	
Carbon Dioxide (Total)	422.1 kg/h	
Hydrocarbons (Total)	0.146 kg/h	
Carbon Monoxide (Total)	1.699 kg/h	
NOx (Total)	1.043 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,369,492 veh/y	1,643,390 pers/y
Delay	872 veh-h/y	1,046 pers-h/y
Effective Stops	684,772 veh/y	821,726 pers/y
Travel Distance	308,553 veh-mi/y	370,263 pers-mi/y
Travel Time	11,321 veh-h/y	13,585 pers-h/y
Cost	262,992 \$/y	262,992 \$/y
Fuel Consumption	22,593 gal/y	
Carbon Dioxide	202,612 kg/y	
Hydrocarbons	70 kg/y	
Carbon Monoxide	815 kg/y	
NOx	501 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	17	4.0	0.278	1.7	LOS A	1.3	32.7	0.50	0.36	33.4
8	T1	483	4.0	0.278	1.6	LOS A	1.3	33.3	0.49	0.35	24.7
18	R2	76	4.0	0.278	1.5	LOS A	1.3	33.3	0.49	0.34	30.6
Approach		577	4.0	0.278	1.6	LOS A	1.3	33.3	0.49	0.35	25.7
East: S. Frontage Road											
1	L2	115	4.0	0.471	3.8	LOS A	2.7	69.2	0.68	0.70	30.0
6	T1	76	4.0	0.471	3.8	LOS A	2.7	69.2	0.68	0.70	29.1
16	R2	629	4.0	0.471	3.3	LOS A	2.8	71.0	0.67	0.69	22.4
Approach		821	4.0	0.471	3.4	LOS A	2.8	71.0	0.67	0.69	24.3
North: Garrett Rd											
7	L2	225	4.0	0.490	1.7	LOS A	3.9	101.1	0.59	0.41	29.8
4	T1	741	4.0	0.490	1.5	LOS A	4.0	104.2	0.58	0.39	32.5
14	R2	201	4.0	0.490	1.4	LOS A	4.0	104.2	0.57	0.38	29.3
Approach		1167	4.0	0.490	1.5	LOS A	4.0	104.2	0.58	0.39	31.4
West: S. Frontage Rd.											
5	L2	171	4.0	0.233	3.3	LOS A	1.1	29.1	0.70	0.68	22.3
2	T1	27	4.0	0.203	4.2	LOS A	0.9	23.3	0.70	0.68	30.0
12	R2	91	4.0	0.203	4.2	LOS A	0.9	23.3	0.70	0.68	29.9
Approach		289	4.0	0.233	3.6	LOS A	1.1	29.1	0.70	0.68	25.1
All Vehicles		2853	4.0	0.490	2.3	LOS A	4.0	104.2	0.60	0.50	27.3

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

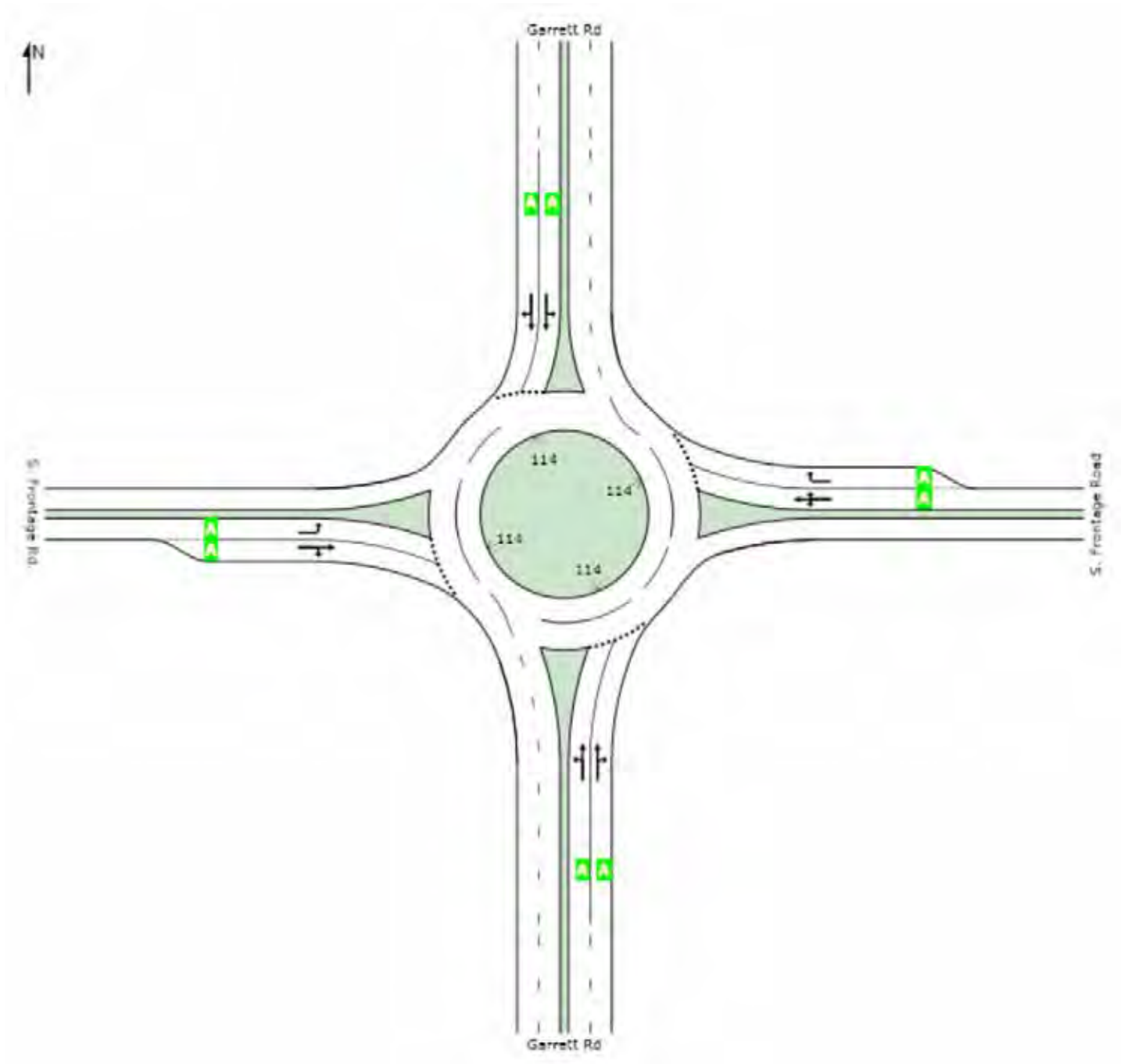
# LEVEL OF SERVICE

**Site: PM: Garrett Rd @ S. Frontage Rd**

Build Alt 1 PM  
Roundabout

## All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# QUEUE DISTANCE (%ILE)

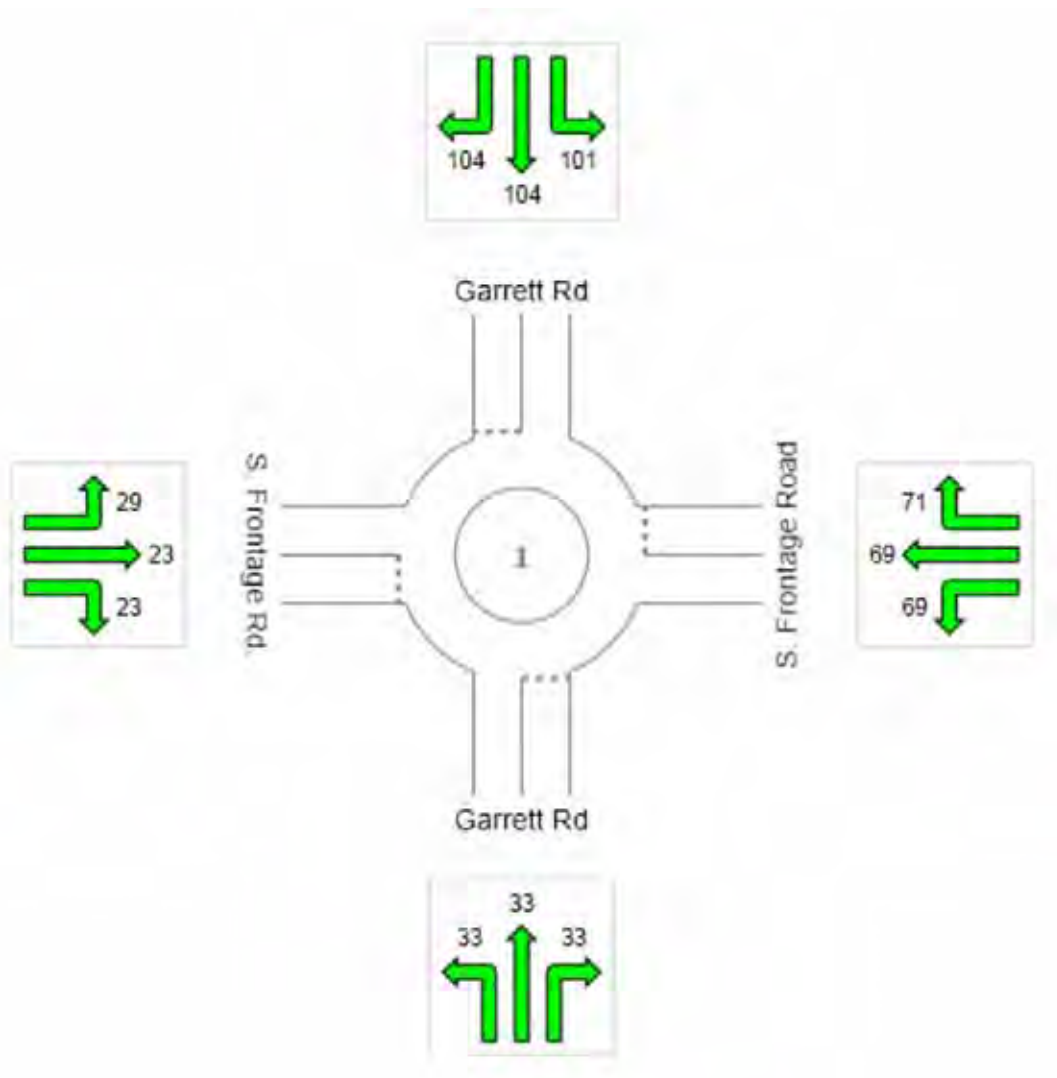
Largest 95% Back of Queue for any lane used by movement (feet)

Site: PM: Garrett Rd @ S. Frontage Rd

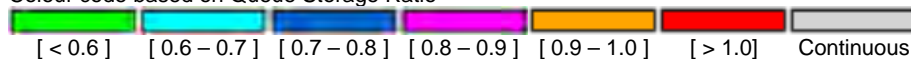
Build Alt 1 PM  
Roundabout

## All Movement Classes

	South	East	North	West	Intersection
Vehicle Queue (%ile)	33	71	104	29	104



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM  
Signals - Actuated

Volume Display Method: Total and %

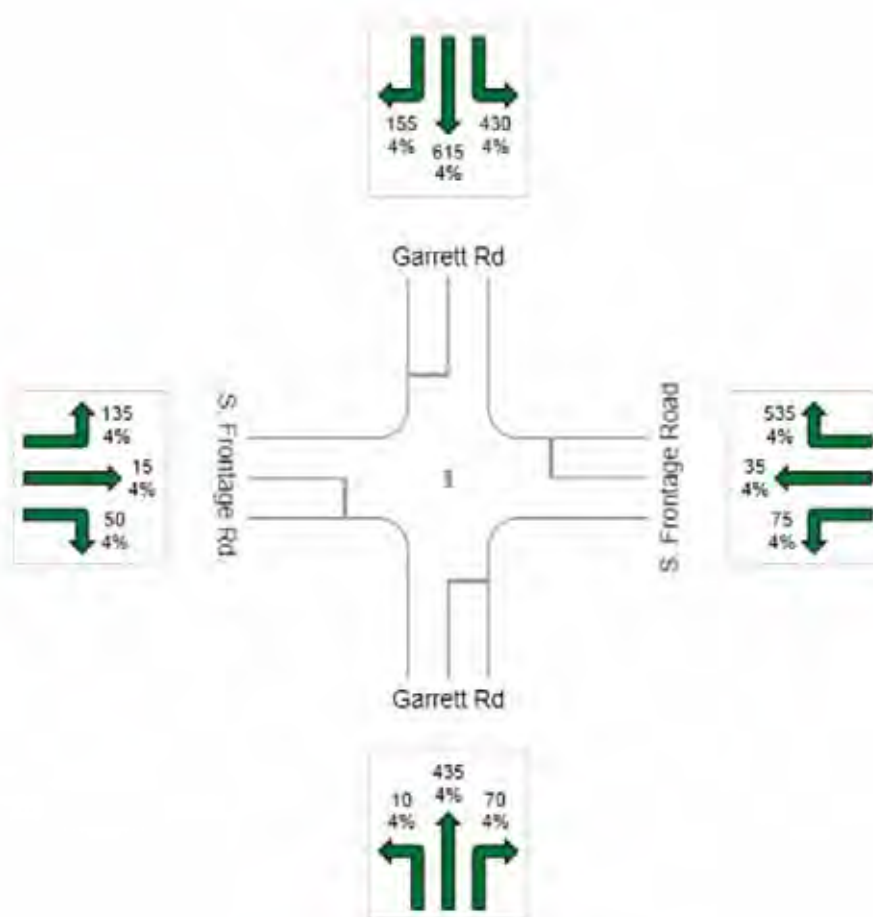
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2560

Light Vehicles (LV): 2458

Heavy Vehicles (HV): 102



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM

Signals - Actuated Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	19.1 mph	19.1 mph
Travel Distance (Total)	644.0 veh-mi/h	772.9 pers-mi/h
Travel Time (Total)	33.8 veh-h/h	40.6 pers-h/h
Demand Flows (Total)	3112 veh/h	3734 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.878	
Practical Spare Capacity	2.5 %	
Effective Intersection Capacity	3543 veh/h	
Control Delay (Total)	13.87 veh-h/h	16.64 pers-h/h
Control Delay (Average)	16.0 sec	16.0 sec
Control Delay (Worst Lane)	29.9 sec	
Control Delay (Worst Movement)	32.0 sec	32.0 sec
Geometric Delay (Average)	3.1 sec	
Stop-Line Delay (Average)	12.9 sec	
Idling Time (Average)	9.3 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	9.3 veh	
95% Back of Queue - Distance (Worst Lane)	241.1 ft	
Queue Storage Ratio (Worst Lane)	1.59	
Total Effective Stops	2360 veh/h	2832 pers/h
Effective Stop Rate	0.76 per veh	0.76 per pers
Proportion Queued	0.85	0.85
Performance Index	119.2	119.2
Cost (Total)	656.68 \$/h	656.68 \$/h
Fuel Consumption (Total)	48.9 gal/h	
Carbon Dioxide (Total)	438.3 kg/h	
Hydrocarbons (Total)	0.163 kg/h	
Carbon Monoxide (Total)	1.767 kg/h	
NOx (Total)	1.054 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,493,536 veh/y	1,792,244 pers/y
Delay	6,658 veh-h/y	7,989 pers-h/y
Effective Stops	1,132,603 veh/y	1,359,124 pers/y
Travel Distance	309,142 veh-mi/y	370,970 pers-mi/y
Travel Time	16,224 veh-h/y	19,469 pers-h/y
Cost	315,205 \$/y	315,205 \$/y
Fuel Consumption	23,469 gal/y	
Carbon Dioxide	210,380 kg/y	
Hydrocarbons	78 kg/y	
Carbon Monoxide	848 kg/y	
NOx	506 kg/y	



# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM

Signals - Actuated Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3	L2	17	4.0	0.077	24.1	LOS C	0.4	9.7	0.78	0.70	20.7
8	T1	483	4.0	0.644	18.3	LOS B	7.6	197.1	0.93	0.78	21.2
18	R2	76	4.0	0.644	22.2	LOS C	6.2	160.2	0.92	0.79	21.9
Approach		577	4.0	0.644	19.0	LOS B	7.6	197.1	0.92	0.78	21.3
East: S. Frontage Road											
1	L2	115	4.0	0.878	32.0	LOS C	6.8	175.1	1.00	0.82	16.6
6	T1	76	4.0	0.878	26.7	LOS C	6.8	175.1	1.00	0.82	16.9
16	R2	629	4.0	0.814	16.7	LOS B	6.5	166.7	0.98	0.83	11.7
Approach		821	4.0	0.878	19.7	LOS B	6.8	175.1	0.98	0.83	12.9
North: Garrett Rd											
7	L2	483	4.0	0.687	17.7	LOS B	8.1	209.8	0.87	0.81	17.8
4	T1	741	4.0	0.542	9.8	LOS A	9.3	241.1	0.74	0.67	27.6
14	R2	201	4.0	0.542	12.9	LOS B	7.6	197.1	0.72	0.71	24.6
Approach		1425	4.0	0.687	13.0	LOS B	9.3	241.1	0.78	0.72	23.4
West: S. Frontage Rd.											
5	L2	171	4.0	0.419	20.2	LOS C	3.7	94.6	0.86	0.76	17.6
2	T1	27	4.0	0.162	3.2	LOS A	1.1	27.9	0.46	0.60	27.6
12	R2	91	4.0	0.162	8.4	LOS A	1.1	27.9	0.46	0.60	28.3
Approach		289	4.0	0.419	14.9	LOS B	3.7	94.6	0.70	0.70	21.4
All Vehicles		3112	4.0	0.878	16.0	LOS B	9.3	241.1	0.85	0.76	19.1

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

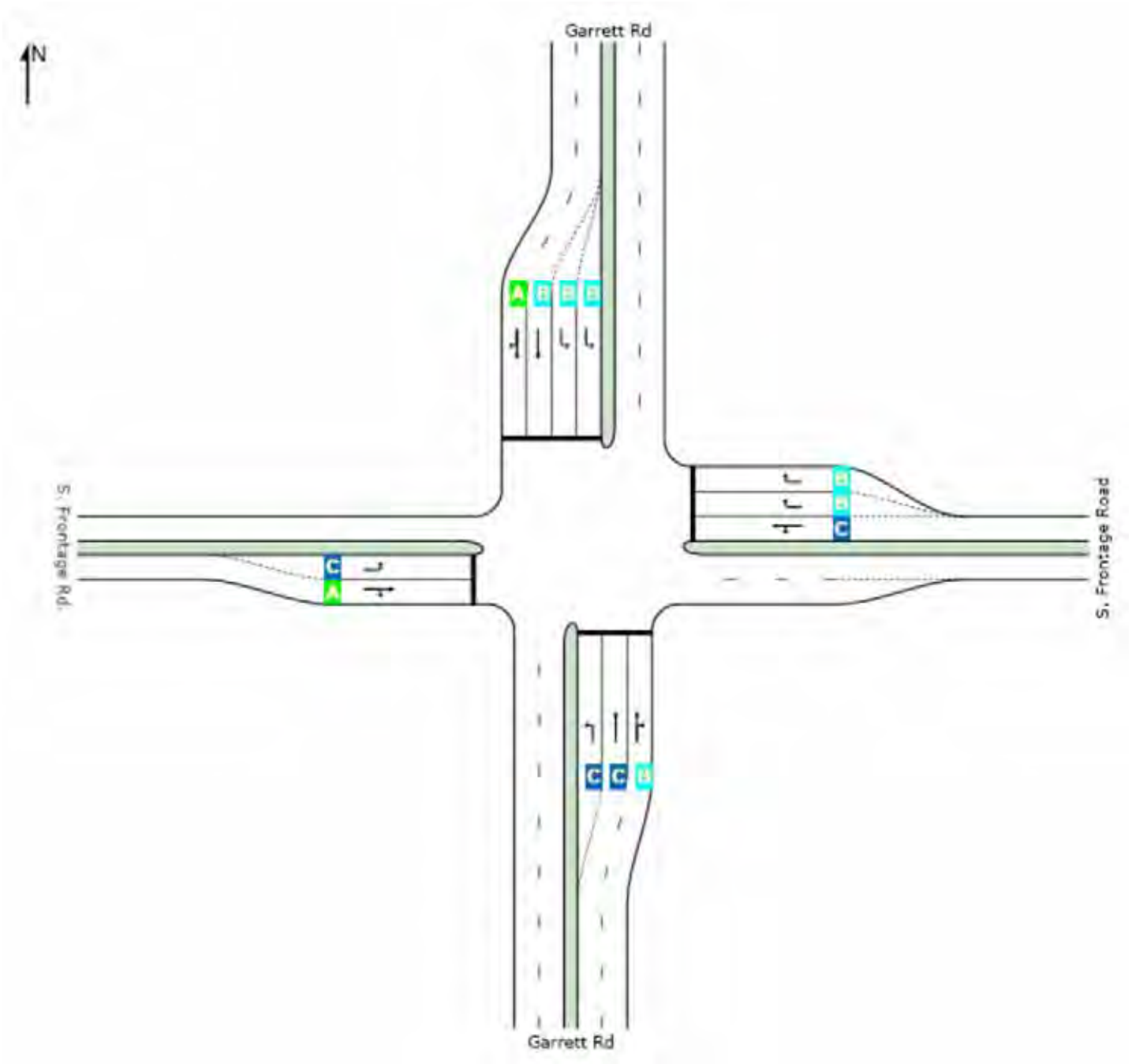
 **Site: PM: Garrett Rd @ S. Frontage Rd**

Build Alt 1 PM

Signals - Actuated Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

**All Movement Classes**

	South	East	North	West	Intersection
LOS	B	B	B	B	B



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM  
Stop (Two-Way)

Volume Display Method: Total and %

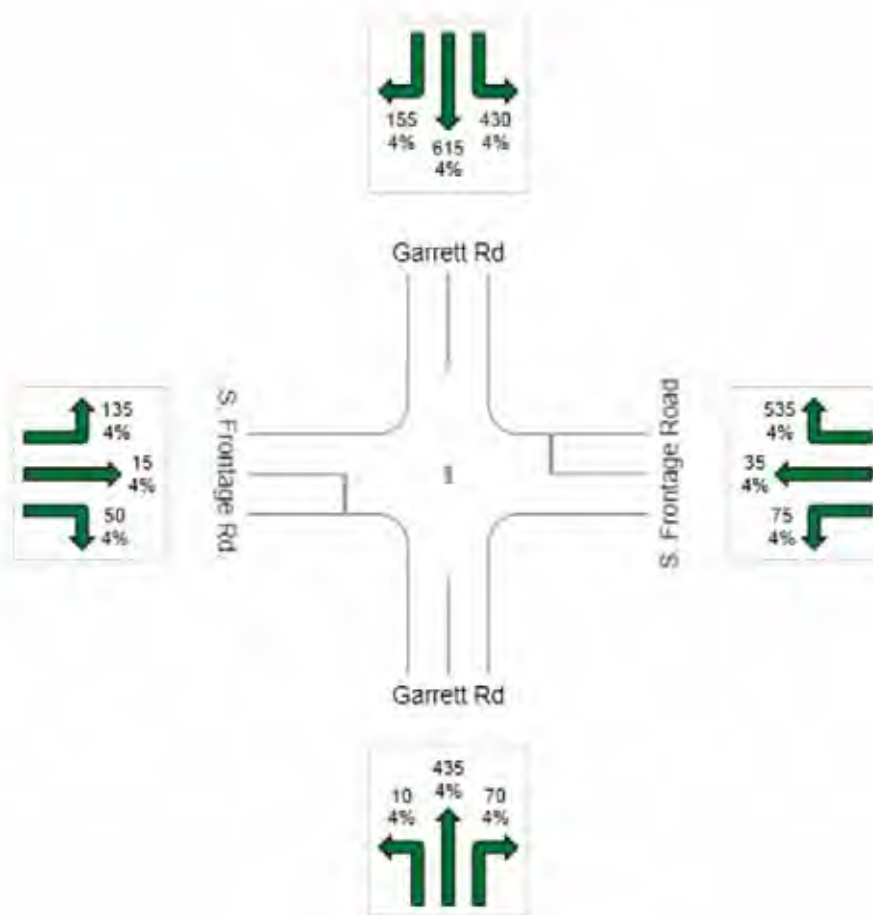
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2560

Light Vehicles (LV): 2458

Heavy Vehicles (HV): 102



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	0.5 mph	0.5 mph
Travel Distance (Total)	639.2 veh-mi/h	767.1 pers-mi/h
Travel Time (Total)	1237.8 veh-h/h	1485.4 pers-h/h
Demand Flows (Total)	3112 veh/h	3734 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	28.481	
Practical Spare Capacity	-97.2 %	
Effective Intersection Capacity	109 veh/h	
Control Delay (Total)	1221.15 veh-h/h	1465.38 pers-h/h
Control Delay (Average)	1412.9 sec	1412.9 sec
Control Delay (Worst Lane)	12949.3 sec	
Control Delay (Worst Movement)	12949.3 sec	12949.3 sec
Geometric Delay (Average)	4.3 sec	
Stop-Line Delay (Average)	1408.6 sec	
Idling Time (Average)	1404.0 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	116.9 veh	
95% Back of Queue - Distance (Worst Lane)	3016.6 ft	
Queue Storage Ratio (Worst Lane)	7.36	
Total Effective Stops	2341 veh/h	2809 pers/h
Effective Stop Rate	0.75 per veh	0.75 per pers
Proportion Queued	0.45	0.45
Performance Index	1585.0	1585.0
Cost (Total)	17288.79 \$/h	17288.79 \$/h
Fuel Consumption (Total)	436.2 gal/h	
Carbon Dioxide (Total)	3900.1 kg/h	
Hydrocarbons (Total)	3.059 kg/h	
Carbon Monoxide (Total)	14.320 kg/h	
NOx (Total)	3.368 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,493,536 veh/y	1,792,244 pers/y
Delay	586,152 veh-h/y	703,382 pers-h/y
Effective Stops	1,123,610 veh/y	1,348,332 pers/y
Travel Distance	306,827 veh-mi/y	368,192 pers-mi/y
Travel Time	594,147 veh-h/y	712,977 pers-h/y
Cost	8,298,619 \$/y	8,298,619 \$/y
Fuel Consumption	209,370 gal/y	
Carbon Dioxide	1,872,060 kg/y	
Hydrocarbons	1,469 kg/y	
Carbon Monoxide	6,874 kg/y	
NOx	1,617 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3	L2	17	4.0	0.043	14.5	LOS B	0.1	3.7	0.75	0.90	25.0
8	T1	483	4.0	0.302	0.0	LOS A	0.0	0.0	0.00	0.09	42.7
18	R2	76	4.0	0.302	6.6	LOS A	0.0	0.0	0.00	0.09	37.5
Approach		577	4.0	0.302	1.3	NA	0.1	3.7	0.02	0.11	40.6
East: S. Frontage Road											
1	L2	115	4.0	23.704	10727.6	LOS F	116.9	3016.6	1.00	1.27	0.1
6	T1	76	4.0	23.704	10728.0	LOS F	116.9	3016.6	1.00	1.27	0.1
16	R2	629	4.0	0.811	35.1	LOS E	9.5	244.3	0.90	1.51	11.4
Approach		821	4.0	23.704	2529.2	LOS F	116.9	3016.6	0.92	1.46	0.3
North: Garrett Rd											
7	L2	483	4.0	0.586	11.8	LOS B	4.4	114.7	0.71	1.03	21.5
4	T1	741	4.0	0.515	0.0	LOS A	0.0	0.0	0.00	0.13	42.0
14	R2	201	4.0	0.515	5.4	LOS A	0.0	0.0	0.00	0.13	35.7
Approach		1425	4.0	0.586	4.8	NA	4.4	114.7	0.24	0.44	32.1
West: S. Frontage Rd.											
5	L2	171	4.0	28.481	12949.3	LOS F	113.5	2928.2	1.00	1.22	0.1
2	T1	27	4.0	2.529	846.2	LOS F	29.9	772.1	1.00	2.12	1.1
12	R2	91	4.0	2.529	845.8	LOS F	29.9	772.1	1.00	2.12	1.3
Approach		289	4.0	28.481	8013.0	LOS F	113.5	2928.2	1.00	1.59	0.1
All Vehicles		3112	4.0	28.481	1412.9	NA	116.9	3016.6	0.45	0.75	0.5

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

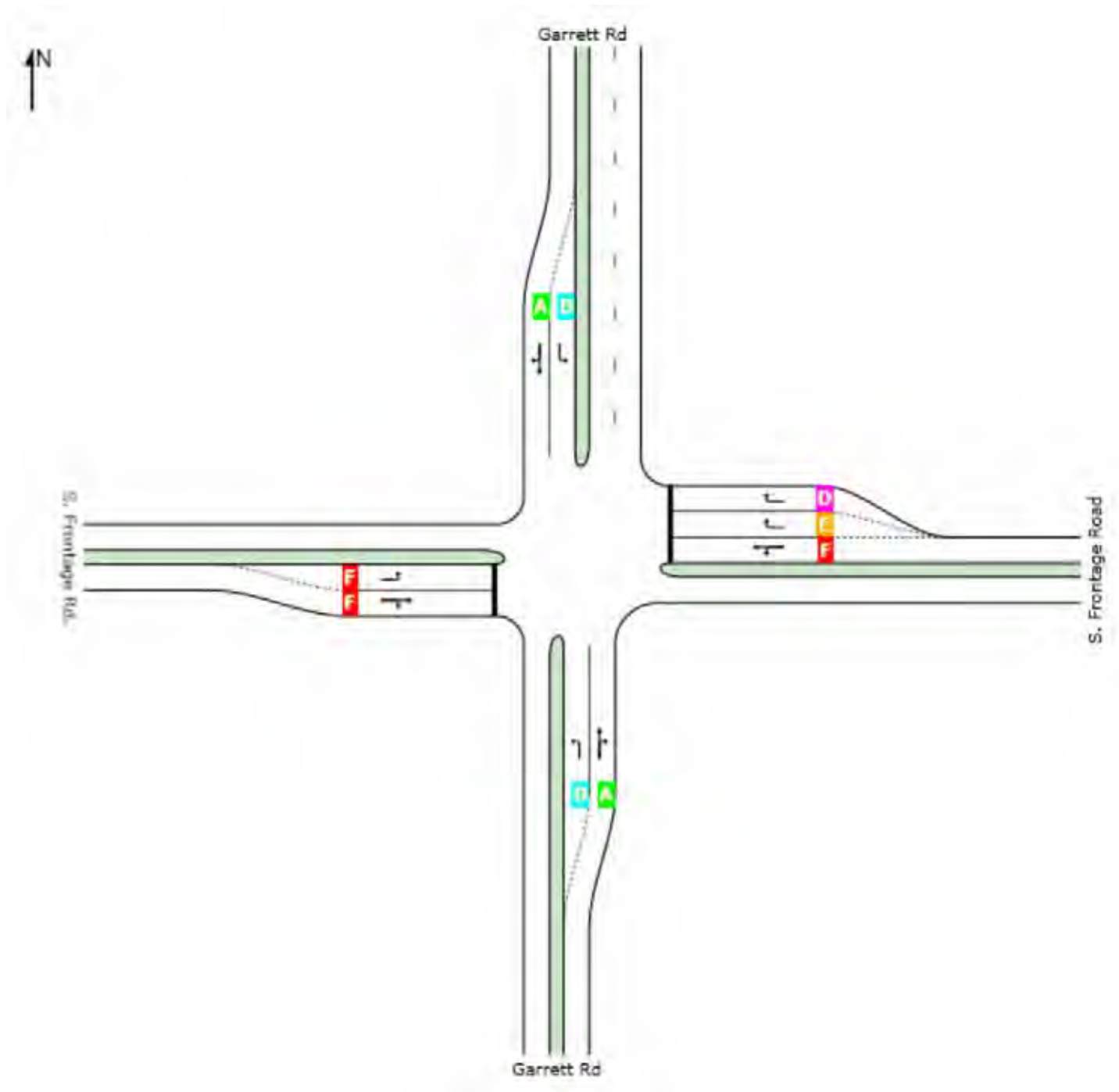
# LEVEL OF SERVICE

**STOP** Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 PM  
 Stop (Two-Way)

## All Movement Classes

	South	East	North	West	Intersection
LOS	NA	F	NA	F	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 AM  
Roundabout

Volume Display Method: Total and %

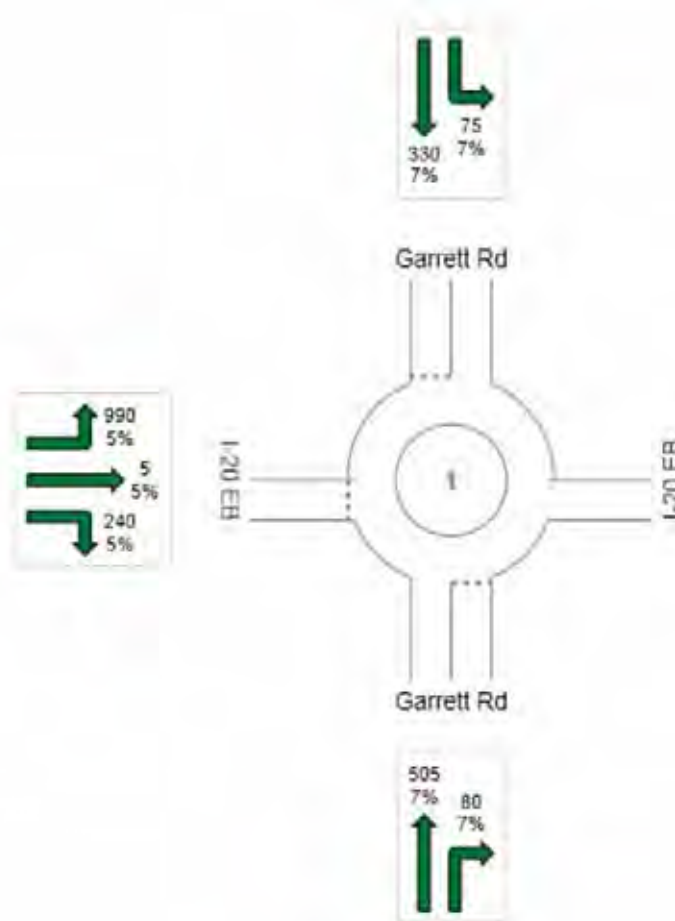
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2225

Light Vehicles (LV): 2094

Heavy Vehicles (HV): 131



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 AM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	34.5 mph	34.5 mph
Travel Distance (Total)	1662.2 veh-mi/h	1994.6 pers-mi/h
Travel Time (Total)	48.1 veh-h/h	57.7 pers-h/h
Demand Flows (Total)	2812 veh/h	3375 pers/h
Percent Heavy Vehicles (Demand)	5.8 %	
Degree of Saturation	0.799	
Practical Spare Capacity	6.4 %	
Effective Intersection Capacity	3520 veh/h	
Control Delay (Total)	3.79 veh-h/h	4.54 pers-h/h
Control Delay (Average)	4.8 sec	4.8 sec
Control Delay (Worst Lane)	7.1 sec	
Control Delay (Worst Movement)	6.7 sec	6.7 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	4.8 sec	
Idling Time (Average)	0.5 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	8.5 veh	
95% Back of Queue - Distance (Worst Lane)	220.6 ft	
Queue Storage Ratio (Worst Lane)	0.34	
Total Effective Stops	1991 veh/h	2390 pers/h
Effective Stop Rate	0.71 per veh	0.71 per pers
Proportion Queued	0.64	0.64
Performance Index	74.6	74.6
Cost (Total)	1178.19 \$/h	1178.19 \$/h
Fuel Consumption (Total)	92.4 gal/h	
Carbon Dioxide (Total)	827.9 kg/h	
Hydrocarbons (Total)	0.290 kg/h	
Carbon Monoxide (Total)	3.462 kg/h	
NOx (Total)	2.362 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,349,851 veh/y	1,619,821 pers/y
Delay	1,818 veh-h/y	2,181 pers-h/y
Effective Stops	955,825 veh/y	1,146,990 pers/y
Travel Distance	797,835 veh-mi/y	957,401 pers-mi/y
Travel Time	23,098 veh-h/y	27,718 pers-h/y
Cost	565,531 \$/y	565,531 \$/y
Fuel Consumption	44,363 gal/y	
Carbon Dioxide	397,386 kg/y	
Hydrocarbons	139 kg/y	
Carbon Monoxide	1,662 kg/y	
NOx	1,134 kg/y	



# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 AM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	567	7.0	0.445	5.2	LOS A	3.1	82.7	0.88	0.86	33.7
18	R2	101	7.0	0.066	0.0	LOS A	0.0	0.0	0.00	0.00	38.2
Approach		669	7.0	0.445	4.4	LOS A	3.1	82.7	0.75	0.73	34.4
North: Garrett Rd											
7	L2	96	7.0	0.175	0.0	LOS A	0.0	0.0	0.00	0.00	39.5
4	T1	418	7.0	0.175	0.0	LOS A	0.0	0.0	0.00	0.00	30.3
Approach		514	7.0	0.175	0.0	LOS A	0.0	0.0	0.00	0.00	32.5
West: I-20 EB											
5	L2	1286	5.0	0.799	6.7	LOS A	8.5	220.6	0.80	0.93	36.0
2	T1	15	5.0	0.799	6.0	LOS A	8.5	220.6	0.79	0.90	37.6
12	R2	329	5.0	0.799	6.0	LOS A	8.5	220.6	0.79	0.90	30.2
Approach		1630	5.0	0.799	6.6	LOS A	8.5	220.6	0.80	0.92	34.9
All Vehicles		2812	5.8	0.799	4.8	LOS A	8.5	220.6	0.64	0.71	34.5

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

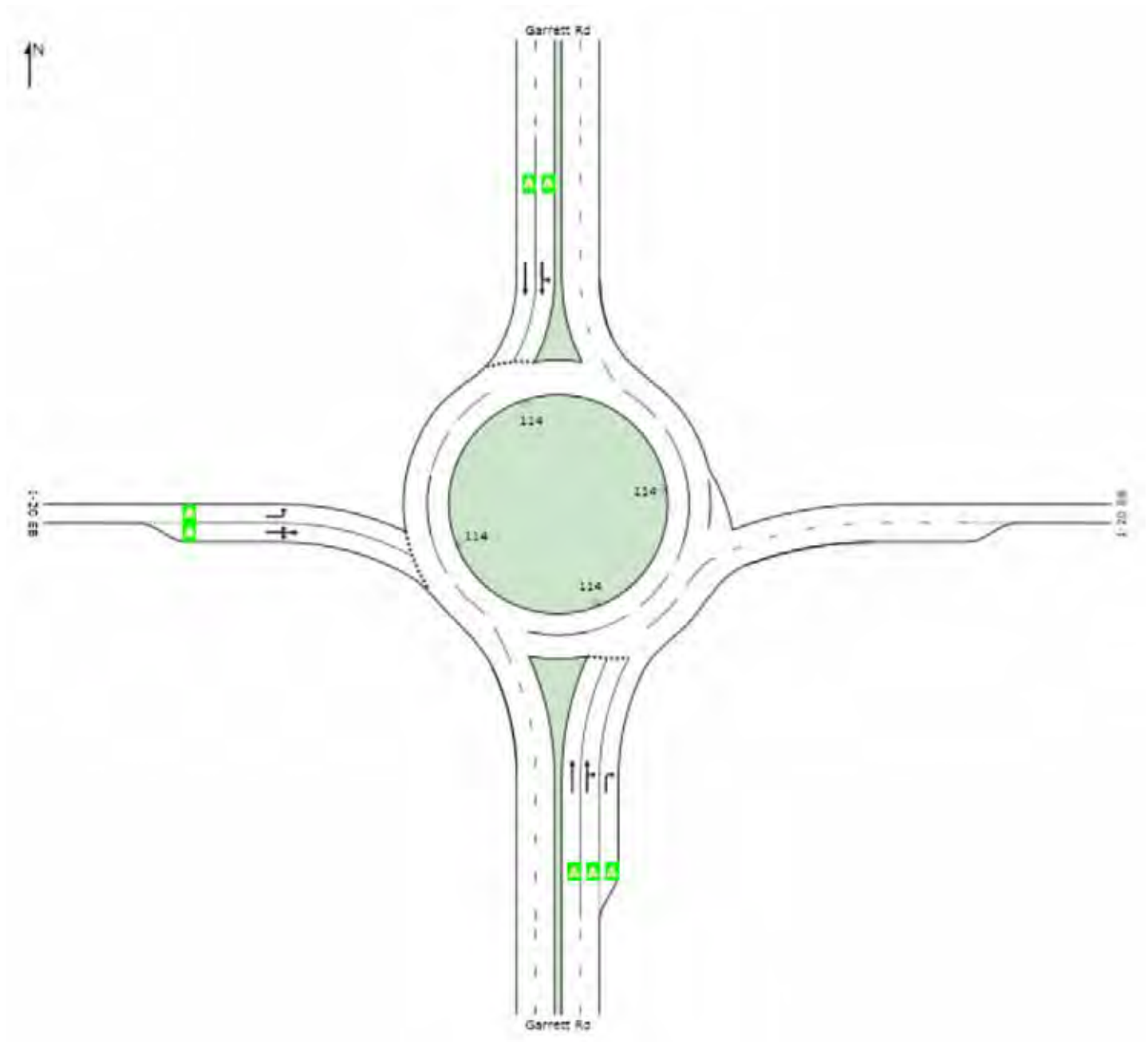
# LEVEL OF SERVICE

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 AM  
Roundabout

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# QUEUE DISTANCE (%ILE)

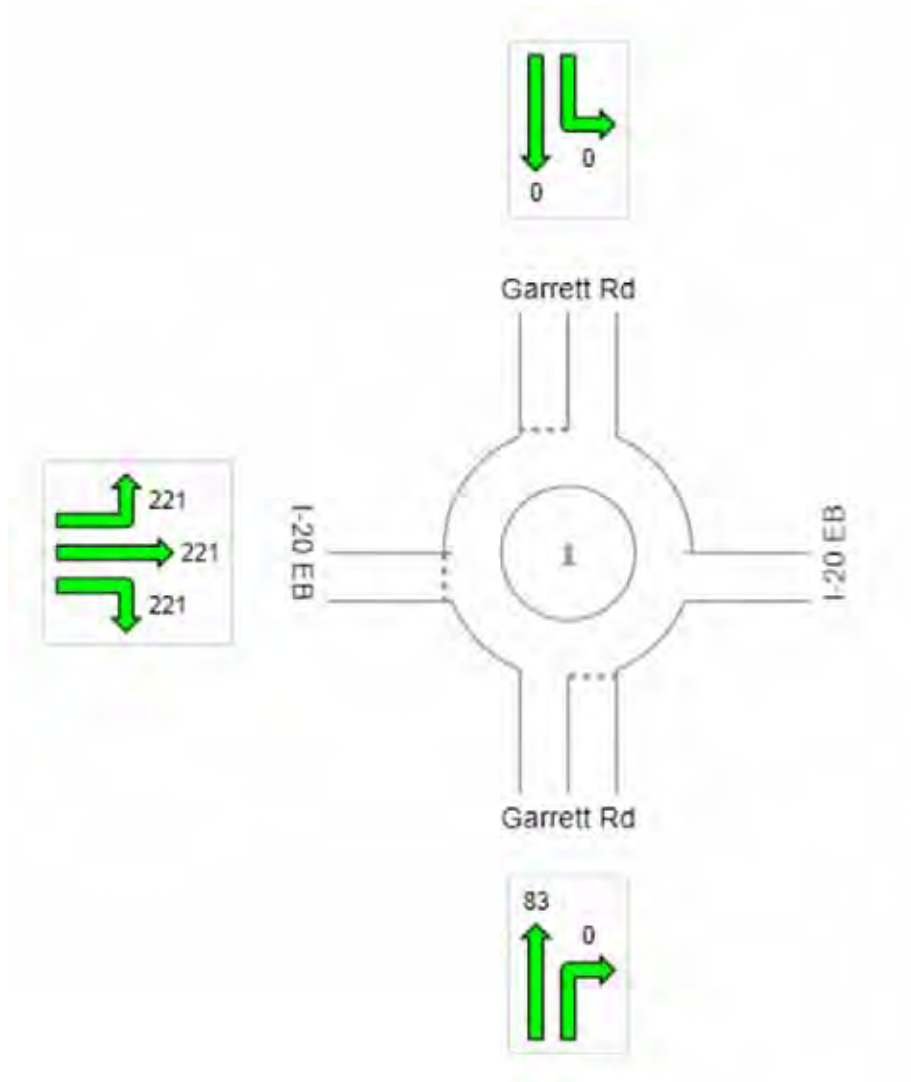
Largest 95% Back of Queue for any lane used by movement (feet)

 Site: AM: Garrett Rd @ I-20 EB

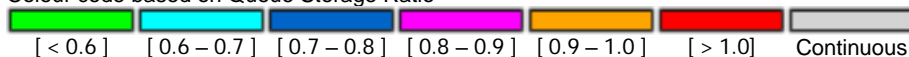
Built Alt 1 AM  
Roundabout

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	83	0	221	221



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 AM  
Signals - Actuated

Volume Display Method: Total and %

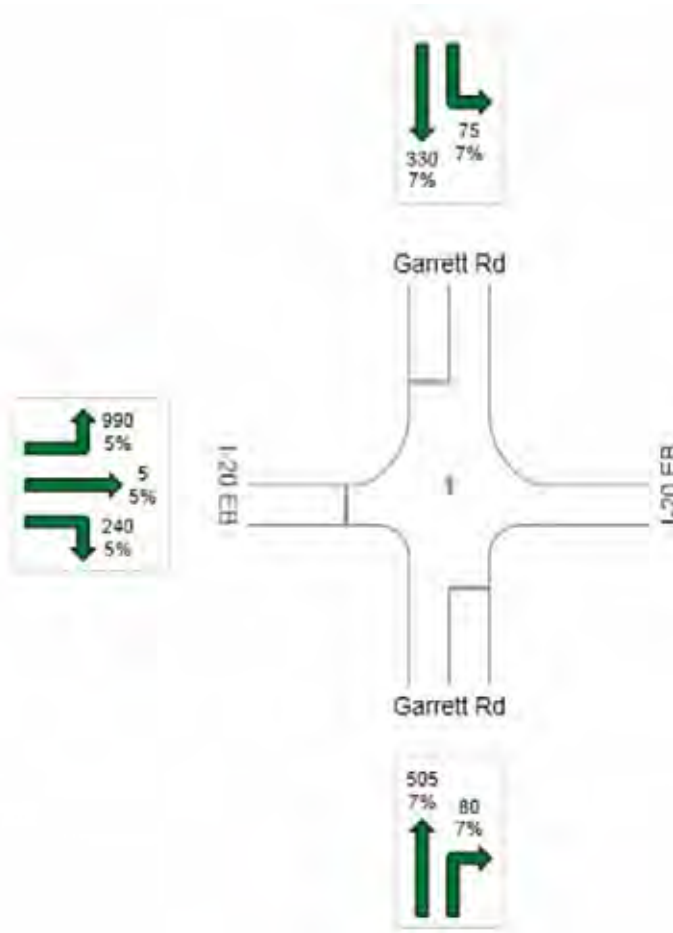
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2225

Light Vehicles (LV): 2094

Heavy Vehicles (HV): 131



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ I-20 EB**

Built Alt 1 AM

Signals - Actuated Cycle Time = 61 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	21.0 mph	21.0 mph
Travel Distance (Total)	1541.8 veh-mi/h	1850.2 pers-mi/h
Travel Time (Total)	73.3 veh-h/h	87.9 pers-h/h
Demand Flows (Total)	2767 veh/h	3320 pers/h
Percent Heavy Vehicles (Demand)	5.9 %	
Degree of Saturation	1.094	
Practical Spare Capacity	-17.7 %	
Effective Intersection Capacity	2529 veh/h	
Control Delay (Total)	35.29 veh-h/h	42.35 pers-h/h
Control Delay (Average)	45.9 sec	45.9 sec
Control Delay (Worst Lane)	82.4 sec	
Control Delay (Worst Movement)	82.4 sec	82.4 sec
Geometric Delay (Average)	4.1 sec	
Stop-Line Delay (Average)	41.8 sec	
Idling Time (Average)	37.0 sec	
Intersection Level of Service (LOS)	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	36.2 veh	
95% Back of Queue - Distance (Worst Lane)	941.9 ft	
Queue Storage Ratio (Worst Lane)	1.69	
Total Effective Stops	2504 veh/h	3005 pers/h
Effective Stop Rate	0.91 per veh	0.91 per pers
Proportion Queued	0.81	0.81
Performance Index	154.6	154.6
Cost (Total)	1372.92 \$/h	1372.92 \$/h
Fuel Consumption (Total)	91.5 gal/h	
Carbon Dioxide (Total)	822.8 kg/h	
Hydrocarbons (Total)	0.294 kg/h	
Carbon Monoxide (Total)	3.458 kg/h	
NOx (Total)	2.171 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,328,071 veh/y	1,593,686 pers/y
Delay	16,940 veh-h/y	20,328 pers-h/y
Effective Stops	1,202,053 veh/y	1,442,464 pers/y
Travel Distance	740,083 veh-mi/y	888,100 pers-mi/y
Travel Time	35,171 veh-h/y	42,205 pers-h/y
Cost	659,001 \$/y	659,001 \$/y
Fuel Consumption	43,938 gal/y	
Carbon Dioxide	394,940 kg/y	
Hydrocarbons	141 kg/y	
Carbon Monoxide	1,660 kg/y	
NOx	1,042 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ I-20 EB**

Built Alt 1 AM

Signals - Actuated Cycle Time = 61 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	580	7.0	0.634	20.9	LOS C	10.2	270.6	0.87	0.73	24.1
18	R2	101	7.0	0.077	6.3	LOS A	0.4	9.5	0.18	0.62	33.2
Approach		682	7.0	0.634	18.7	LOS B	10.2	270.6	0.77	0.72	25.3
North: Garrett Rd											
7	L2	103	7.0	0.199	16.6	LOS B	1.9	51.2	0.65	0.74	29.9
4	T1	429	7.0	0.457	10.9	LOS B	9.0	236.6	0.67	0.58	31.0
Approach		531	7.0	0.457	12.0	LOS B	9.0	236.6	0.67	0.61	30.7
West: I-20 EB											
5	L2	1286	5.0	1.094	82.4	LOS F	36.2	941.9	1.00	1.18	18.6
2	T1	10	5.0	0.153	1.8	LOS A	1.0	25.2	0.32	0.65	40.3
12	R2	258	5.0	0.153	7.7	LOS A	1.0	25.2	0.25	0.65	25.9
Approach		1554	5.0	1.094	69.5	LOS E	36.2	941.9	0.87	1.09	19.4
All Vehicles		2767	5.9	1.094	45.9	LOS D	36.2	941.9	0.81	0.91	21.0

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Wednesday, June 18, 2014 8:56:19 AM

SIDRA INTERSECTION 6.0.22.4722

Project: H:\Build Alternative 1\Build Alternative 1 Signal.sip6

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**SIDRA  
INTERSECTION 6**

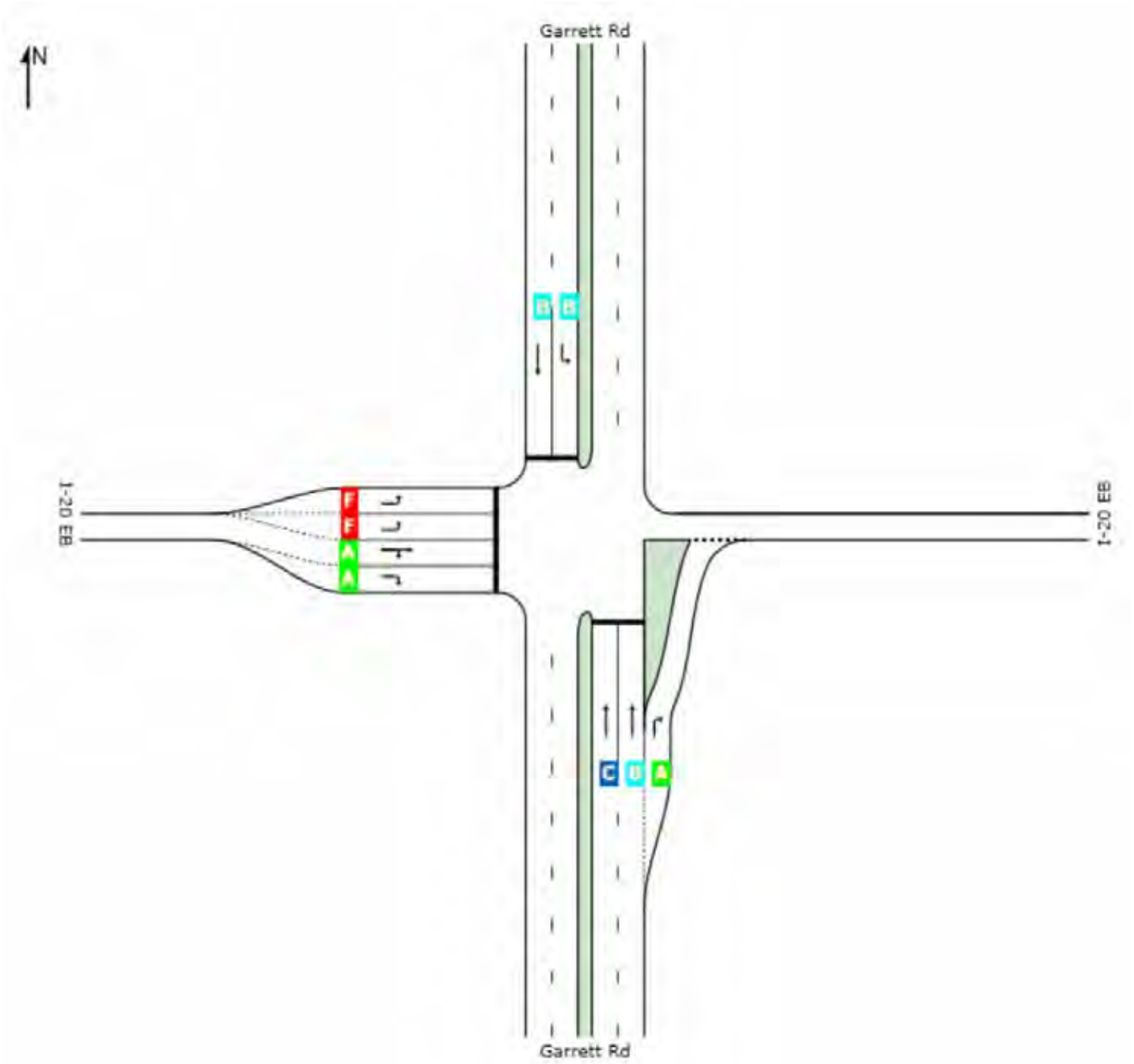
# LEVEL OF SERVICE

 **Site: AM: Garrett Rd @ I-20 EB**

Built Alt 1 AM  
 Signals - Actuated Cycle Time = 61 seconds (Practical Cycle Time)

**All Movement Classes**

	South	North	West	Intersection
LOS	B	B	E	D



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd @ I-20 EB**

Built Alt 1 AM  
Stop (Two-Way)

Volume Display Method: Total and %

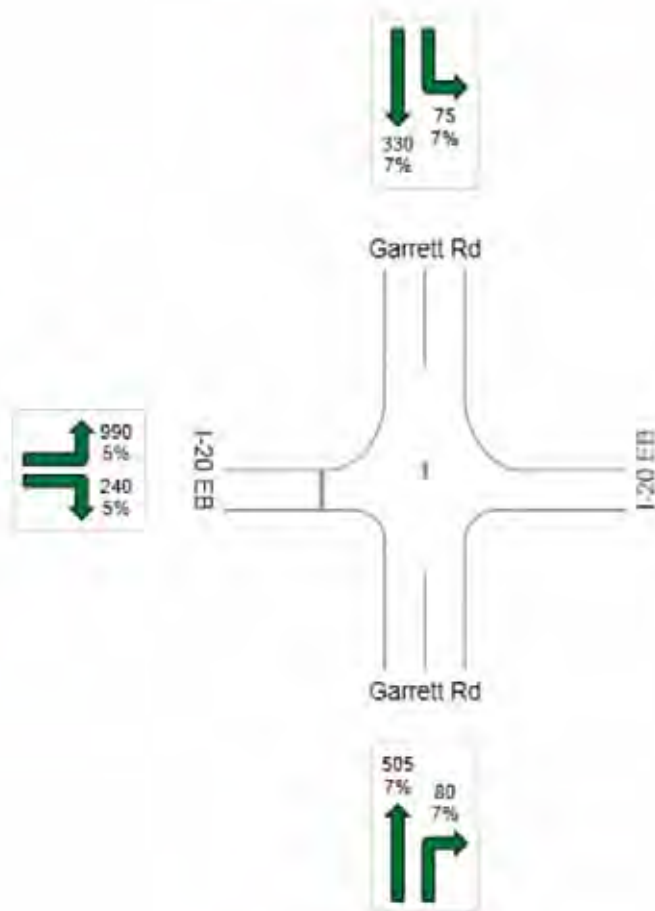
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2220

Light Vehicles (LV): 2089

Heavy Vehicles (HV): 131





# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 AM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	0.9 mph	0.9 mph
Travel Distance (Total)	1533.4 veh-mi/h	1840.1 pers-mi/h
Travel Time (Total)	1700.3 veh-h/h	2040.3 pers-h/h
Demand Flows (Total)	2757 veh/h	3308 pers/h
Percent Heavy Vehicles (Demand)	5.9 %	
Degree of Saturation	11.136	
Practical Spare Capacity	-92.8 %	
Effective Intersection Capacity	248 veh/h	
Control Delay (Total)	1664.27 veh-h/h	1997.12 pers-h/h
Control Delay (Average)	2173.3 sec	2173.3 sec
Control Delay (Worst Lane)	4655.1 sec	
Control Delay (Worst Movement)	4655.1 sec	4655.1 sec
Geometric Delay (Average)	5.3 sec	
Stop-Line Delay (Average)	2168.0 sec	
Idling Time (Average)	2153.7 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	219.3 veh	
95% Back of Queue - Distance (Worst Lane)	5702.6 ft	
Queue Storage Ratio (Worst Lane)	0.02	
Total Effective Stops	3364 veh/h	4036 pers/h
Effective Stop Rate	1.22 per veh	1.22 per pers
Proportion Queued	0.56	0.56
Performance Index	1895.2	1895.2
Cost (Total)	23837.60 \$/h	23837.60 \$/h
Fuel Consumption (Total)	620.4 gal/h	
Carbon Dioxide (Total)	5555.5 kg/h	
Hydrocarbons (Total)	4.219 kg/h	
Carbon Monoxide (Total)	20.706 kg/h	
NOx (Total)	5.962 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,323,271 veh/y	1,587,926 pers/y
Delay	798,847 veh-h/y	958,617 pers-h/y
Effective Stops	1,614,505 veh/y	1,937,407 pers/y
Travel Distance	736,051 veh-mi/y	883,262 pers-mi/y
Travel Time	816,121 veh-h/y	979,346 pers-h/y
Cost	11,442,050 \$/y	11,442,050 \$/y
Fuel Consumption	297,796 gal/y	
Carbon Dioxide	2,666,642 kg/y	
Hydrocarbons	2,025 kg/y	
Carbon Monoxide	9,939 kg/y	
NOx	2,862 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 AM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
8	T1	580	7.0	0.157	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
18	R2	101	7.0	0.107	6.9	LOS A	0.5	14.5	0.32	0.56	32.8
Approach		682	7.0	0.157	1.0	LOS A	0.5	14.5	0.05	0.08	42.2
North: Garrett Rd											
7	L2	103	7.0	0.128	9.7	LOS A	0.5	13.6	0.56	0.78	33.5
4	T1	429	7.0	0.232	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
Approach		531	7.0	0.232	1.9	NA	0.5	13.6	0.11	0.15	40.8
West: I-20 EB											
5	L2	1286	5.0	11.136	4655.1	LOS F	219.3	5702.6	1.00	2.30	0.6
12	R2	258	5.0	0.297	17.7	LOS C	1.5	39.4	0.69	1.03	27.3
Approach		1544	5.0	11.136	3879.9	LOS F	219.3	5702.6	0.95	2.09	0.7
All Vehicles		2757	5.9	11.136	2173.3	NA	219.3	5702.6	0.56	1.22	0.9

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

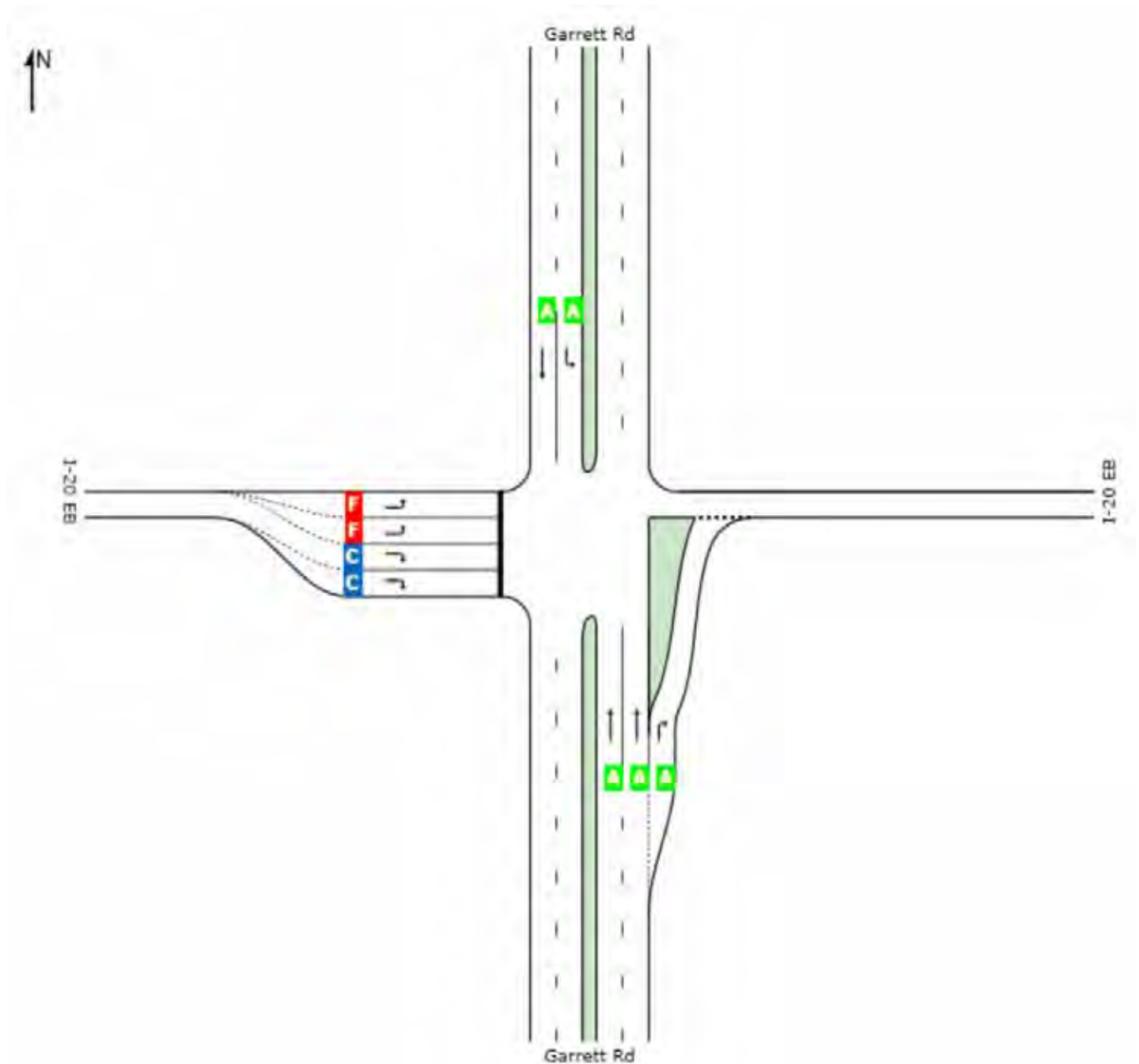
# LEVEL OF SERVICE

**STOP** Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 AM  
Stop (Two-Way)

## All Movement Classes

	South	North	West	Intersection
LOS	A	NA	F	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB

Build Alt 1 PM  
Roundabout

Volume Display Method: Total and %

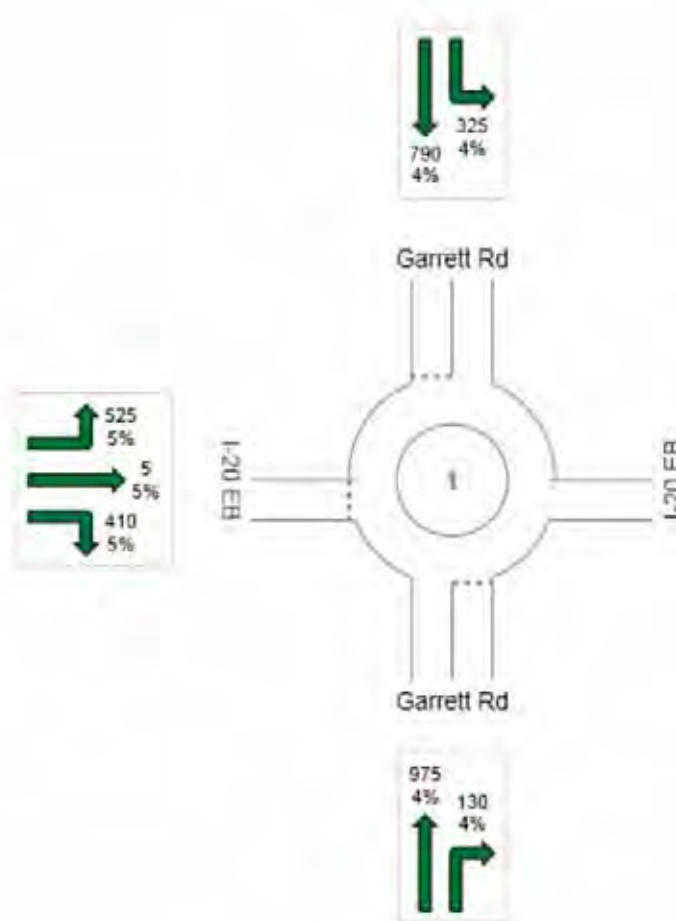
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3160

Light Vehicles (LV): 3024

Heavy Vehicles (HV): 136



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Build Alt 1 PM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	30.1 mph	30.1 mph
Travel Distance (Total)	1807.2 veh-mi/h	2168.7 pers-mi/h
Travel Time (Total)	60.0 veh-h/h	72.0 pers-h/h
Demand Flows (Total)	3653 veh/h	4383 pers/h
Percent Heavy Vehicles (Demand)	4.3 %	
Degree of Saturation	0.726	
Practical Spare Capacity	17.0 %	
Effective Intersection Capacity	5030 veh/h	
Control Delay (Total)	5.41 veh-h/h	6.49 pers-h/h
Control Delay (Average)	5.3 sec	5.3 sec
Control Delay (Worst Lane)	11.6 sec	
Control Delay (Worst Movement)	11.0 sec	11.0 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	5.3 sec	
Idling Time (Average)	1.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	6.5 veh	
95% Back of Queue - Distance (Worst Lane)	167.0 ft	
Queue Storage Ratio (Worst Lane)	0.76	
Total Effective Stops	2218 veh/h	2661 pers/h
Effective Stop Rate	0.61 per veh	0.61 per pers
Proportion Queued	0.51	0.51
Performance Index	81.2	81.2
Cost (Total)	1049.85 \$/h	1049.85 \$/h
Fuel Consumption (Total)	73.7 gal/h	
Carbon Dioxide (Total)	659.8 kg/h	
Hydrocarbons (Total)	0.264 kg/h	
Carbon Monoxide (Total)	2.892 kg/h	
NOx (Total)	1.644 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,753,255 veh/y	2,103,906 pers/y
Delay	2,595 veh-h/y	3,114 pers-h/y
Effective Stops	1,064,569 veh/y	1,277,483 pers/y
Travel Distance	867,468 veh-mi/y	1,040,962 pers-mi/y
Travel Time	28,796 veh-h/y	34,555 pers-h/y
Cost	503,926 \$/y	503,926 \$/y
Fuel Consumption	35,380 gal/y	
Carbon Dioxide	316,728 kg/y	
Hydrocarbons	127 kg/y	
Carbon Monoxide	1,388 kg/y	
NOx	789 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Build Alt 1 PM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	1048	4.0	0.647	7.9	LOS A	6.5	167.0	0.92	1.03	33.7
18	R2	137	4.0	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	38.5
Approach		1185	4.0	0.647	7.0	LOS A	6.5	167.0	0.81	0.91	34.2
North: Garrett Rd											
7	L2	417	4.0	0.413	0.0	LOS A	0.0	0.0	0.00	0.00	36.4
4	T1	952	4.0	0.413	0.0	LOS A	0.0	0.0	0.00	0.00	25.5
Approach		1368	4.0	0.413	0.0	LOS A	0.0	0.0	0.00	0.00	29.2
West: I-20 EB											
5	L2	618	5.0	0.726	11.0	LOS B	6.0	155.8	0.83	1.04	30.9
2	T1	10	5.0	0.726	9.1	LOS A	6.0	155.8	0.81	1.03	32.6
12	R2	471	5.0	0.726	9.1	LOS A	6.0	155.8	0.81	1.03	24.9
Approach		1099	5.0	0.726	10.1	LOS B	6.0	155.8	0.82	1.04	28.7
All Vehicles		3653	4.3	0.726	5.3	LOS A	6.5	167.0	0.51	0.61	30.1

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

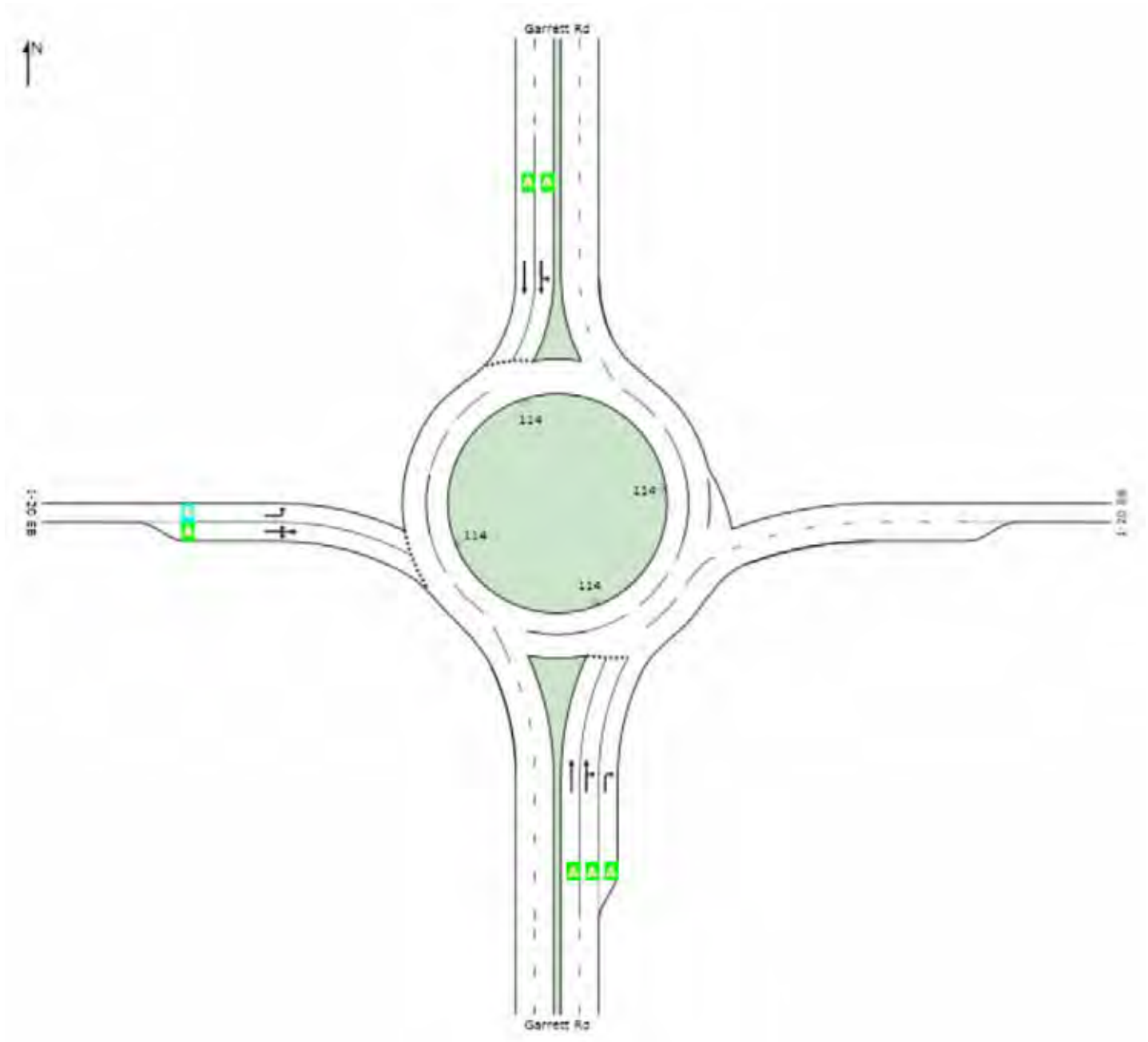
# LEVEL OF SERVICE

 Site: PM: Garrett Rd @ I-20 EB

Build Alt 1 PM  
Roundabout

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	B	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# QUEUE DISTANCE (%ILE)

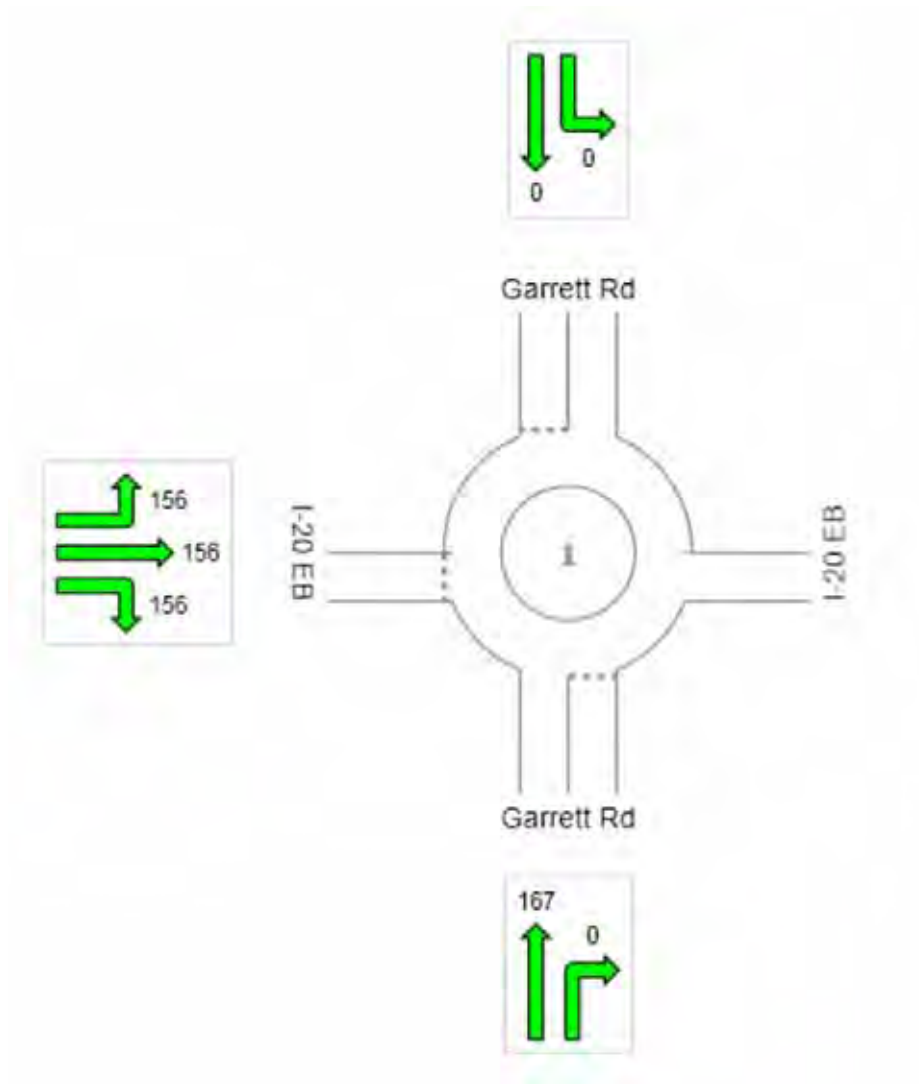
Largest 95% Back of Queue for any lane used by movement (feet)

Site: PM: Garrett Rd @ I-20 EB

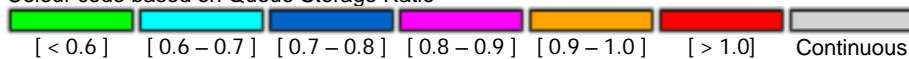
Build Alt 1 PM  
Roundabout

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	167	0	156	167



Colour code based on Queue Storage Ratio





# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 PM  
Signals - Actuated

Volume Display Method: Total and %

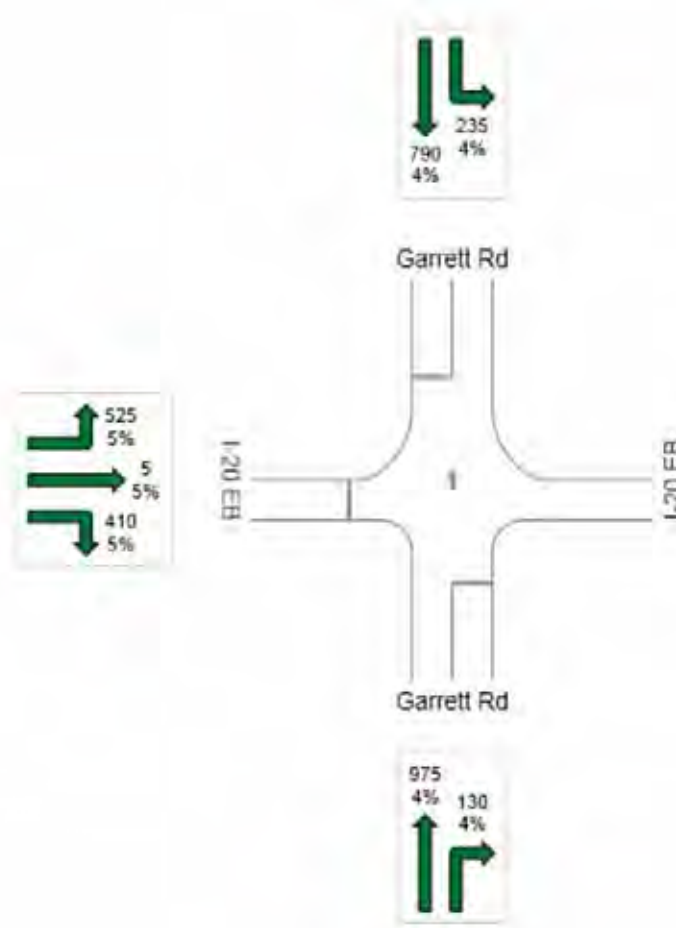
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3070

Light Vehicles (LV): 2938

Heavy Vehicles (HV): 132



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 PM

Signals - Actuated Cycle Time = 55 seconds (Optimum Cycle Time - Minimum Delay)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	26.0 mph	26.0 mph
Travel Distance (Total)	1585.2 veh-mi/h	1902.2 pers-mi/h
Travel Time (Total)	60.9 veh-h/h	73.1 pers-h/h
Demand Flows (Total)	3547 veh/h	4257 pers/h
Percent Heavy Vehicles (Demand)	4.3 %	
Degree of Saturation	0.948	
Practical Spare Capacity	-5.0 %	
Effective Intersection Capacity	3743 veh/h	
Control Delay (Total)	15.59 veh-h/h	18.71 pers-h/h
Control Delay (Average)	15.8 sec	15.8 sec
Control Delay (Worst Lane)	35.6 sec	
Control Delay (Worst Movement)	35.6 sec	35.6 sec
Geometric Delay (Average)	2.4 sec	
Stop-Line Delay (Average)	13.5 sec	
Idling Time (Average)	9.9 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	22.1 veh	
95% Back of Queue - Distance (Worst Lane)	569.2 ft	
Queue Storage Ratio (Worst Lane)	2.40	
Total Effective Stops	2733 veh/h	3280 pers/h
Effective Stop Rate	0.77 per veh	0.77 per pers
Proportion Queued	0.79	0.79
Performance Index	143.4	143.4
Cost (Total)	1118.64 \$/h	1118.64 \$/h
Fuel Consumption (Total)	85.8 gal/h	
Carbon Dioxide (Total)	769.5 kg/h	
Hydrocarbons (Total)	0.257 kg/h	
Carbon Monoxide (Total)	3.281 kg/h	
NOx (Total)	1.888 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,702,670 veh/y	2,043,204 pers/y
Delay	7,485 veh-h/y	8,982 pers-h/y
Effective Stops	1,311,989 veh/y	1,574,387 pers/y
Travel Distance	760,873 veh-mi/y	913,048 pers-mi/y
Travel Time	29,244 veh-h/y	35,093 pers-h/y
Cost	536,945 \$/y	536,945 \$/y
Fuel Consumption	41,161 gal/y	
Carbon Dioxide	369,339 kg/y	
Hydrocarbons	123 kg/y	
Carbon Monoxide	1,575 kg/y	
NOx	906 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 PM

Signals - Actuated Cycle Time = 55 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
8	T1	1048	4.0	0.723	16.7	LOS B	14.1	362.8	0.89	0.78	26.6
18	R2	137	4.0	0.160	7.8	LOS A	1.1	29.5	0.37	0.68	29.0
Approach		1185	4.0	0.723	15.7	LOS B	14.1	362.8	0.83	0.77	26.9
North: Garrett Rd											
7	L2	301	4.0	0.621	14.8	LOS B	4.7	120.3	0.85	0.81	29.2
4	T1	952	4.0	0.787	8.3	LOS A	22.1	569.2	0.78	0.71	33.5
Approach		1253	4.0	0.787	9.8	LOS A	22.1	569.2	0.79	0.74	31.8
West: I-20 EB											
5	L2	618	5.0	0.948	35.6	LOS D	12.5	324.7	1.00	0.92	24.3
2	T1	20	5.0	0.475	2.1	LOS A	2.3	59.4	0.49	0.67	32.3
12	R2	471	5.0	0.475	6.8	LOS A	2.5	65.7	0.43	0.68	21.2
Approach		1109	5.0	0.948	22.7	LOS C	12.5	324.7	0.75	0.81	23.2
All Vehicles		3547	4.3	0.948	15.8	LOS B	22.1	569.2	0.79	0.77	26.0

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

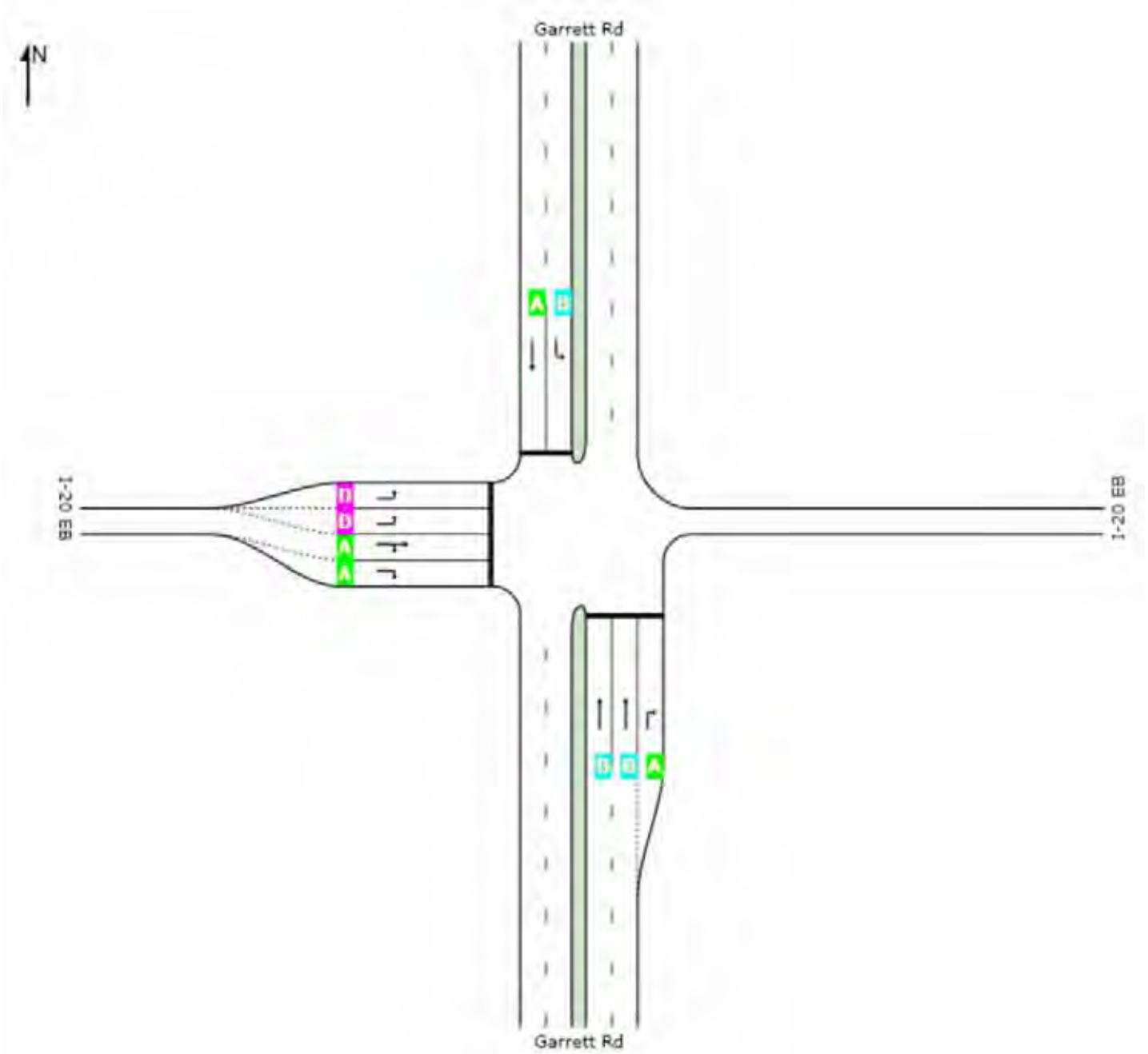
 **Site: PM: Garrett Rd @ I-20 EB**

Built Alt 1 PM

Signals - Actuated Cycle Time = 55 seconds (Optimum Cycle Time - Minimum Delay)

## All Movement Classes

	South	North	West	Intersection
LOS	B	A	C	B



Level of Service (LOS) Method: Delay (HCM 2000).  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.  
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 PM  
Stop (Two-Way)

Volume Display Method: Total and %

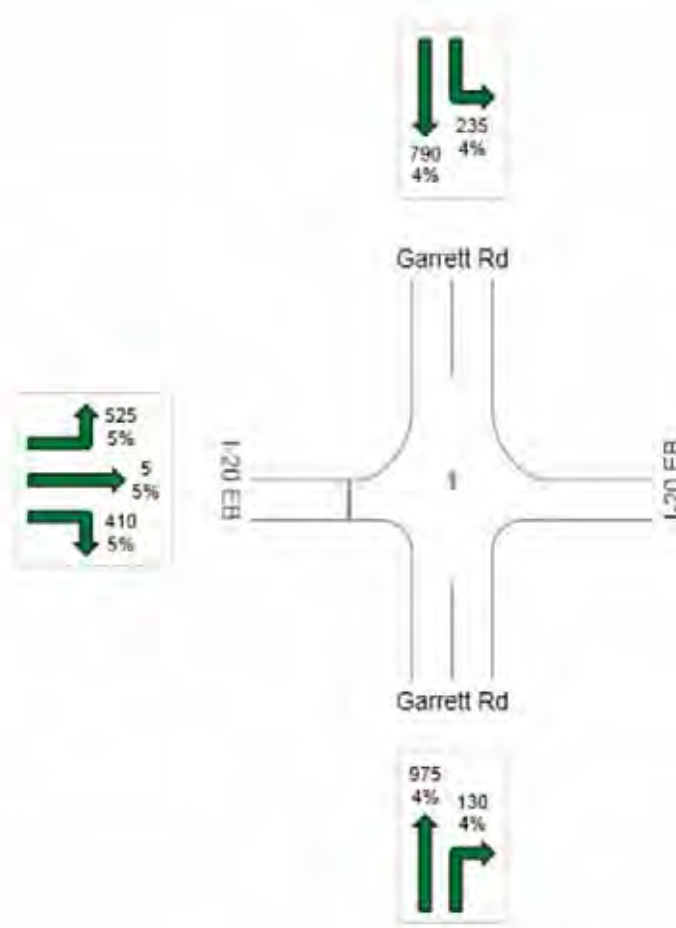
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3070

Light Vehicles (LV): 2938

Heavy Vehicles (HV): 132



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 PM  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	0.2 mph	0.2 mph
Travel Distance (Total)	1438.6 veh-mi/h	1726.3 pers-mi/h
Travel Time (Total)	8141.4 veh-h/h	9769.6 pers-h/h
Demand Flows (Total)	3547 veh/h	4257 pers/h
Percent Heavy Vehicles (Demand)	4.3 %	
Degree of Saturation	102.941	
Practical Spare Capacity	-99.2 %	
Effective Intersection Capacity	34 veh/h	
Control Delay (Total)	8103.08 veh-h/h	9723.70 pers-h/h
Control Delay (Average)	8223.6 sec	8223.6 sec
Control Delay (Worst Lane)	46410.7 sec	
Control Delay (Worst Movement)	46410.7 sec	46410.7 sec
Geometric Delay (Average)	3.2 sec	
Stop-Line Delay (Average)	8220.4 sec	
Idling Time (Average)	8214.6 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	414.5 veh	
95% Back of Queue - Distance (Worst Lane)	10776.0 ft	
Queue Storage Ratio (Worst Lane)	0.18	
Total Effective Stops	2466 veh/h	2960 pers/h
Effective Stop Rate	0.70 per veh	0.70 per pers
Proportion Queued	0.39	0.39
Performance Index	8543.5	8543.5
Cost (Total)	113156.60 \$/h	113156.60 \$/h
Fuel Consumption (Total)	2745.0 gal/h	
Carbon Dioxide (Total)	24568.2 kg/h	
Hydrocarbons (Total)	19.844 kg/h	
Carbon Monoxide (Total)	89.586 kg/h	
NOx (Total)	22.133 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,702,670 veh/y	2,043,204 pers/y
Delay	3,889,479 veh-h/y	4,667,374 pers-h/y
Effective Stops	1,183,809 veh/y	1,420,571 pers/y
Travel Distance	690,509 veh-mi/y	828,611 pers-mi/y
Travel Time	3,907,855 veh-h/y	4,689,426 pers-h/y
Cost	54,315,160 \$/y	54,315,160 \$/y
Fuel Consumption	1,317,613 gal/y	
Carbon Dioxide	11,792,720 kg/y	
Hydrocarbons	9,525 kg/y	
Carbon Monoxide	43,001 kg/y	
NOx	10,624 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 PM  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	1048	4.0	0.276	0.0	LOS A	0.0	0.0	0.00	0.00	44.9
18	R2	137	4.0	0.085	5.4	LOS A	0.0	0.0	0.00	0.60	34.1
Approach		1185	4.0	0.276	0.6	NA	0.0	0.0	0.00	0.07	43.0
North: Garrett Rd											
7	L2	301	4.0	0.766	27.6	LOS D	5.4	138.4	0.93	1.26	24.4
4	T1	952	4.0	0.501	0.1	LOS A	0.0	0.0	0.00	0.00	44.8
Approach		1253	4.0	0.766	6.7	NA	5.4	138.4	0.22	0.30	34.4
West: I-20 EB											
5	L2	618	5.0	102.941	46410.7	LOS F	414.5	10776.0	1.00	1.22	0.0
2	T1	20	5.0	3.333	1713.4	LOS F	11.3	293.7	1.00	1.17	1.4
12	R2	471	5.0	2.994	980.9	LOS F	59.8	1554.3	1.00	2.60	1.6
Approach		1109	5.0	102.941	26297.8	LOS F	414.5	10776.0	1.00	1.81	0.1
All Vehicles		3547	4.3	102.941	8223.6	NA	414.5	10776.0	0.39	0.70	0.2

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

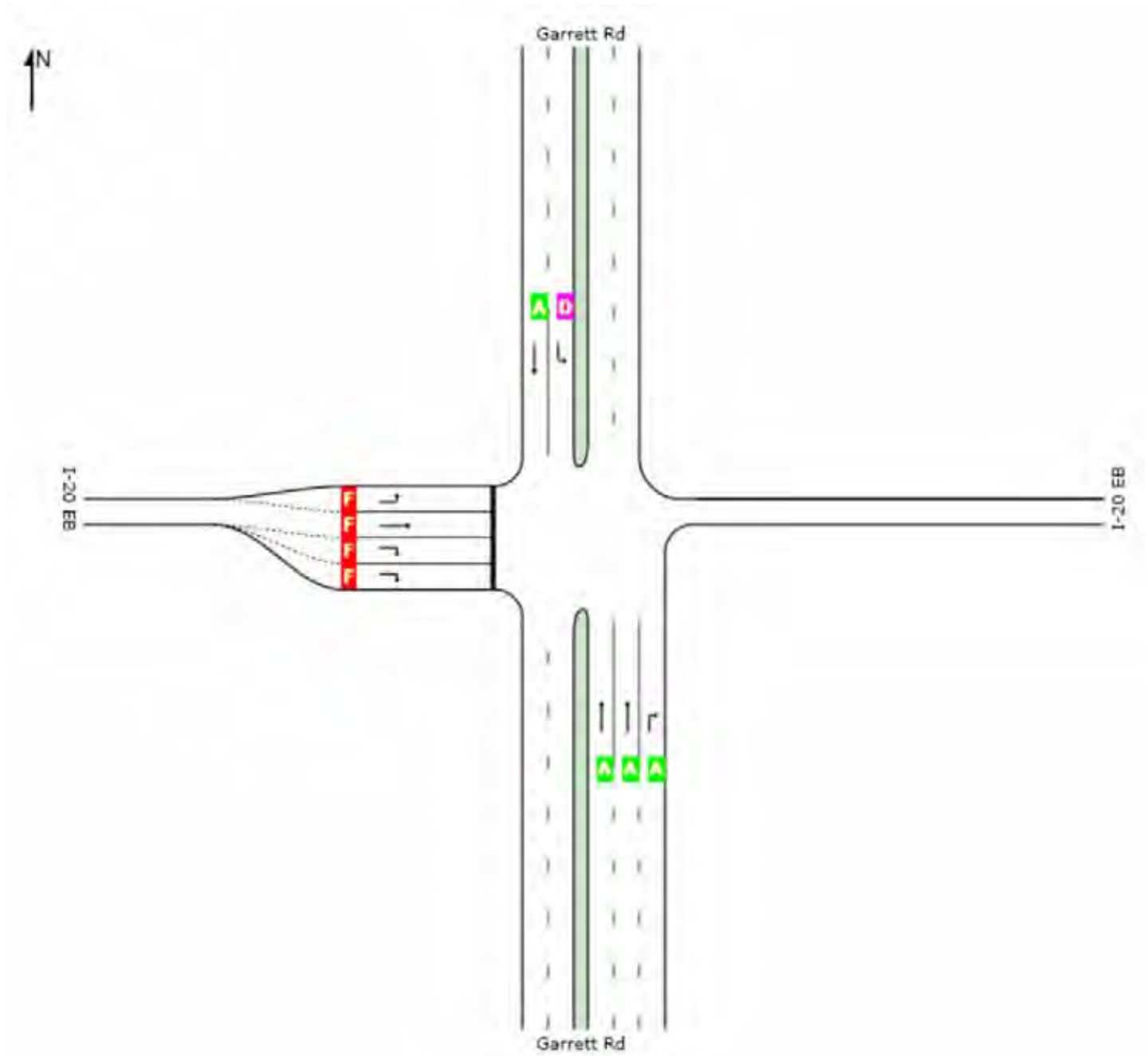
# LEVEL OF SERVICE

**STOP** Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 PM  
 Stop (Two-Way)

## All Movement Classes

	South	North	West	Intersection
LOS	NA	NA	F	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt 2 AM  
Roundabout

Volume Display Method: Total and %

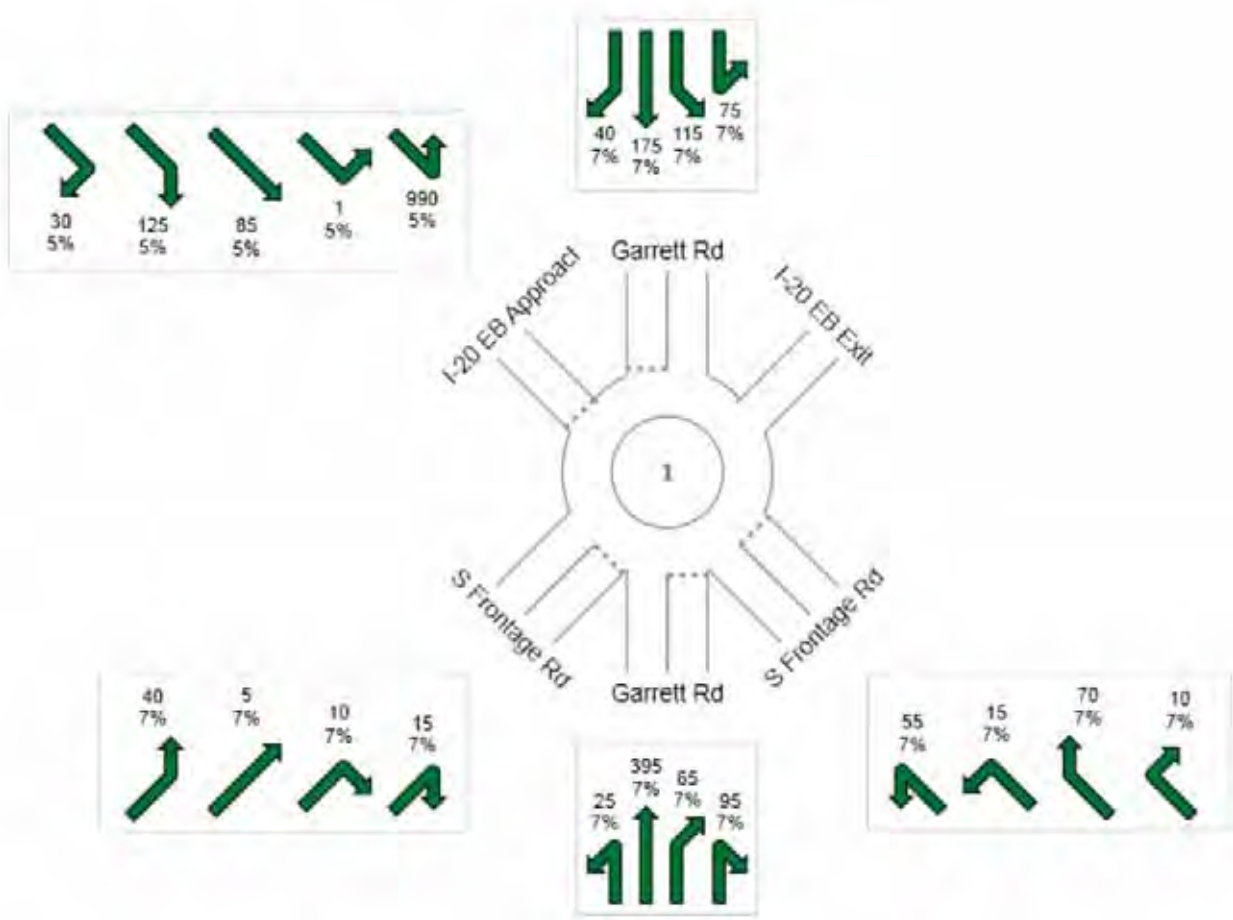
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2436

Light Vehicles (LV): 2290

Heavy Vehicles (HV): 146



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt 2 AM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	21.0 mph	21.0 mph
Travel Distance (Total)	1845.9 veh-mi/h	2215.1 pers-mi/h
Travel Time (Total)	87.9 veh-h/h	105.5 pers-h/h
Demand Flows (Total)	3156 veh/h	3787 pers/h
Percent Heavy Vehicles (Demand)	6.0 %	
Degree of Saturation	1.154	
Practical Spare Capacity	-26.4 %	
Effective Intersection Capacity	2734 veh/h	
Control Delay (Total)	35.89 veh-h/h	43.07 pers-h/h
Control Delay (Average)	40.9 sec	40.9 sec
Control Delay (Worst Lane)	78.7 sec	
Control Delay (Worst Movement)	78.7 sec	78.7 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	40.9 sec	
Idling Time (Average)	20.1 sec	
Intersection Level of Service (LOS)	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	70.5 veh	
95% Back of Queue - Distance (Worst Lane)	1832.6 ft	
Queue Storage Ratio (Worst Lane)	1.51	
Total Effective Stops	5927 veh/h	7112 pers/h
Effective Stop Rate	1.88 per veh	1.88 per pers
Proportion Queued	0.84	0.84
Performance Index	220.7	220.7
Cost (Total)	1797.96 \$/h	1797.96 \$/h
Fuel Consumption (Total)	127.4 gal/h	
Carbon Dioxide (Total)	1146.3 kg/h	
Hydrocarbons (Total)	0.404 kg/h	
Carbon Monoxide (Total)	4.357 kg/h	
NOx (Total)	3.177 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,514,936 veh/y	1,817,924 pers/y
Delay	17,229 veh-h/y	20,675 pers-h/y
Effective Stops	2,844,899 veh/y	3,413,879 pers/y
Travel Distance	886,026 veh-mi/y	1,063,231 pers-mi/y
Travel Time	42,209 veh-h/y	50,651 pers-h/y
Cost	863,021 \$/y	863,021 \$/y
Fuel Consumption	61,171 gal/y	
Carbon Dioxide	550,244 kg/y	
Hydrocarbons	194 kg/y	
Carbon Monoxide	2,091 kg/y	
NOx	1,525 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt 2 AM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3b	L3	37	7.0	0.716	35.2	LOS D	7.2	189.7	1.00	1.23	21.0
8	T1	465	7.0	0.716	33.3	LOS C	10.1	267.8	1.00	1.27	22.1
18a	R1	76	7.0	0.716	32.1	LOS C	10.1	267.8	1.00	1.29	20.6
18b	R3	148	7.0	0.401	14.6	LOS B	3.2	83.6	1.00	1.04	24.6
Approach		727	7.0	0.716	29.5	LOS C	10.1	267.8	1.00	1.22	22.3
SouthEast: S Frontage Rd											
3bx	L3	55	7.0	0.334	22.0	LOS C	2.0	52.3	0.96	0.99	16.6
3x	L2	15	7.0	0.334	22.0	LOS C	2.0	52.3	0.96	0.99	26.2
18ax	R1	96	7.0	0.334	16.0	LOS B	2.4	62.4	1.00	1.01	31.0
18x	R2	14	7.0	0.334	15.9	LOS B	2.4	62.4	1.00	1.01	28.2
Approach		180	7.0	0.334	18.3	LOS B	2.4	62.4	0.98	1.00	25.2
North: Garrett Rd											
7b	L3	96	7.0	0.196	0.5	LOS A	1.0	27.3	0.29	0.15	37.3
7a	L1	146	7.0	0.196	0.5	LOS A	1.0	27.3	0.29	0.15	35.5
4	T1	222	7.0	0.196	0.4	LOS A	1.1	28.0	0.28	0.13	30.4
14a	R1	51	7.0	0.196	0.4	LOS A	1.1	28.0	0.28	0.13	38.2
Approach		514	7.0	0.196	0.4	LOS A	1.1	28.0	0.28	0.14	34.3
NorthWest: I-20 EB Approach											
7bx	L3	1286	5.0	1.154	78.7	LOS E	70.5	1832.6	1.00	3.47	17.0
7x	L2	3	5.0	0.469	4.5	LOS A	2.5	64.2	0.66	0.66	35.5
4x	T1	116	5.0	0.469	4.5	LOS A	2.5	64.2	0.66	0.66	34.4
14ax	R1	171	5.0	0.469	4.5	LOS A	2.5	64.2	0.66	0.66	24.9
14x	R2	41	5.0	0.469	4.5	LOS A	2.5	64.2	0.66	0.66	32.6
Approach		1618	5.0	1.154	63.5	LOS E	70.5	1832.6	0.93	2.89	18.2
SouthWest: S Frontage Rd											
5ax	L1	63	7.0	0.180	11.9	LOS B	1.2	31.5	0.98	0.97	30.1
2x	T1	8	7.0	0.244	16.2	LOS B	1.3	35.0	0.92	0.92	29.1
12x	R2	20	7.0	0.244	16.2	LOS B	1.3	35.0	0.92	0.92	27.7
12bx	R3	27	7.0	0.244	16.2	LOS B	1.3	35.0	0.92	0.92	19.1
Approach		118	7.0	0.244	13.9	LOS B	1.3	35.0	0.95	0.95	27.4
All Vehicles		3156	6.0	1.154	40.9	LOS D	70.5	1832.6	0.84	1.88	21.0

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

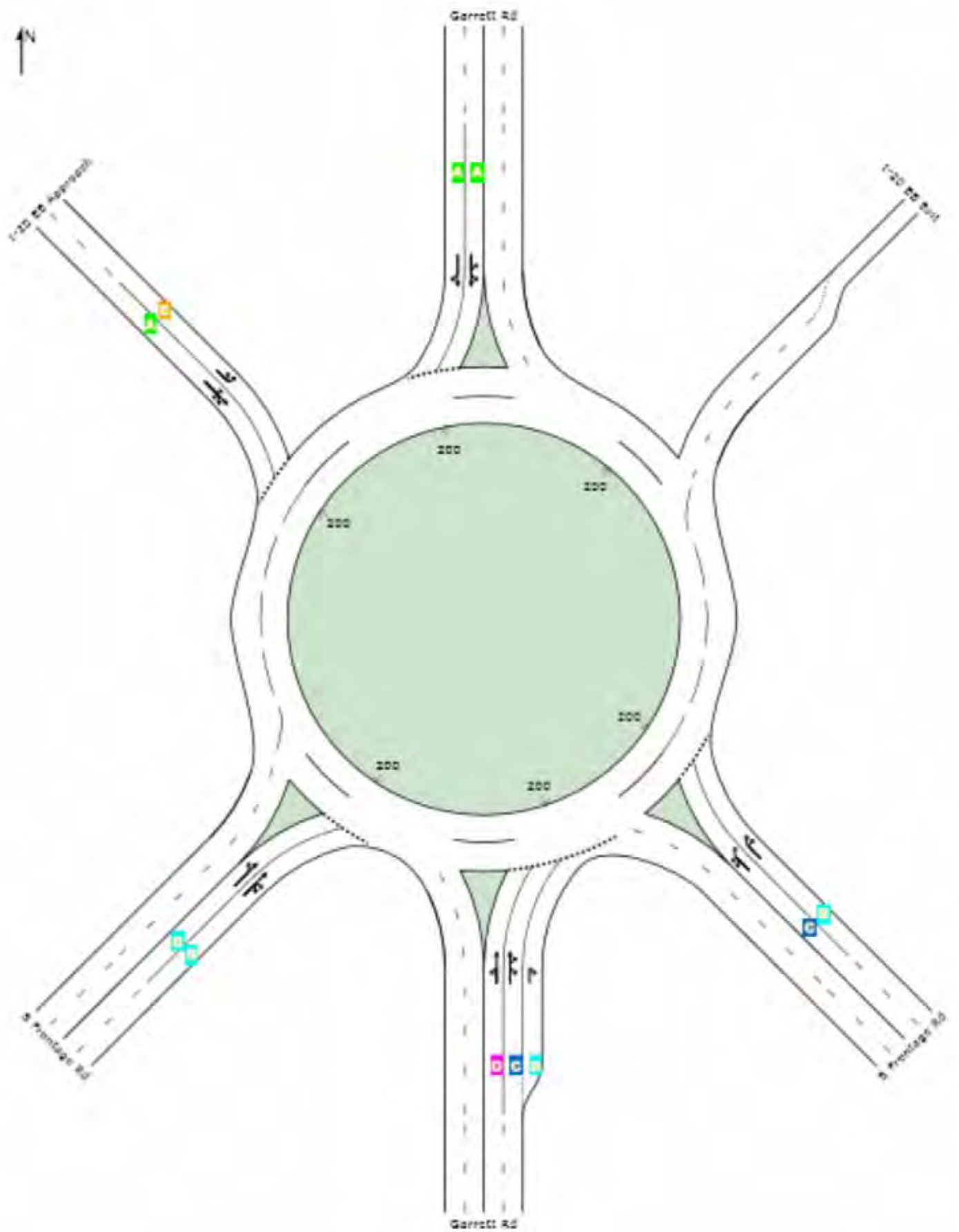
 **Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd**

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Built Alt 2 AM  
Roundabout

## All Movement Classes

	South	Southeast	North	Northwest	Southwest	Intersection
LOS	C	B	A	E	B	D



Level of Service (LOS) Method: Delay (HCM 2000).

# QUEUE DISTANCE (%ILE)

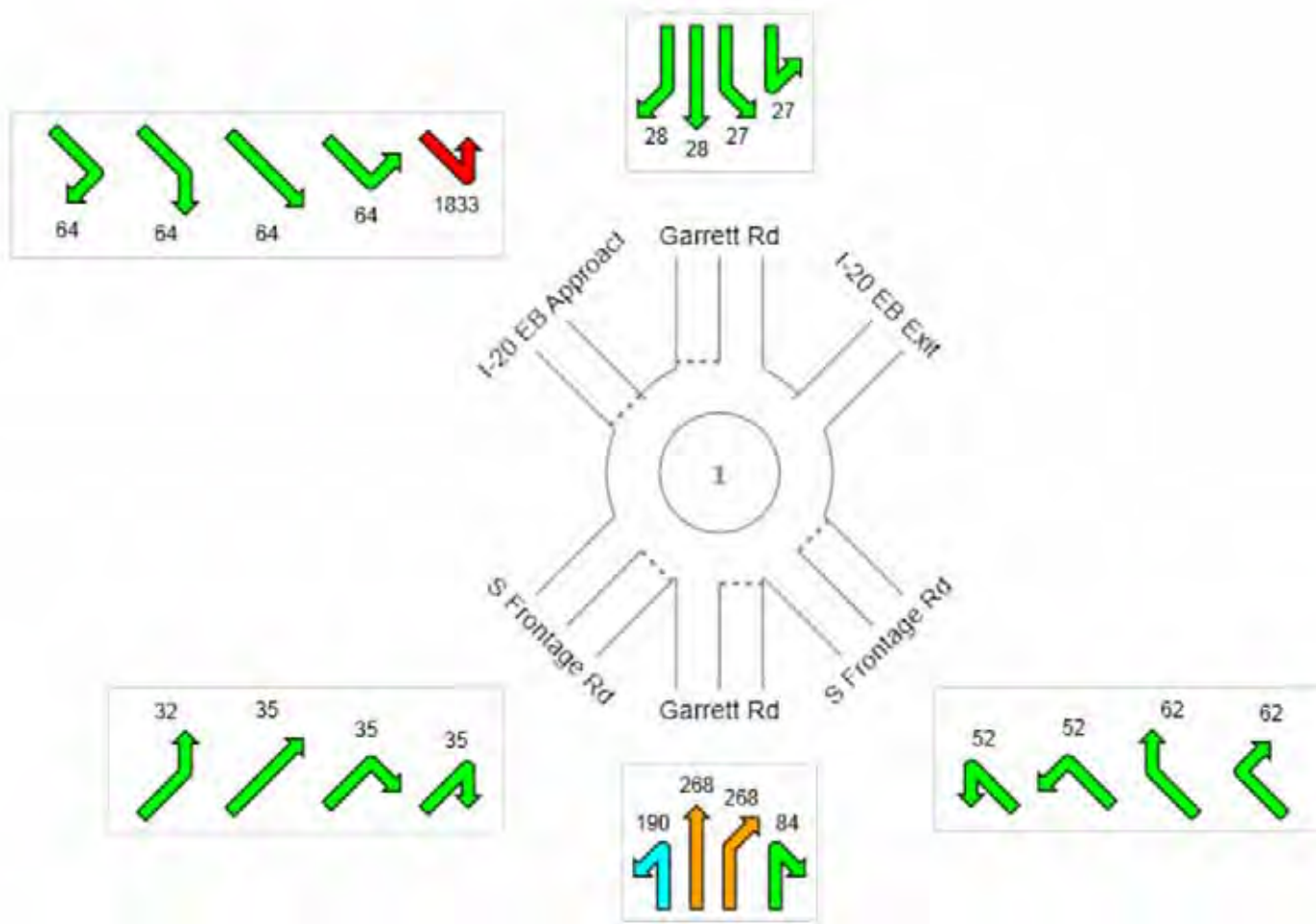
Largest 95% Back of Queue for any lane used by movement (feet)

Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd

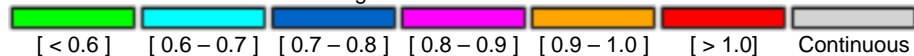
Built Alt 2 AM  
Roundabout

## All Movement Classes

	South	Southeast	North	Northwest	Southwest	Intersection
Vehicle Queue (%ile)	268	62	28	1833	35	1833



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt 2 PM  
Roundabout

Volume Display Method: Total and %

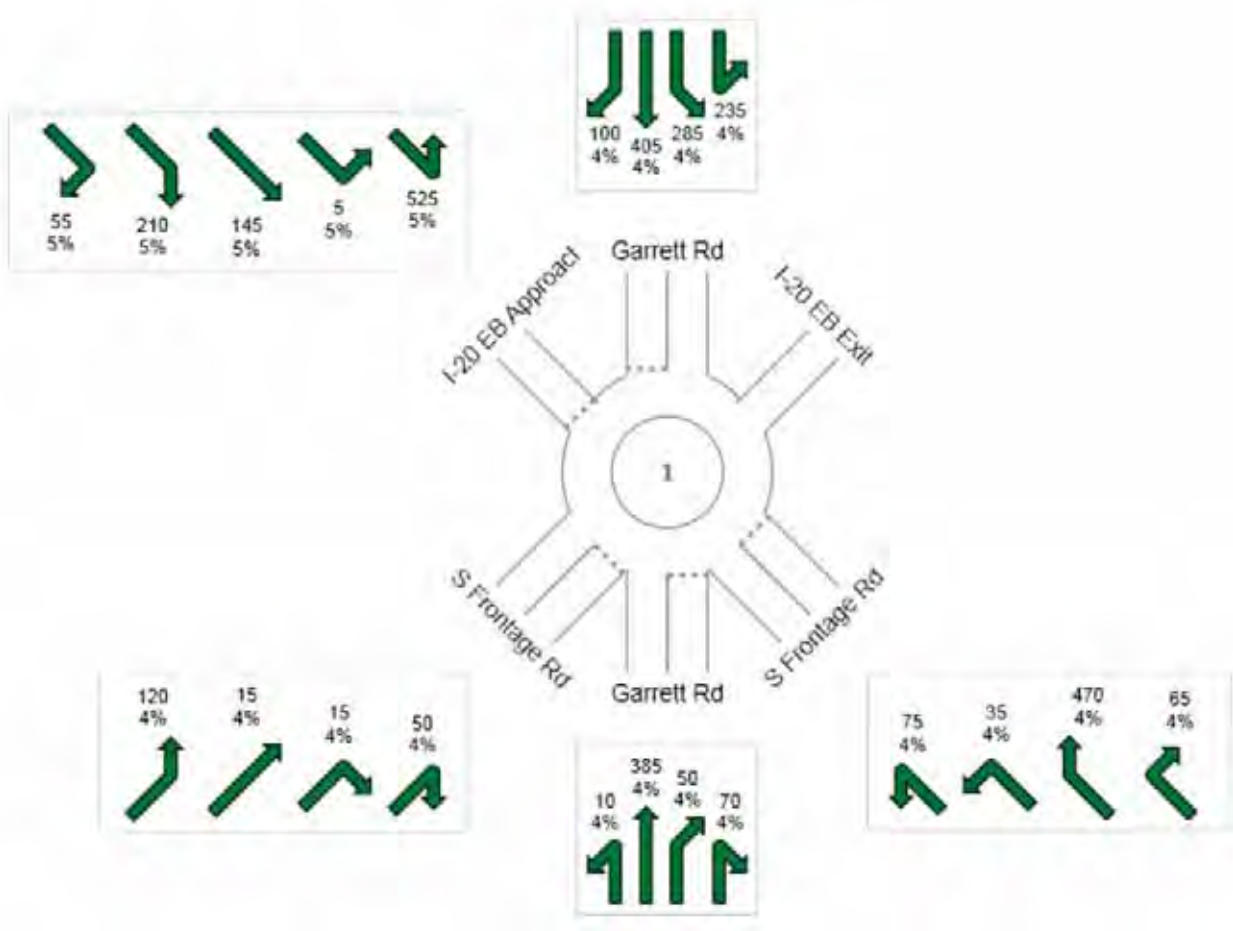
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3325

Light Vehicles (LV): 3183

Heavy Vehicles (HV): 142



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt 2 PM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	27.8 mph	27.8 mph
Travel Distance (Total)	2338.8 veh-mi/h	2806.5 pers-mi/h
Travel Time (Total)	84.1 veh-h/h	100.9 pers-h/h
Demand Flows (Total)	4048 veh/h	4858 pers/h
Percent Heavy Vehicles (Demand)	4.3 %	
Degree of Saturation	0.871	
Practical Spare Capacity	-2.4 %	
Effective Intersection Capacity	4649 veh/h	
Control Delay (Total)	17.85 veh-h/h	21.42 pers-h/h
Control Delay (Average)	15.9 sec	15.9 sec
Control Delay (Worst Lane)	41.1 sec	
Control Delay (Worst Movement)	41.1 sec	41.1 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	15.9 sec	
Idling Time (Average)	8.0 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	13.6 veh	
95% Back of Queue - Distance (Worst Lane)	351.7 ft	
Queue Storage Ratio (Worst Lane)	0.67	
Total Effective Stops	3887 veh/h	4665 pers/h
Effective Stop Rate	0.96 per veh	0.96 per pers
Proportion Queued	0.81	0.81
Performance Index	205.7	205.7
Cost (Total)	1611.80 \$/h	1611.80 \$/h
Fuel Consumption (Total)	125.2 gal/h	
Carbon Dioxide (Total)	1124.1 kg/h	
Hydrocarbons (Total)	0.381 kg/h	
Carbon Monoxide (Total)	4.730 kg/h	
NOx (Total)	2.677 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,943,274 veh/y	2,331,928 pers/y
Delay	8,568 veh-h/y	10,281 pers-h/y
Effective Stops	1,865,919 veh/y	2,239,102 pers/y
Travel Distance	1,122,607 veh-mi/y	1,347,128 pers-mi/y
Travel Time	40,361 veh-h/y	48,433 pers-h/y
Cost	773,666 \$/y	773,666 \$/y
Fuel Consumption	60,107 gal/y	
Carbon Dioxide	539,547 kg/y	
Hydrocarbons	183 kg/y	
Carbon Monoxide	2,270 kg/y	
NOx	1,285 kg/y	



# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt 2 PM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3b	L3	17	4.0	0.515	21.6	LOS C	4.3	110.0	1.00	1.12	26.2
8	T1	428	4.0	0.515	19.5	LOS B	5.7	146.4	1.00	1.10	28.0
18a	R1	56	4.0	0.515	18.1	LOS B	5.7	146.4	1.00	1.09	25.7
18b	R3	76	4.0	0.130	10.8	LOS B	1.1	28.9	1.00	0.84	26.5
Approach		577	4.0	0.515	18.3	LOS B	5.7	146.4	1.00	1.07	27.5
SouthEast: S Frontage Rd											
3bx	L3	84	4.0	0.871	41.1	LOS D	10.5	271.1	1.00	1.51	13.9
3x	L2	42	4.0	0.871	41.1	LOS D	10.5	271.1	1.00	1.51	22.5
18ax	R1	610	4.0	0.871	37.5	LOS D	13.6	351.7	1.00	1.57	24.0
18x	R2	84	4.0	0.871	35.7	LOS D	13.6	351.7	1.00	1.60	22.7
Approach		821	4.0	0.871	37.9	LOS D	13.6	351.7	1.00	1.57	22.6
North: Garrett Rd											
7b	L3	301	4.0	0.475	0.7	LOS A	3.7	96.2	0.44	0.26	36.9
7a	L1	343	4.0	0.475	0.7	LOS A	3.7	96.2	0.44	0.26	35.2
4	T1	488	4.0	0.475	0.8	LOS A	3.7	96.2	0.46	0.24	29.4
14a	R1	120	4.0	0.475	0.8	LOS A	3.6	92.9	0.46	0.24	37.4
Approach		1253	4.0	0.475	0.8	LOS A	3.7	96.2	0.45	0.25	34.0
NorthWest: I-20 EB Approach											
7bx	L3	618	5.0	0.823	12.3	LOS B	8.9	230.4	0.94	1.24	30.5
7x	L2	20	5.0	0.823	12.3	LOS B	8.9	230.4	0.94	1.24	29.1
4x	T1	167	5.0	0.823	15.6	LOS B	8.9	230.4	0.92	1.22	29.5
14ax	R1	241	5.0	0.823	15.8	LOS B	7.5	195.6	0.92	1.21	20.9
14x	R2	63	5.0	0.823	15.8	LOS B	7.5	195.6	0.92	1.21	28.3
Approach		1109	5.0	0.823	13.7	LOS B	8.9	230.4	0.93	1.23	28.4
SouthWest: S Frontage Rd											
5ax	L1	152	4.0	0.380	15.5	LOS B	2.7	69.1	0.99	1.05	29.2
2x	T1	19	4.0	0.543	26.7	LOS C	3.4	88.3	0.95	1.08	25.3
12x	R2	27	4.0	0.543	30.2	LOS C	3.4	88.3	0.93	1.09	23.6
12bx	R3	91	4.0	0.543	30.2	LOS C	3.4	88.3	0.93	1.09	15.9
Approach		289	4.0	0.543	22.2	LOS C	3.4	88.3	0.97	1.07	24.2
All Vehicles		4048	4.3	0.871	15.9	LOS B	13.6	351.7	0.81	0.96	27.8

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

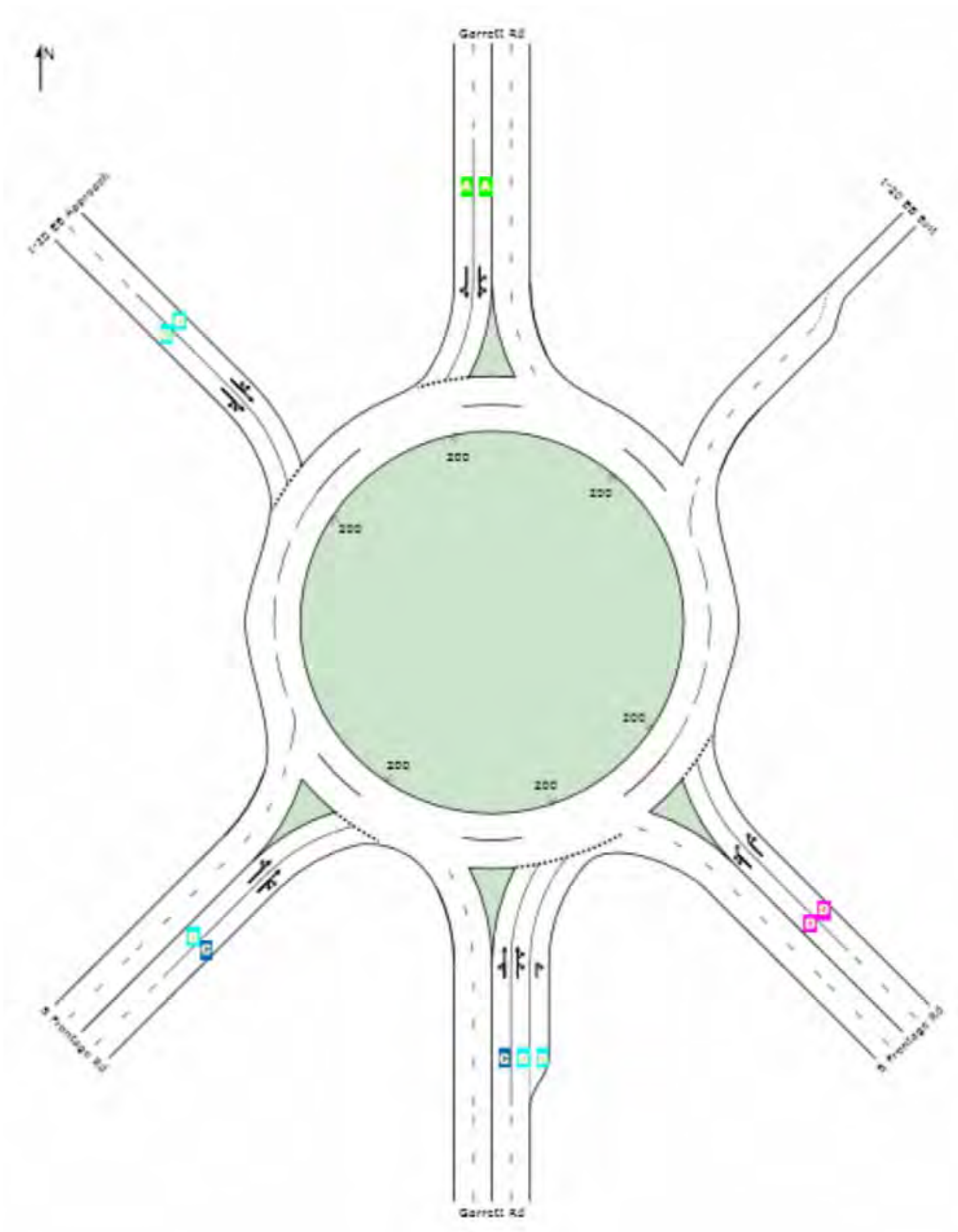
 **Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd**

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Built Alt 2 PM  
Roundabout

## All Movement Classes

	South	Southeast	North	Northwest	Southwest	Intersection
LOS	B	D	A	B	C	B



Level of Service (LOS) Method: Delay (HCM 2000).

# QUEUE DISTANCE (%ILE)

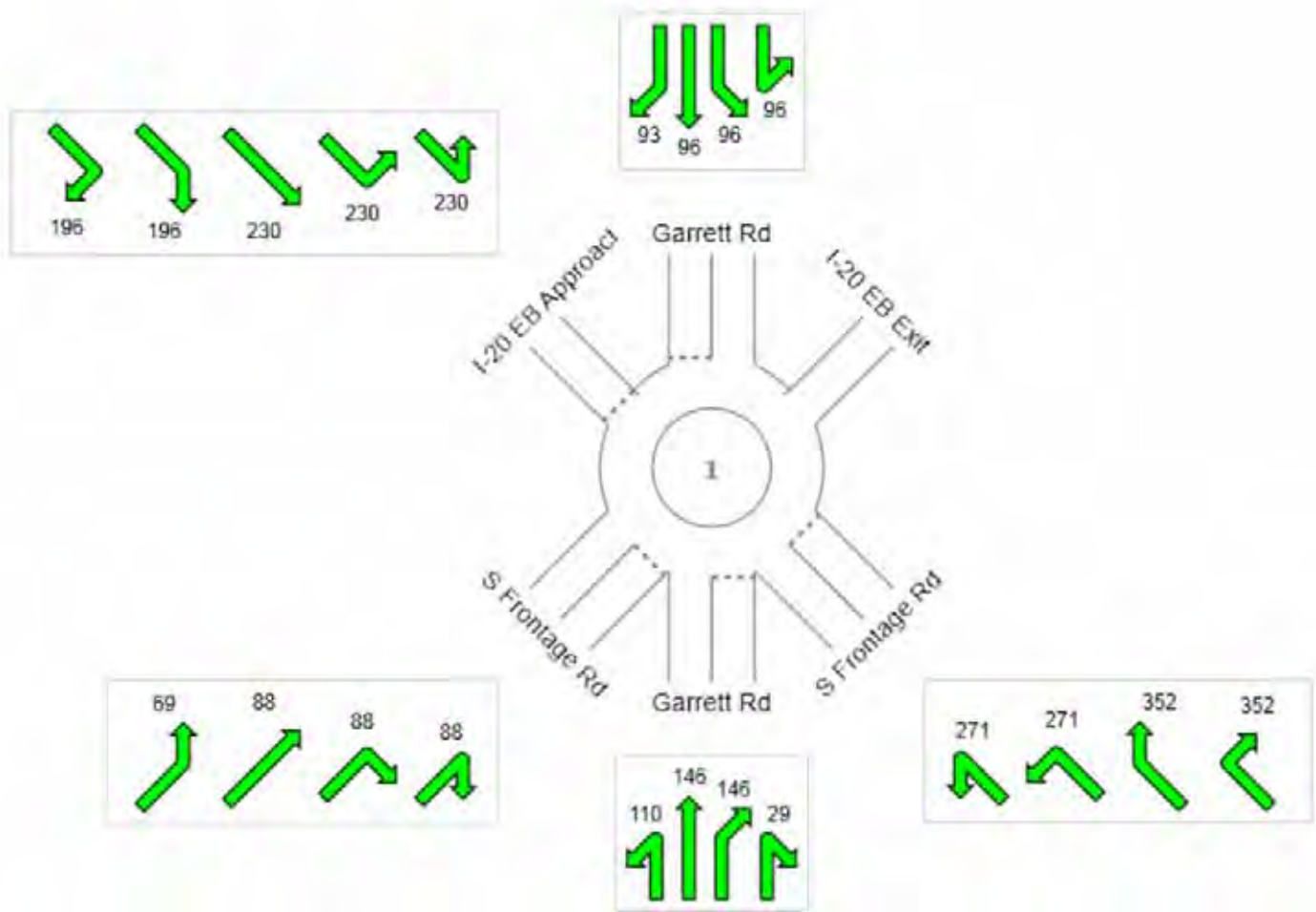
Largest 95% Back of Queue for any lane used by movement (feet)

Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd

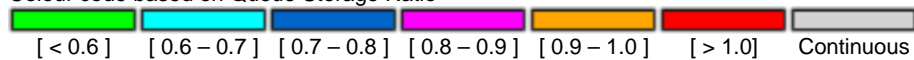
Built Alt 2 PM  
Roundabout

## All Movement Classes

	South	Southeast	North	Northwest	Southwest	Intersection
Vehicle Queue (%ile)	146	352	96	230	88	352



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Road at S Frontage Road

Build Alt 3 AM  
Signals - Actuated

Volume Display Method: Total and %

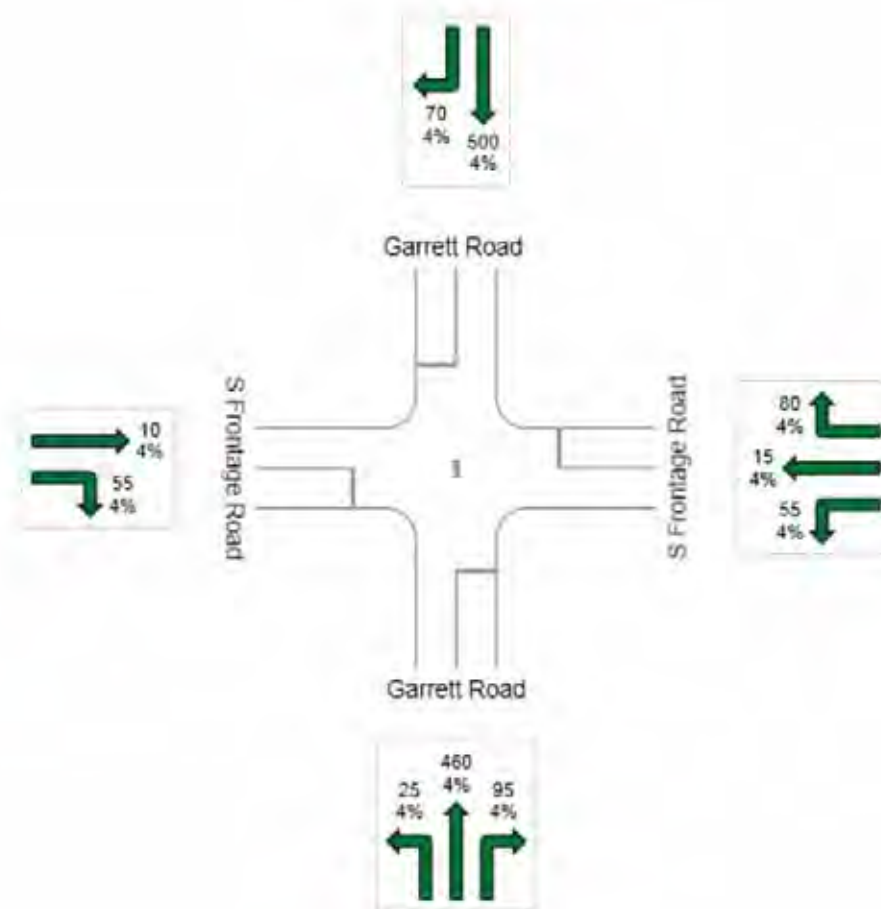
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1365

Light Vehicles (LV): 1310

Heavy Vehicles (HV): 55



# INTERSECTION SUMMARY

 **Site: AM: Garrett Road at S Frontage Road**

Build Alt 3 AM

Signals - Actuated Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	26.2 mph	26.2 mph
Travel Distance (Total)	345.0 veh-mi/h	414.0 pers-mi/h
Travel Time (Total)	13.2 veh-h/h	15.8 pers-h/h
Demand Flows (Total)	1653 veh/h	1983 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.636	
Practical Spare Capacity	41.5 %	
Effective Intersection Capacity	2598 veh/h	
Control Delay (Total)	3.30 veh-h/h	3.96 pers-h/h
Control Delay (Average)	7.2 sec	7.2 sec
Control Delay (Worst Lane)	29.4 sec	
Control Delay (Worst Movement)	29.4 sec	29.4 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	7.2 sec	
Idling Time (Average)	3.3 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	13.0 veh	
95% Back of Queue - Distance (Worst Lane)	335.5 ft	
Queue Storage Ratio (Worst Lane)	1.06	
Total Effective Stops	737 veh/h	884 pers/h
Effective Stop Rate	0.45 per veh	0.45 per pers
Proportion Queued	0.51	0.51
Performance Index	80.3	80.3
Cost (Total)	220.62 \$/h	220.62 \$/h
Fuel Consumption (Total)	9.4 gal/h	
Carbon Dioxide (Total)	84.2 kg/h	
Hydrocarbons (Total)	0.033 kg/h	
Carbon Monoxide (Total)	0.259 kg/h	
NOx (Total)	0.191 kg/h	

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	793,360 veh/y	952,032 pers/y
Delay	1,584 veh-h/y	1,901 pers-h/y
Effective Stops	353,578 veh/y	424,293 pers/y
Travel Distance	165,601 veh-mi/y	198,721 pers-mi/y
Travel Time	6,332 veh-h/y	7,598 pers-h/y
Cost	105,898 \$/y	105,898 \$/y
Fuel Consumption	4,523 gal/y	
Carbon Dioxide	40,431 kg/y	
Hydrocarbons	16 kg/y	
Carbon Monoxide	124 kg/y	
NOx	92 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Road at S Frontage Road**

Build Alt 3 AM

Signals - Actuated Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Road											
3	L2	37	4.0	0.636	8.4	LOS A	13.0	335.5	0.58	0.54	26.7
8	T1	541	4.0	0.636	8.4	LOS A	13.0	335.5	0.58	0.54	26.7
18	R2	148	4.0	0.636	8.4	LOS A	13.0	335.5	0.58	0.54	26.7
Approach		727	4.0	0.636	8.4	LOS A	13.0	335.5	0.58	0.54	26.7
East: S Frontage Road											
1	L2	55	4.0	0.280	29.4	LOS C	2.1	53.7	0.90	0.69	13.0
6	T1	15	4.0	0.280	29.4	LOS C	2.1	53.7	0.90	0.69	13.0
16	R2	110	4.0	0.076	0.7	LOS A	0.2	5.4	0.18	0.14	26.4
Approach		180	4.0	0.280	11.9	LOS B	2.1	53.7	0.46	0.36	18.8
North: Garrett Road											
4	T1	549	4.0	0.365	4.7	LOS A	6.2	160.2	0.42	0.37	29.6
14	R2	79	4.0	0.144	1.9	LOS A	1.2	30.7	0.32	0.25	28.6
Approach		628	4.0	0.365	4.4	LOS A	6.2	160.2	0.41	0.35	29.4
West: S Frontage Road											
2	T1	20	4.0	0.254	7.7	LOS A	1.7	42.8	0.61	0.49	24.3
12	R2	98	4.0	0.254	7.7	LOS A	1.7	42.8	0.61	0.49	24.3
Approach		118	4.0	0.254	7.7	LOS A	1.7	42.8	0.61	0.49	24.3
All Vehicles		1653	4.0	0.636	7.2	LOS A	13.0	335.5	0.51	0.45	26.2

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

## Site: AM: Garrett Road at S Frontage Road

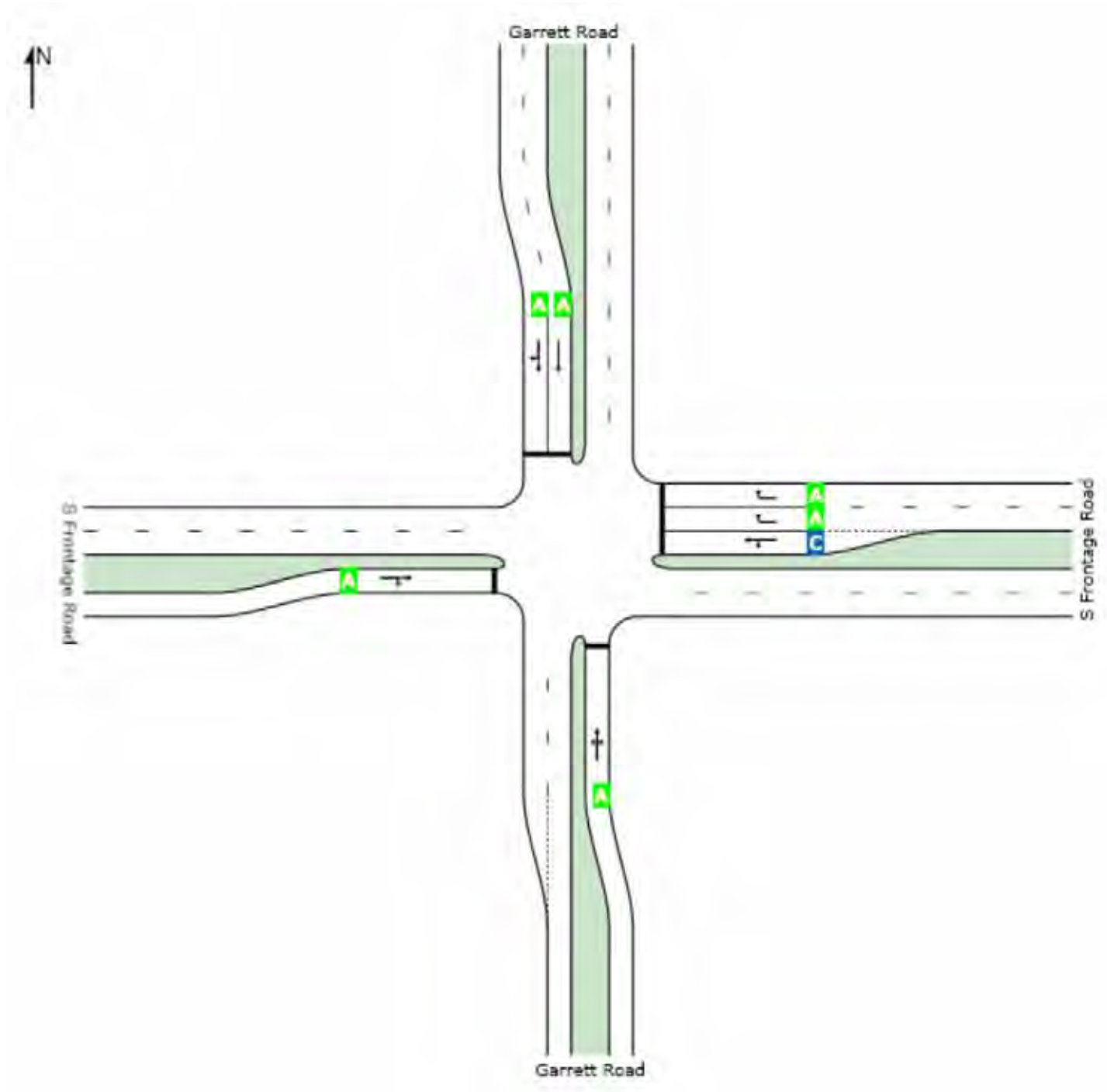
Build Alt 3 AM

Signals - Actuated Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

### All Movement Classes

	South	East	North	West	Intersection
LOS	A	B	A	A	A



Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).



# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

**Site: AM: Garrett Road at S Frontage Road**

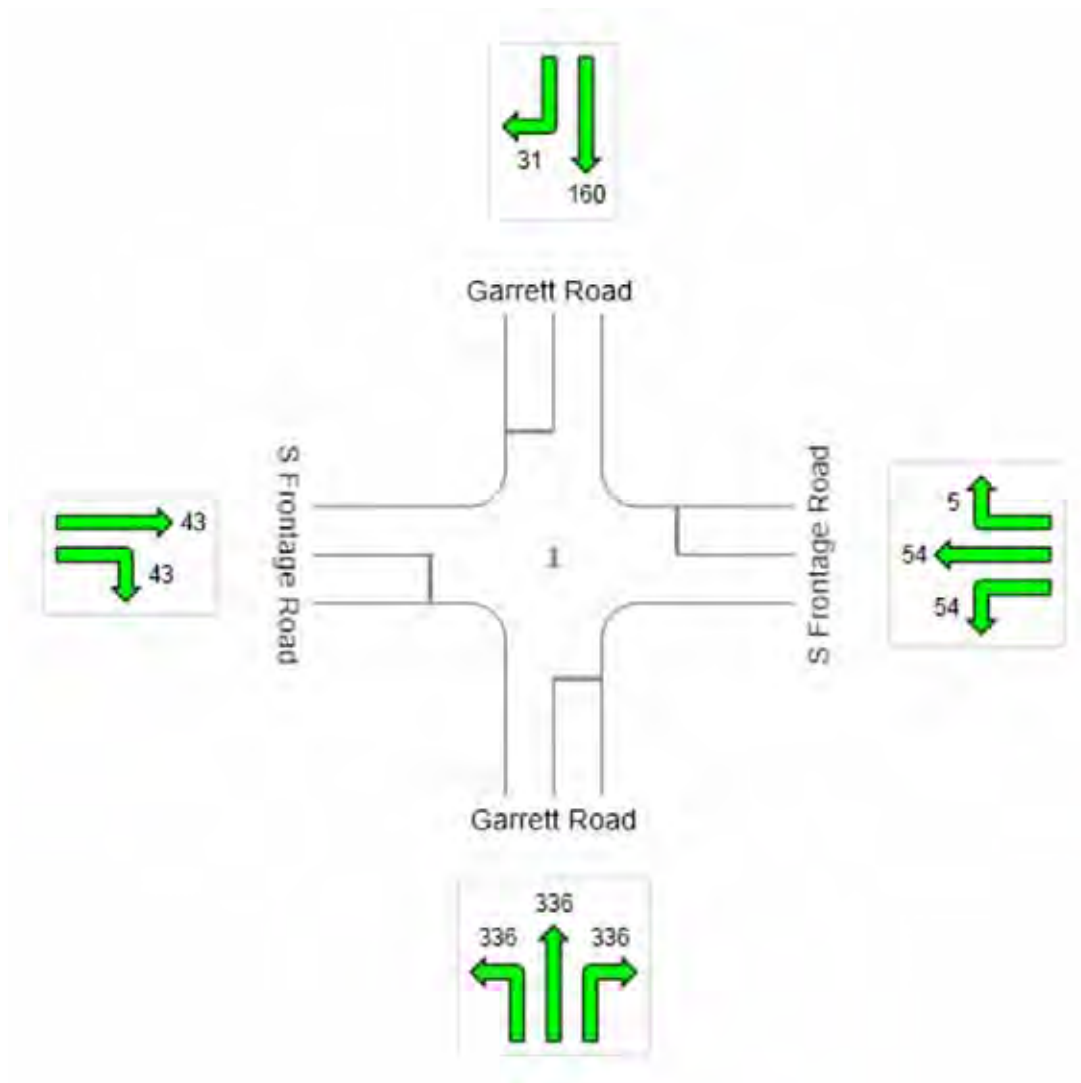
Build Alt 3 AM

Signals - Actuated Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

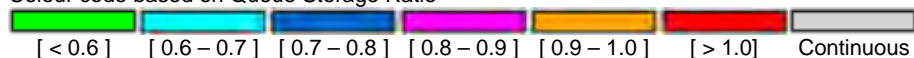
Variable Sequence Analysis applied. The results are given for the selected output sequence.

## All Movement Classes

	South	East	North	West	Intersection
Vehicle Queue (%ile)	336	54	160	43	336



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 3 AM  
Roundabout

Volume Display Method: Total and %

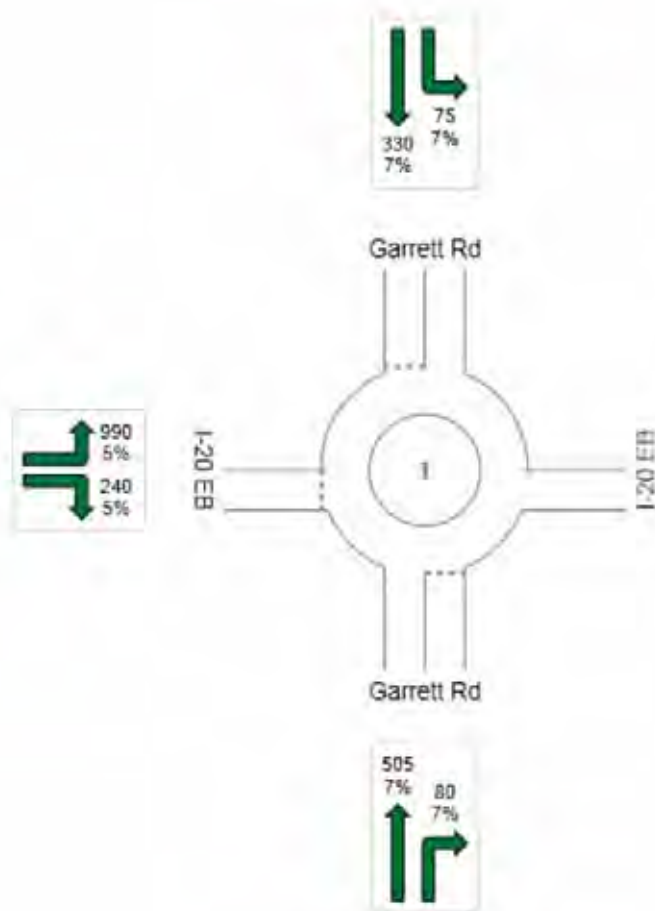
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2220

Light Vehicles (LV): 2089

Heavy Vehicles (HV): 131



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 3 AM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	29.9 mph	29.9 mph
Travel Distance (Total)	1599.4 veh-mi/h	1919.3 pers-mi/h
Travel Time (Total)	53.5 veh-h/h	64.2 pers-h/h
Demand Flows (Total)	2788 veh/h	3346 pers/h
Percent Heavy Vehicles (Demand)	5.8 %	
Degree of Saturation	0.836	
Practical Spare Capacity	1.7 %	
Effective Intersection Capacity	3337 veh/h	
Control Delay (Total)	4.65 veh-h/h	5.58 pers-h/h
Control Delay (Average)	6.0 sec	6.0 sec
Control Delay (Worst Lane)	8.6 sec	
Control Delay (Worst Movement)	8.3 sec	8.3 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	6.0 sec	
Idling Time (Average)	0.8 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	9.9 veh	
95% Back of Queue - Distance (Worst Lane)	256.8 ft	
Queue Storage Ratio (Worst Lane)	0.39	
Total Effective Stops	2293 veh/h	2752 pers/h
Effective Stop Rate	0.82 per veh	0.82 per pers
Proportion Queued	0.69	0.69
Performance Index	79.1	79.1
Cost (Total)	1049.42 \$/h	1049.42 \$/h
Fuel Consumption (Total)	87.8 gal/h	
Carbon Dioxide (Total)	789.6 kg/h	
Hydrocarbons (Total)	0.241 kg/h	
Carbon Monoxide (Total)	3.196 kg/h	
NOx (Total)	2.209 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,338,370 veh/y	1,606,044 pers/y
Delay	2,232 veh-h/y	2,678 pers-h/y
Effective Stops	1,100,779 veh/y	1,320,935 pers/y
Travel Distance	767,707 veh-mi/y	921,248 pers-mi/y
Travel Time	25,669 veh-h/y	30,803 pers-h/y
Cost	503,723 \$/y	503,723 \$/y
Fuel Consumption	42,121 gal/y	
Carbon Dioxide	379,025 kg/y	
Hydrocarbons	116 kg/y	
Carbon Monoxide	1,534 kg/y	
NOx	1,060 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 3 AM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	567	7.0	0.489	5.6	LOS A	3.3	86.4	0.87	0.92	33.6
18	R2	101	7.0	0.204	4.3	LOS A	1.0	26.6	0.79	0.79	29.6
Approach		669	7.0	0.489	5.4	LOS A	3.3	86.4	0.86	0.90	33.0
North: Garrett Rd											
7	L2	96	7.0	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	36.8
4	T1	418	7.0	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	27.5
Approach		514	7.0	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	29.5
West: I-20 EB											
5	L2	1286	5.0	0.836	8.3	LOS A	9.9	256.8	0.85	1.06	31.1
12	R2	320	5.0	0.836	7.7	LOS A	9.9	256.8	0.84	1.04	22.0
Approach		1606	5.0	0.836	8.2	LOS A	9.9	256.8	0.85	1.05	29.4
All Vehicles		2788	5.8	0.836	6.0	LOS A	9.9	256.8	0.69	0.82	29.9

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

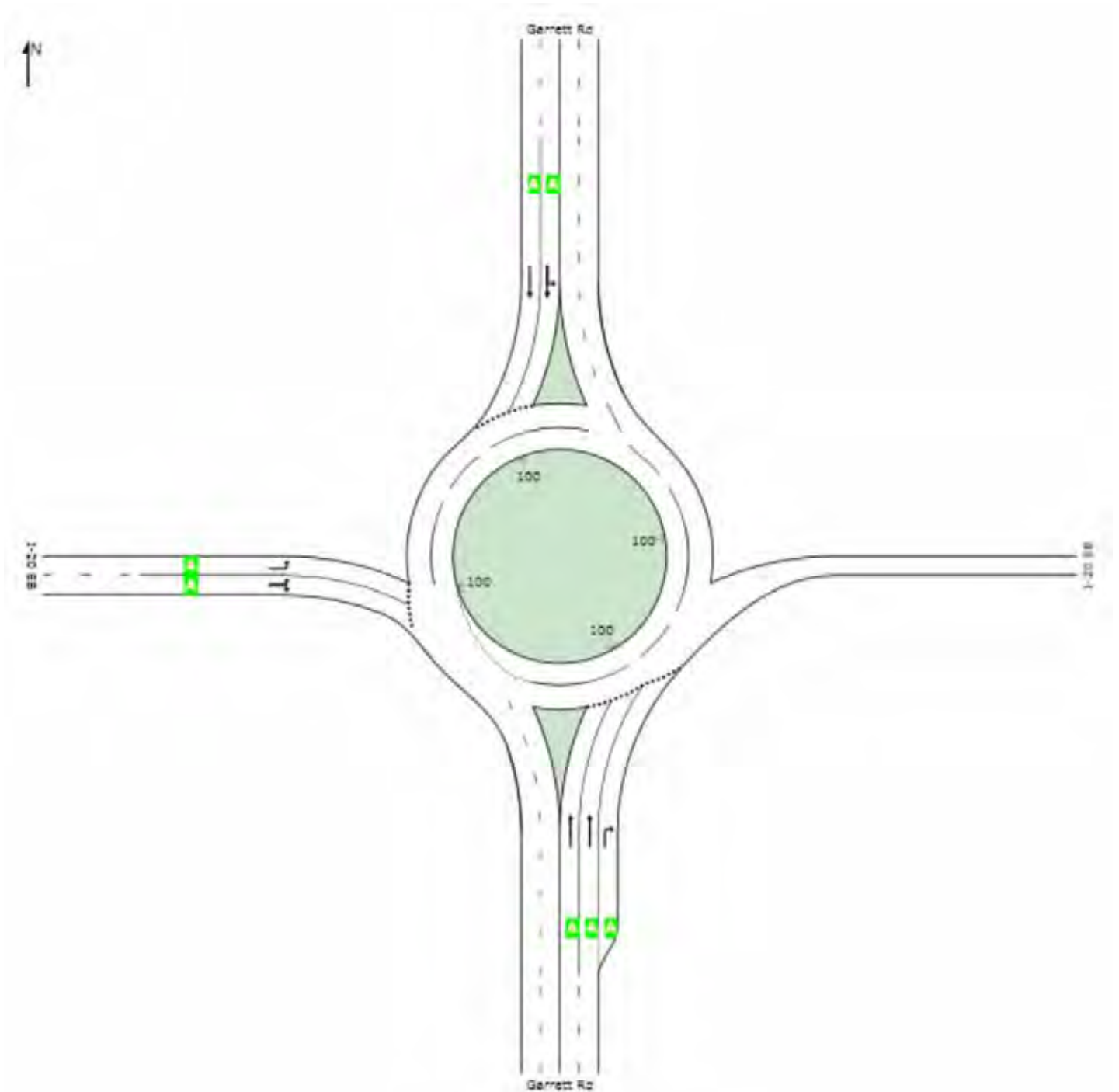
# LEVEL OF SERVICE

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 3 AM  
Roundabout

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).  
Roundabout LOS Method: Same as Signalised Intersections.  
Lane LOS values are based on average delay per lane.

# QUEUE DISTANCE (%ILE)

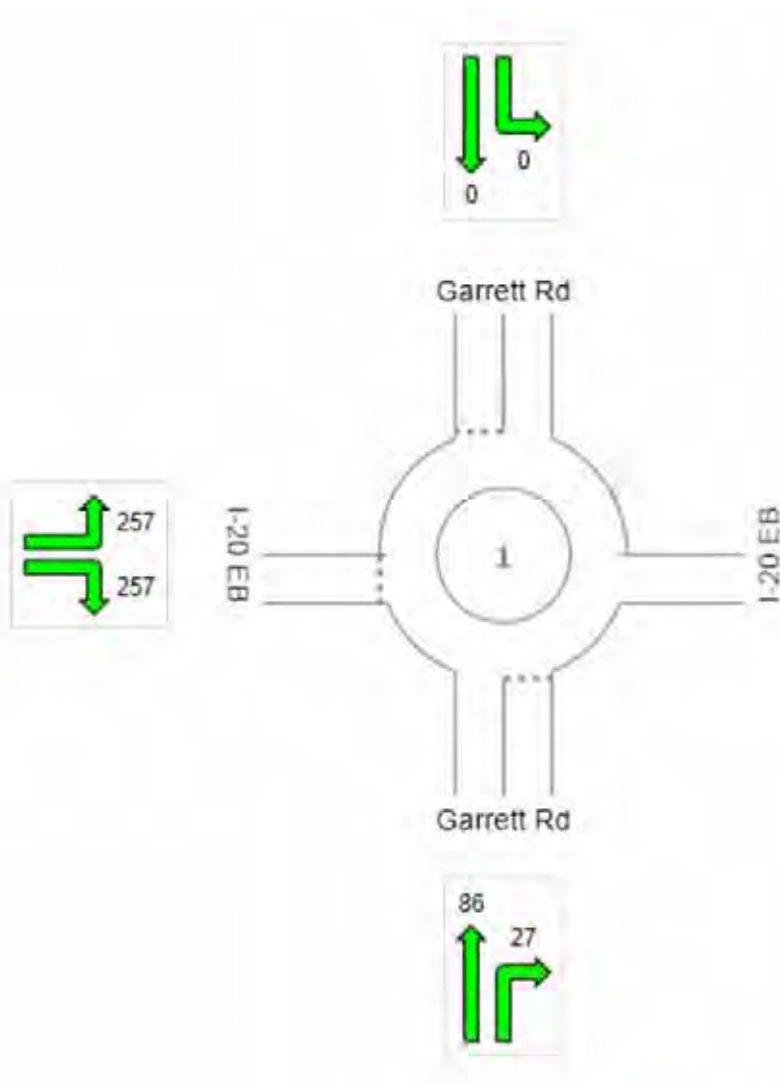
Largest 95% Back of Queue for any lane used by movement (feet)

Site: AM: Garrett Rd @ I-20 EB

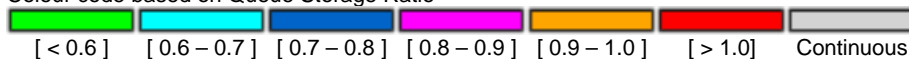
Built Alt 3 AM  
Roundabout

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	86	0	257	257



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 PM  
Roundabout

Volume Display Method: Total and %

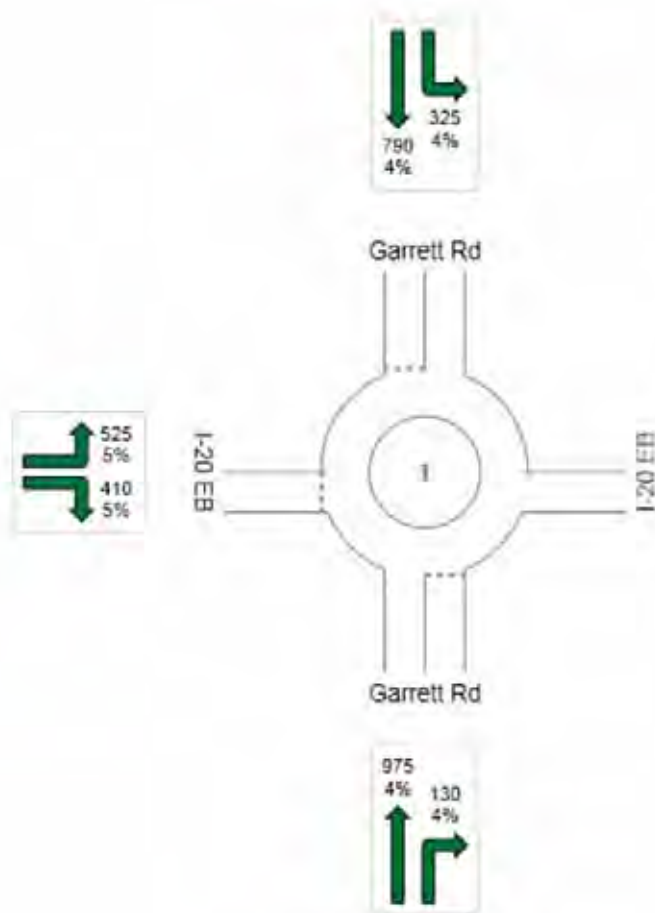
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3155

Light Vehicles (LV): 3019

Heavy Vehicles (HV): 136



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 PM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	29.2 mph	29.2 mph
Travel Distance (Total)	1784.4 veh-mi/h	2141.3 pers-mi/h
Travel Time (Total)	61.2 veh-h/h	73.4 pers-h/h
Demand Flows (Total)	3643 veh/h	4371 pers/h
Percent Heavy Vehicles (Demand)	4.3 %	
Degree of Saturation	0.803	
Practical Spare Capacity	5.9 %	
Effective Intersection Capacity	4539 veh/h	
Control Delay (Total)	5.90 veh-h/h	7.08 pers-h/h
Control Delay (Average)	5.8 sec	5.8 sec
Control Delay (Worst Lane)	14.0 sec	
Control Delay (Worst Movement)	14.0 sec	14.0 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	5.8 sec	
Idling Time (Average)	1.4 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	7.5 veh	
95% Back of Queue - Distance (Worst Lane)	194.2 ft	
Queue Storage Ratio (Worst Lane)	0.68	
Total Effective Stops	2374 veh/h	2849 pers/h
Effective Stop Rate	0.65 per veh	0.65 per pers
Proportion Queued	0.54	0.54
Performance Index	79.4	79.4
Cost (Total)	1082.83 \$/h	1082.83 \$/h
Fuel Consumption (Total)	90.5 gal/h	
Carbon Dioxide (Total)	812.4 kg/h	
Hydrocarbons (Total)	0.261 kg/h	
Carbon Monoxide (Total)	3.510 kg/h	
NOx (Total)	1.988 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,748,455 veh/y	2,098,146 pers/y
Delay	2,832 veh-h/y	3,398 pers-h/y
Effective Stops	1,139,640 veh/y	1,367,568 pers/y
Travel Distance	856,525 veh-mi/y	1,027,829 pers-mi/y
Travel Time	29,357 veh-h/y	35,229 pers-h/y
Cost	519,756 \$/y	519,756 \$/y
Fuel Consumption	43,433 gal/y	
Carbon Dioxide	389,951 kg/y	
Hydrocarbons	125 kg/y	
Carbon Monoxide	1,685 kg/y	
NOx	954 kg/y	



# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 PM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	1048	4.0	0.681	6.3	LOS A	5.8	149.8	0.88	0.98	33.7
18	R2	137	4.0	0.224	3.6	LOS A	1.1	27.5	0.72	0.72	30.2
Approach		1185	4.0	0.681	6.0	LOS A	5.8	149.8	0.86	0.95	33.2
North: Garrett Rd											
7	L2	417	4.0	0.435	0.0	LOS A	0.0	0.0	0.00	0.00	36.0
4	T1	952	4.0	0.435	0.0	LOS A	0.0	0.0	0.00	0.00	27.5
Approach		1368	4.0	0.435	0.0	LOS A	0.0	0.0	0.00	0.00	30.5
West: I-20 EB											
5	L2	618	5.0	0.803	12.2	LOS B	7.5	194.2	0.86	1.16	29.5
12	R2	471	5.0	0.780	14.0	LOS B	6.3	162.5	0.86	1.13	20.8
Approach		1089	5.0	0.803	13.0	LOS B	7.5	194.2	0.86	1.15	26.0
All Vehicles		3643	4.3	0.803	5.8	LOS A	7.5	194.2	0.54	0.65	29.2

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

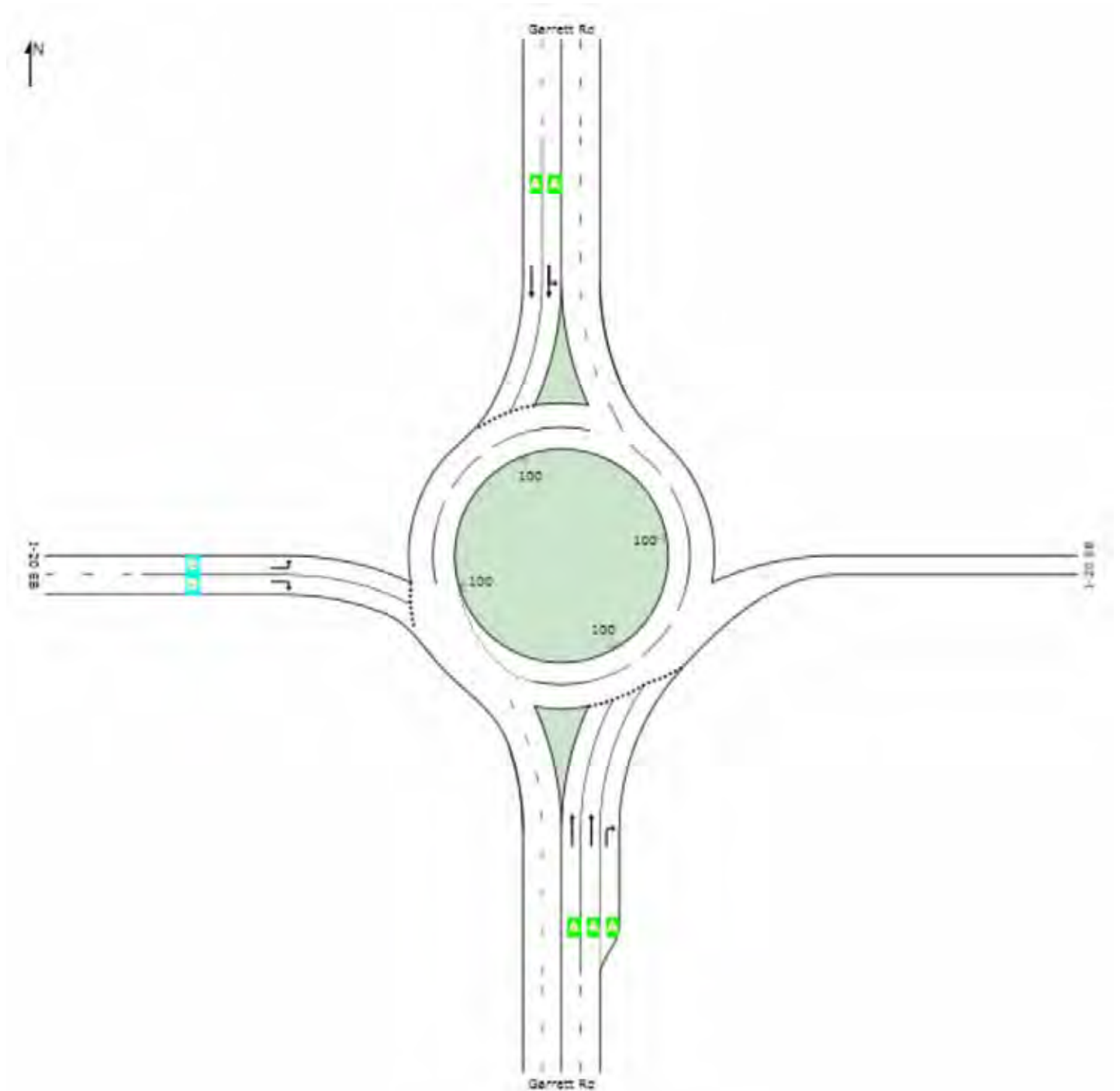
# LEVEL OF SERVICE

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 PM  
Roundabout

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	B	A



Level of Service (LOS) Method: Delay (HCM 2000).  
Roundabout LOS Method: Same as Signalised Intersections.  
Lane LOS values are based on average delay per lane.

# QUEUE DISTANCE (%ILE)

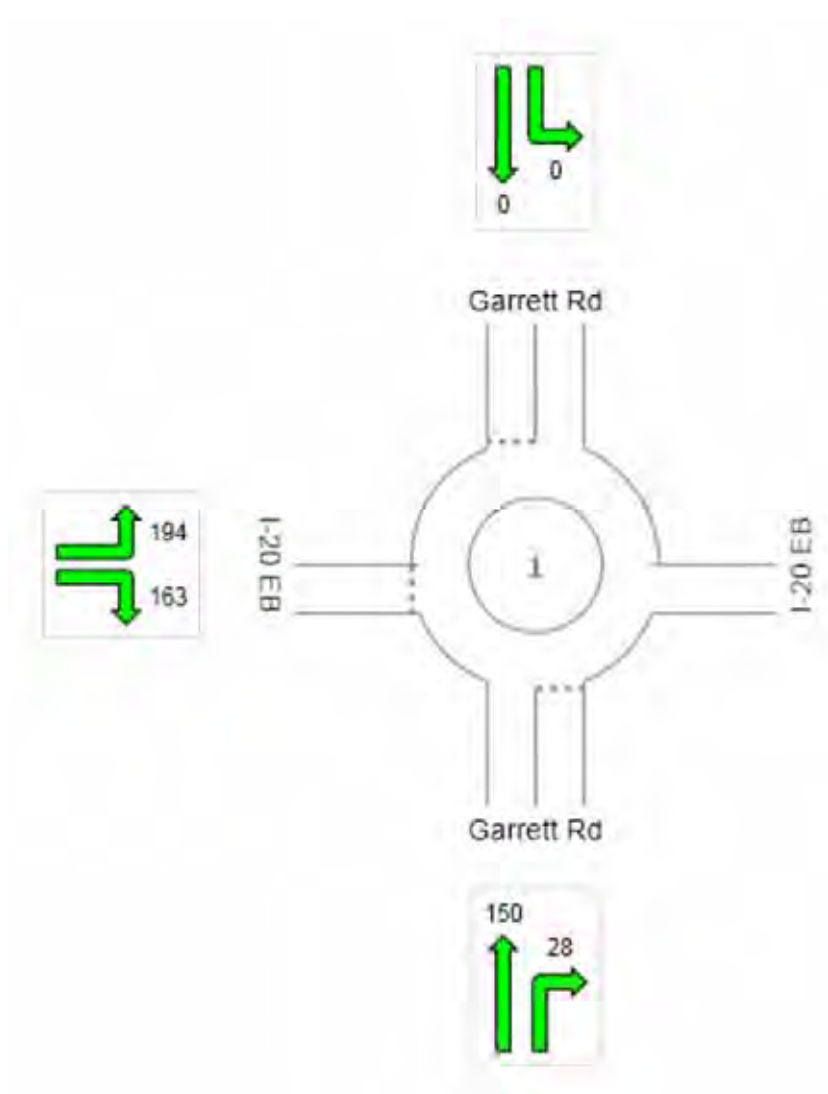
Largest 95% Back of Queue for any lane used by movement (feet)

Site: PM: Garrett Rd @ I-20 EB

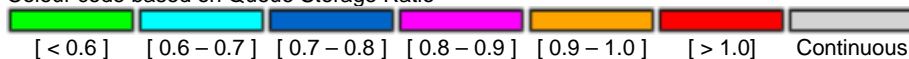
Built Alt 3 PM  
Roundabout

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	150	0	194	194



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 PM  
Roundabout

Volume Display Method: Total and %

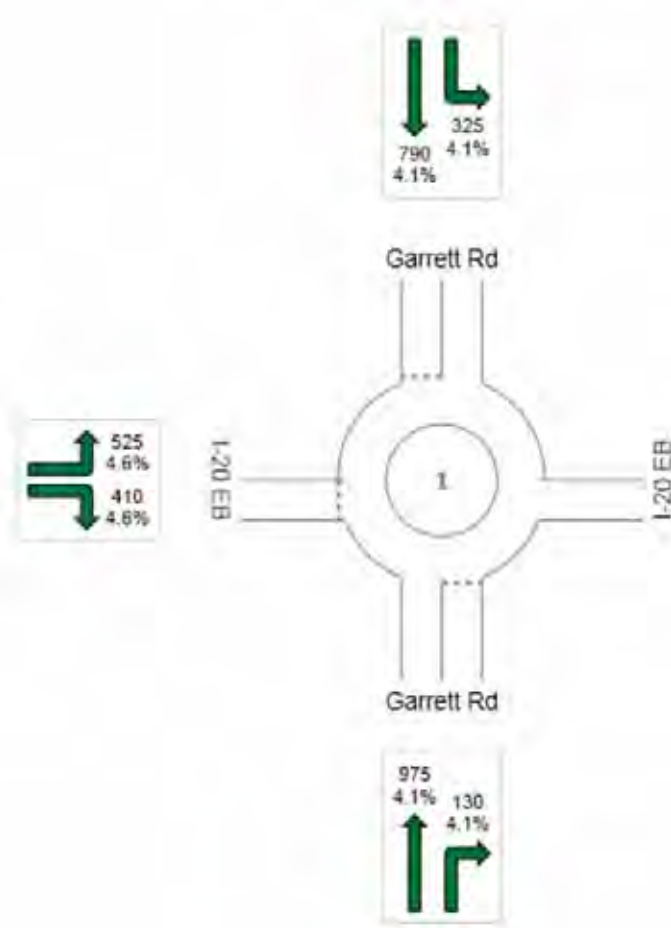
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3155

Light Vehicles (LV): 3021

Heavy Vehicles (HV): 134



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 PM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	29.2 mph	29.2 mph
Travel Distance (Total)	1784.4 veh-mi/h	2141.3 pers-mi/h
Travel Time (Total)	61.1 veh-h/h	73.3 pers-h/h
Demand Flows (Total)	3643 veh/h	4371 pers/h
Percent Heavy Vehicles (Demand)	4.2 %	
Degree of Saturation	0.798	
Practical Spare Capacity	6.5 %	
Effective Intersection Capacity	4564 veh/h	
Control Delay (Total)	5.82 veh-h/h	6.99 pers-h/h
Control Delay (Average)	5.8 sec	5.8 sec
Control Delay (Worst Lane)	13.8 sec	
Control Delay (Worst Movement)	13.8 sec	13.8 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	5.8 sec	
Idling Time (Average)	1.3 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	7.4 veh	
95% Back of Queue - Distance (Worst Lane)	190.8 ft	
Queue Storage Ratio (Worst Lane)	0.68	
Total Effective Stops	2362 veh/h	2835 pers/h
Effective Stop Rate	0.65 per veh	0.65 per pers
Proportion Queued	0.54	0.54
Performance Index	79.1	79.1
Cost (Total)	1079.28 \$/h	1079.28 \$/h
Fuel Consumption (Total)	90.1 gal/h	
Carbon Dioxide (Total)	809.0 kg/h	
Hydrocarbons (Total)	0.261 kg/h	
Carbon Monoxide (Total)	3.509 kg/h	
NOx (Total)	1.959 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,748,455 veh/y	2,098,146 pers/y
Delay	2,795 veh-h/y	3,354 pers-h/y
Effective Stops	1,133,836 veh/y	1,360,603 pers/y
Travel Distance	856,525 veh-mi/y	1,027,829 pers-mi/y
Travel Time	29,315 veh-h/y	35,178 pers-h/y
Cost	518,053 \$/y	518,053 \$/y
Fuel Consumption	43,260 gal/y	
Carbon Dioxide	388,339 kg/y	
Hydrocarbons	125 kg/y	
Carbon Monoxide	1,684 kg/y	
NOx	940 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 PM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	1048	4.1	0.680	6.2	LOS A	5.8	149.2	0.88	0.98	33.7
18	R2	137	4.1	0.224	3.6	LOS A	1.1	27.5	0.72	0.72	30.2
Approach		1185	4.1	0.680	5.9	LOS A	5.8	149.2	0.86	0.95	33.2
North: Garrett Rd											
7	L2	417	4.1	0.435	0.0	LOS A	0.0	0.0	0.00	0.00	36.0
4	T1	952	4.1	0.435	0.0	LOS A	0.0	0.0	0.00	0.00	27.5
Approach		1368	4.1	0.435	0.0	LOS A	0.0	0.0	0.00	0.00	30.5
West: I-20 EB											
5	L2	618	4.6	0.798	12.0	LOS B	7.4	190.8	0.85	1.15	29.6
12	R2	471	4.6	0.776	13.8	LOS B	6.2	159.9	0.86	1.12	20.9
Approach		1089	4.6	0.798	12.8	LOS B	7.4	190.8	0.86	1.14	26.1
All Vehicles		3643	4.2	0.798	5.8	LOS A	7.4	190.8	0.54	0.65	29.2

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Road at S Frontage Road

Build Alt 3 PM  
Signals - Actuated

Volume Display Method: Total and %

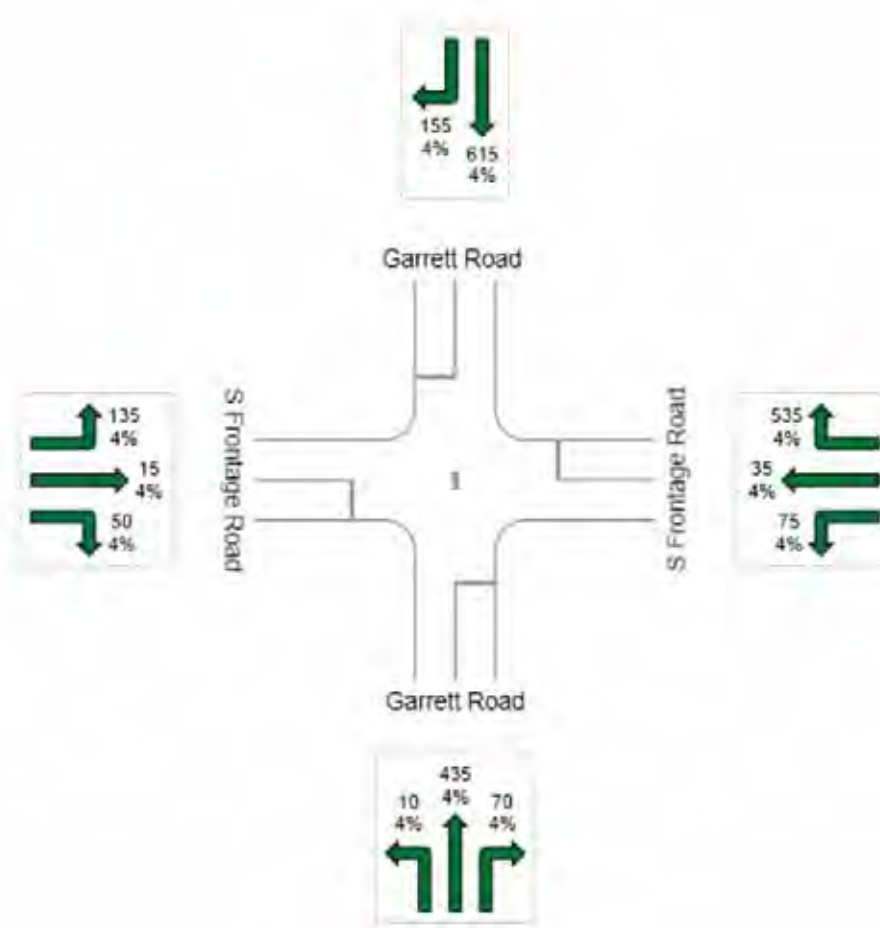
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2130

Light Vehicles (LV): 2045

Heavy Vehicles (HV): 85



# INTERSECTION SUMMARY

 **Site: PM: Garrett Road at S Frontage Road**

Build Alt 3 PM

Signals - Actuated Cycle Time = 35 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	21.7 mph	21.7 mph
Travel Distance (Total)	525.3 veh-mi/h	630.4 pers-mi/h
Travel Time (Total)	24.2 veh-h/h	29.0 pers-h/h
Demand Flows (Total)	2603 veh/h	3123 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.763	
Practical Spare Capacity	17.9 %	
Effective Intersection Capacity	3411 veh/h	
Control Delay (Total)	7.48 veh-h/h	8.98 pers-h/h
Control Delay (Average)	10.3 sec	10.3 sec
Control Delay (Worst Lane)	19.0 sec	
Control Delay (Worst Movement)	19.0 sec	19.0 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	10.3 sec	
Idling Time (Average)	5.3 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	11.3 veh	
95% Back of Queue - Distance (Worst Lane)	290.6 ft	
Queue Storage Ratio (Worst Lane)	1.92	
Total Effective Stops	1558 veh/h	1870 pers/h
Effective Stop Rate	0.60 per veh	0.60 per pers
Proportion Queued	0.70	0.70
Performance Index	81.2	81.2
Cost (Total)	393.40 \$/h	393.40 \$/h
Fuel Consumption (Total)	15.8 gal/h	
Carbon Dioxide (Total)	141.5 kg/h	
Hydrocarbons (Total)	0.060 kg/h	
Carbon Monoxide (Total)	0.441 kg/h	
NOx (Total)	0.312 kg/h	

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,249,220 veh/y	1,499,064 pers/y
Delay	3,591 veh-h/y	4,310 pers-h/y
Effective Stops	748,048 veh/y	897,657 pers/y
Travel Distance	252,149 veh-mi/y	302,579 pers-mi/y
Travel Time	11,602 veh-h/y	13,923 pers-h/y
Cost	188,832 \$/y	188,832 \$/y
Fuel Consumption	7,600 gal/y	
Carbon Dioxide	67,932 kg/y	
Hydrocarbons	29 kg/y	
Carbon Monoxide	212 kg/y	
NOx	150 kg/y	



# MOVEMENT SUMMARY

 **Site: PM: Garrett Road at S Frontage Road**

Build Alt 3 PM

Signals - Actuated Cycle Time = 35 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Road											
3	L2	17	4.0	0.042	6.3	LOS A	0.2	4.8	0.56	0.41	23.8
8	T1	483	4.0	0.673	12.7	LOS B	8.7	223.4	0.82	0.73	23.6
18	R2	76	4.0	0.673	12.7	LOS B	8.7	223.4	0.82	0.73	23.6
Approach		577	4.0	0.673	12.5	LOS B	8.7	223.4	0.81	0.72	23.6
East: S Frontage Road											
1	L2	115	4.0	0.451	16.5	LOS B	3.3	84.3	0.86	0.70	17.7
6	T1	76	4.0	0.451	16.5	LOS B	3.3	84.3	0.86	0.70	17.7
16	R2	629	4.0	0.358	2.3	LOS A	1.5	39.1	0.40	0.34	24.9
Approach		821	4.0	0.451	5.6	LOS A	3.3	84.3	0.51	0.42	22.7
North: Garrett Road											
4	T1	715	4.0	0.763	14.4	LOS B	11.3	290.6	0.84	0.73	19.3
14	R2	201	4.0	0.301	3.0	LOS A	1.8	46.7	0.51	0.42	24.3
Approach		916	4.0	0.763	11.9	LOS B	11.3	290.6	0.76	0.67	20.2
West: S Frontage Road											
5	L2	171	4.0	0.512	19.0	LOS B	3.1	79.5	0.88	0.72	18.1
2	T1	27	4.0	0.198	7.9	LOS A	1.4	37.0	0.71	0.54	24.3
12	R2	91	4.0	0.198	7.9	LOS A	1.4	37.0	0.71	0.54	24.3
Approach		289	4.0	0.512	14.5	LOS B	3.1	79.5	0.81	0.65	20.2
All Vehicles		2603	4.0	0.763	10.3	LOS B	11.3	290.6	0.70	0.60	21.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

## Site: PM: Garrett Road at S Frontage Road

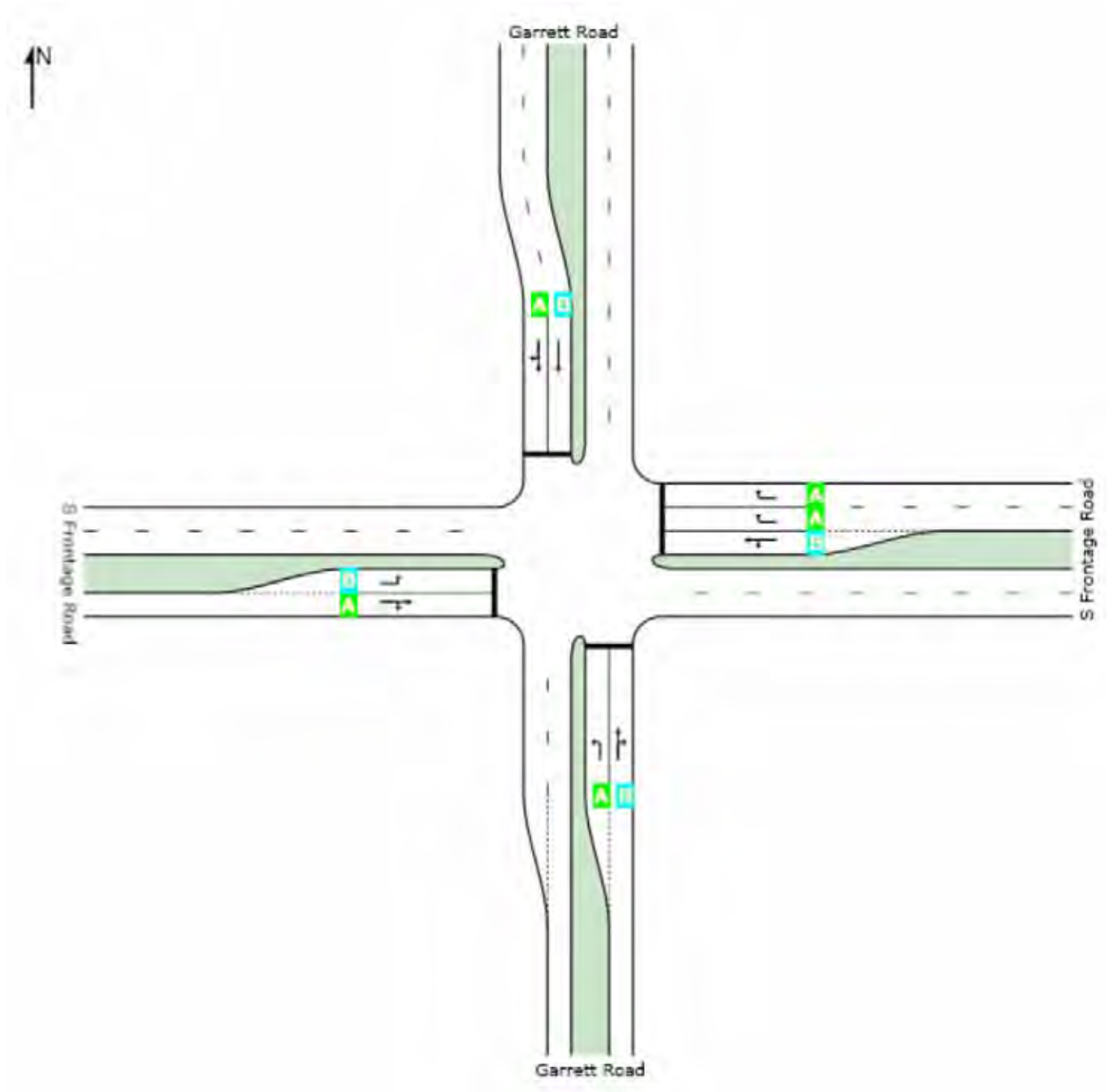
Build Alt 3 PM

Signals - Actuated Cycle Time = 35 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

### All Movement Classes

	South	East	North	West	Intersection
LOS	B	A	B	B	B



Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

**Site: PM: Garrett Road at S Frontage Road**

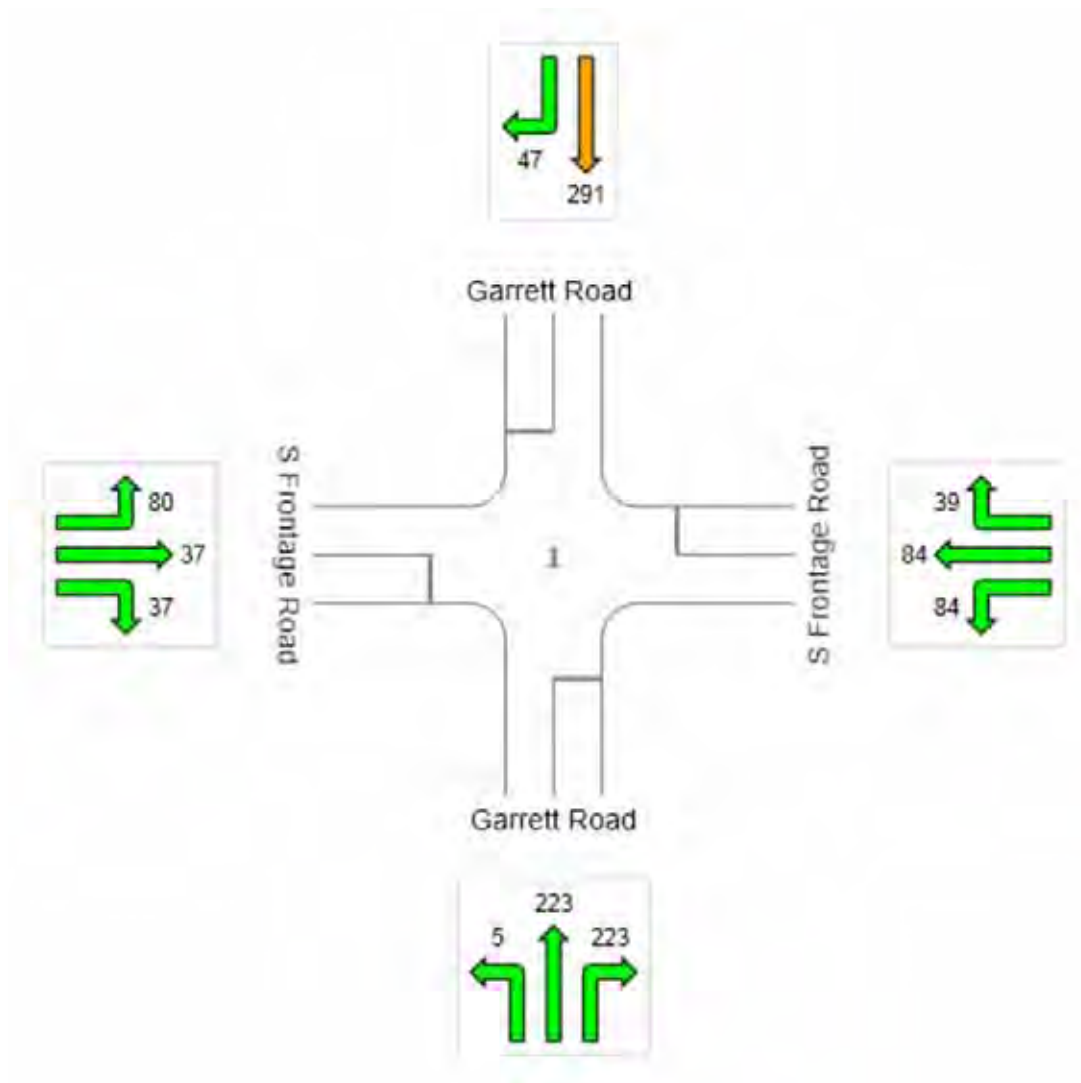
Build Alt 3 PM

Signals - Actuated Cycle Time = 35 seconds (Optimum Cycle Time - Minimum Delay)

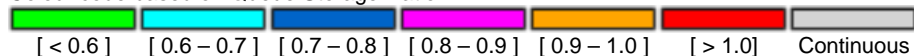
Variable Sequence Analysis applied. The results are given for the selected output sequence.

## All Movement Classes

	South	East	North	West	Intersection
Vehicle Queue (%ile)	223	84	291	80	291



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd South of S. Frontage Rd**

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Build Alt 3 AM  
Roundabout

**Volume Display Method: Total and %**

**Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles**

**Total Intersection Volumes (veh)**

**All Movement Classes: 1195**

**Light Vehicles (LV): 1111**

**Heavy Vehicles (HV): 84**



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd South of S. Frontage Rd

Build Alt 3 AM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	28.5 mph	28.5 mph
Travel Distance (Total)	316.6 veh-mi/h	380.0 pers-mi/h
Travel Time (Total)	11.1 veh-h/h	13.3 pers-h/h
Demand Flows (Total)	1478 veh/h	1773 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.354	
Practical Spare Capacity	140.4 %	
Effective Intersection Capacity	4180 veh/h	
Control Delay (Total)	0.45 veh-h/h	0.54 pers-h/h
Control Delay (Average)	1.1 sec	1.1 sec
Control Delay (Worst Lane)	2.5 sec	
Control Delay (Worst Movement)	2.4 sec	2.4 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	1.1 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.9 veh	
95% Back of Queue - Distance (Worst Lane)	48.9 ft	
Queue Storage Ratio (Worst Lane)	0.09	
Total Effective Stops	298 veh/h	357 pers/h
Effective Stop Rate	0.20 per veh	0.20 per pers
Proportion Queued	0.25	0.25
Performance Index	10.6	10.6
Cost (Total)	272.61 \$/h	272.61 \$/h
Fuel Consumption (Total)	22.6 gal/h	
Carbon Dioxide (Total)	203.1 kg/h	
Hydrocarbons (Total)	0.066 kg/h	
Carbon Monoxide (Total)	0.772 kg/h	
NOx (Total)	0.599 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	709,361 veh/y	851,233 pers/y
Delay	217 veh-h/y	261 pers-h/y
Effective Stops	142,813 veh/y	171,375 pers/y
Travel Distance	151,991 veh-mi/y	182,389 pers-mi/y
Travel Time	5,336 veh-h/y	6,403 pers-h/y
Cost	130,855 \$/y	130,855 \$/y
Fuel Consumption	10,827 gal/y	
Carbon Dioxide	97,504 kg/y	
Hydrocarbons	32 kg/y	
Carbon Monoxide	371 kg/y	
NOx	288 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd South of S. Frontage Rd**

Build Alt 3 AM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	682	7.0	0.354	2.4	LOS A	1.9	48.9	0.54	0.44	28.7
Approach		682	7.0	0.354	2.4	LOS A	1.9	48.9	0.54	0.44	28.7
North: Garrett Rd											
7u	U	389	7.0	0.271	0.0	LOS A	0.0	0.0	0.00	0.00	21.6
4	T1	407	7.0	0.249	0.0	LOS A	0.0	0.0	0.00	0.00	36.8
Approach		795	7.0	0.271	0.0	LOS A	0.0	0.0	0.00	0.00	28.3
All Vehicles		1478	7.0	0.354	1.1	LOS A	1.9	48.9	0.25	0.20	28.5

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

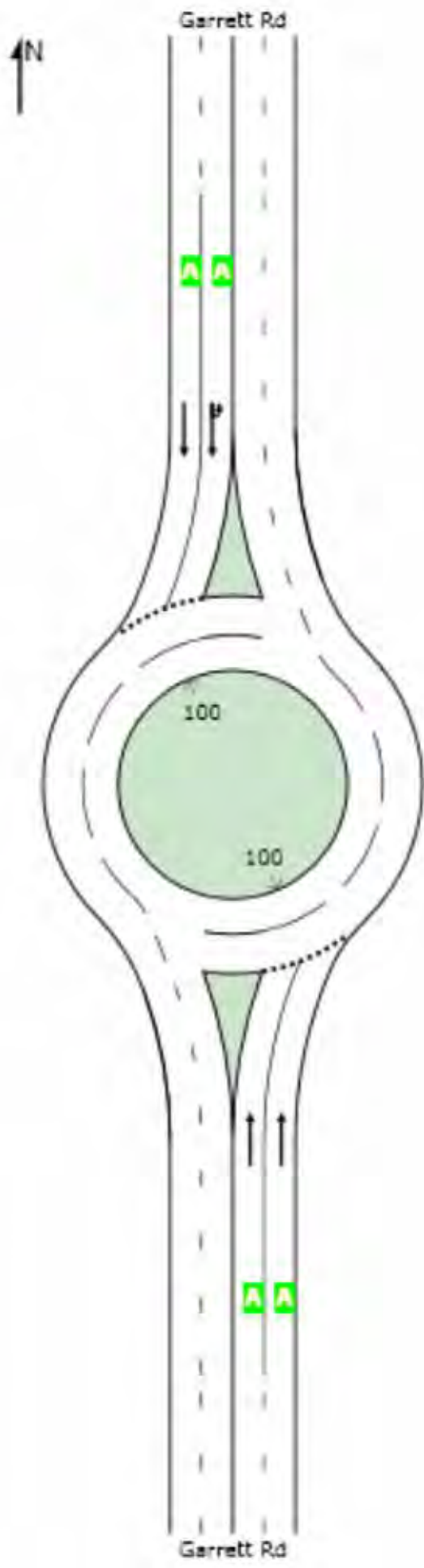
 Site: AM: Garrett Rd South of S. Frontage Rd

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Build Alt 3 AM  
Roundabout

## All Movement Classes

	South	North	Intersection
LOS	A	A	A





# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

 Site: AM: Garrett Rd South of S. Frontage Rd

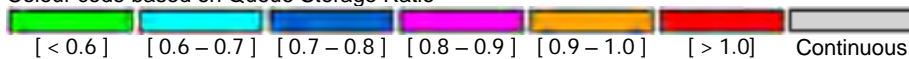
Build Alt 3 AM  
Roundabout

## All Movement Classes

	South	North	Intersection
Vehicle Queue (%ile)	49	0	49



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd South of S. Frontage Rd

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Build Alt 3 PM  
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1675

Light Vehicles (LV): 1608

Heavy Vehicles (HV): 67



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd South of S. Frontage Rd

Build Alt 3 PM  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	29.1 mph	29.1 mph
Travel Distance (Total)	413.0 veh-mi/h	495.6 pers-mi/h
Travel Time (Total)	14.2 veh-h/h	17.0 pers-h/h
Demand Flows (Total)	1919 veh/h	2303 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.428	
Practical Spare Capacity	98.7 %	
Effective Intersection Capacity	4487 veh/h	
Control Delay (Total)	0.41 veh-h/h	0.49 pers-h/h
Control Delay (Average)	0.8 sec	0.8 sec
Control Delay (Worst Lane)	2.7 sec	
Control Delay (Worst Movement)	2.6 sec	2.6 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	0.8 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.5 veh	
95% Back of Queue - Distance (Worst Lane)	39.6 ft	
Queue Storage Ratio (Worst Lane)	0.07	
Total Effective Stops	263 veh/h	315 pers/h
Effective Stop Rate	0.14 per veh	0.14 per pers
Proportion Queued	0.16	0.16
Performance Index	12.3	12.3
Cost (Total)	328.72 \$/h	328.72 \$/h
Fuel Consumption (Total)	27.4 gal/h	
Carbon Dioxide (Total)	245.2 kg/h	
Hydrocarbons (Total)	0.086 kg/h	
Carbon Monoxide (Total)	1.032 kg/h	
NOx (Total)	0.564 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	921,183 veh/y	1,105,420 pers/y
Delay	198 veh-h/y	238 pers-h/y
Effective Stops	126,017 veh/y	151,221 pers/y
Travel Distance	198,224 veh-mi/y	237,868 pers-mi/y
Travel Time	6,810 veh-h/y	8,172 pers-h/y
Cost	157,784 \$/y	157,784 \$/y
Fuel Consumption	13,131 gal/y	
Carbon Dioxide	117,718 kg/y	
Hydrocarbons	41 kg/y	
Carbon Monoxide	495 kg/y	
NOx	271 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd South of S. Frontage Rd**

Build Alt 3 PM  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	572	4.0	0.300	2.6	LOS A	1.5	39.6	0.55	0.46	28.7
Approach		572	4.0	0.300	2.6	LOS A	1.5	39.6	0.55	0.46	28.7
North: Garrett Rd											
7u	U	467	4.0	0.428	0.0	LOS A	0.0	0.0	0.00	0.00	20.2
4	T1	880	4.0	0.428	0.0	LOS A	0.0	0.0	0.00	0.00	35.6
Approach		1347	4.0	0.428	0.0	LOS A	0.0	0.0	0.00	0.00	29.3
All Vehicles		1919	4.0	0.428	0.8	LOS A	1.5	39.6	0.16	0.14	29.1

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

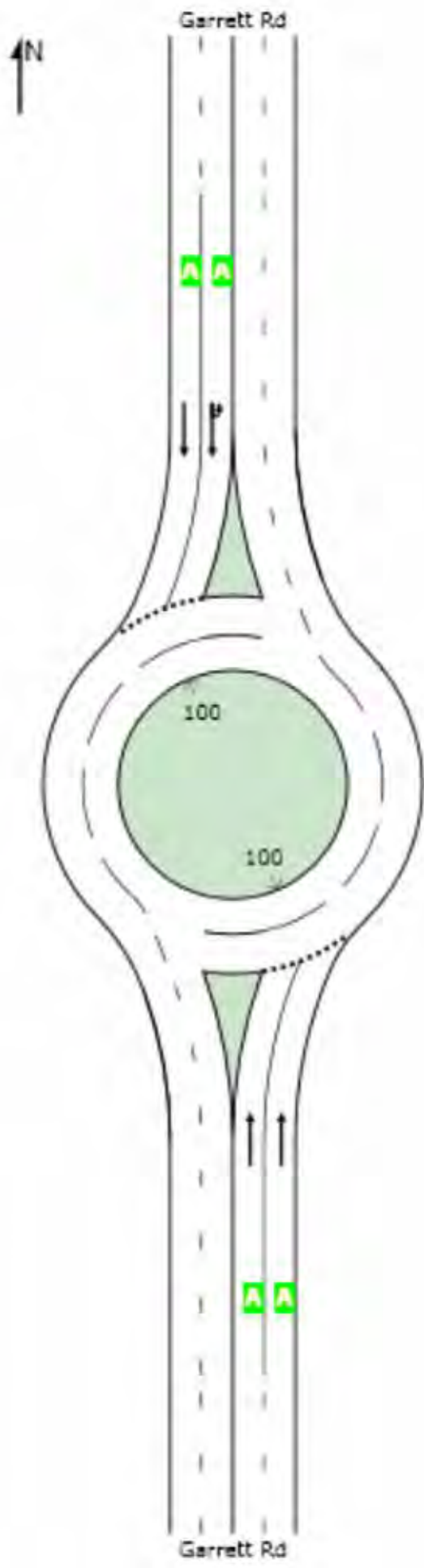
 **Site: PM: Garrett Rd South of S. Frontage Rd**

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Build Alt 3 PM  
Roundabout

## All Movement Classes

	South	North	Intersection
LOS	A	A	A



# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

 Site: PM: Garrett Rd South of S. Frontage Rd

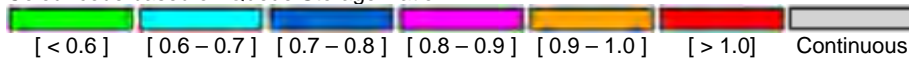
Build Alt 3 PM  
Roundabout

## All Movement Classes

	South	North	Intersection
Vehicle Queue (%ile)	40	0	40



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Roundabout

Volume Display Method: Total and %

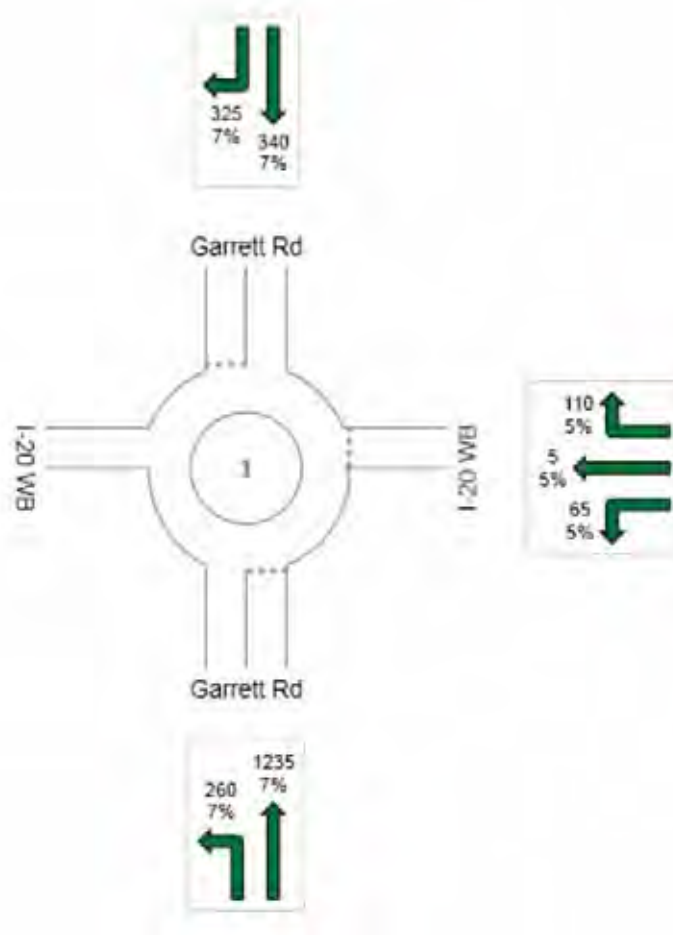
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2340

Light Vehicles (LV): 2180

Heavy Vehicles (HV): 160





# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	24.2 mph	24.2 mph
Travel Distance (Total)	1373.3 veh-mi/h	1648.0 pers-mi/h
Travel Time (Total)	56.6 veh-h/h	68.0 pers-h/h
Demand Flows (Total)	2933 veh/h	3519 pers/h
Percent Heavy Vehicles (Demand)	6.9 %	
Degree of Saturation	0.620	
Practical Spare Capacity	37.1 %	
Effective Intersection Capacity	4731 veh/h	
Control Delay (Total)	0.68 veh-h/h	0.82 pers-h/h
Control Delay (Average)	0.8 sec	0.8 sec
Control Delay (Worst Lane)	8.9 sec	
Control Delay (Worst Movement)	8.9 sec	8.9 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	0.8 sec	
Idling Time (Average)	0.2 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.5 veh	
95% Back of Queue - Distance (Worst Lane)	38.4 ft	
Queue Storage Ratio (Worst Lane)	0.24	
Total Effective Stops	382 veh/h	459 pers/h
Effective Stop Rate	0.13 per veh	0.13 per pers
Proportion Queued	0.16	0.16
Performance Index	37.3	37.3
Cost (Total)	601.93 \$/h	601.93 \$/h
Fuel Consumption (Total)	44.5 gal/h	
Carbon Dioxide (Total)	401.1 kg/h	
Hydrocarbons (Total)	0.166 kg/h	
Carbon Monoxide (Total)	1.781 kg/h	
NOx (Total)	1.149 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,407,732 veh/y	1,689,279 pers/y
Delay	327 veh-h/y	392 pers-h/y
Effective Stops	183,434 veh/y	220,121 pers/y
Travel Distance	659,194 veh-mi/y	791,033 pers-mi/y
Travel Time	27,189 veh-h/y	32,627 pers-h/y
Cost	288,924 \$/y	288,924 \$/y
Fuel Consumption	21,380 gal/y	
Carbon Dioxide	192,544 kg/y	
Hydrocarbons	80 kg/y	
Carbon Monoxide	855 kg/y	
NOx	551 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	310	7.0	0.620	0.0	LOS A	0.0	0.0	0.00	0.00	36.9
8	T1	1625	7.0	0.620	0.0	LOS A	0.0	0.0	0.00	0.00	17.8
Approach		1935	7.0	0.620	0.0	LOS A	0.0	0.0	0.00	0.00	21.1
East: I-20 WB											
1	L2	65	5.0	0.151	8.9	LOS A	0.6	16.3	0.75	0.75	31.2
6	T1	6	5.0	0.151	8.9	LOS A	0.6	16.3	0.75	0.75	32.1
16	R2	122	5.0	0.176	6.5	LOS A	0.8	21.5	0.75	0.75	15.3
Approach		193	5.0	0.176	7.4	LOS A	0.8	21.5	0.75	0.75	21.0
North: Garrett Rd											
4	T1	436	7.0	0.267	1.7	LOS A	1.5	38.4	0.49	0.38	39.2
14	R2	369	7.0	0.267	0.8	LOS A	1.5	38.4	0.27	0.20	40.2
Approach		805	7.0	0.267	1.3	LOS A	1.5	38.4	0.39	0.29	39.7
All Vehicles		2933	6.9	0.620	0.8	LOS A	1.5	38.4	0.16	0.13	24.2

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

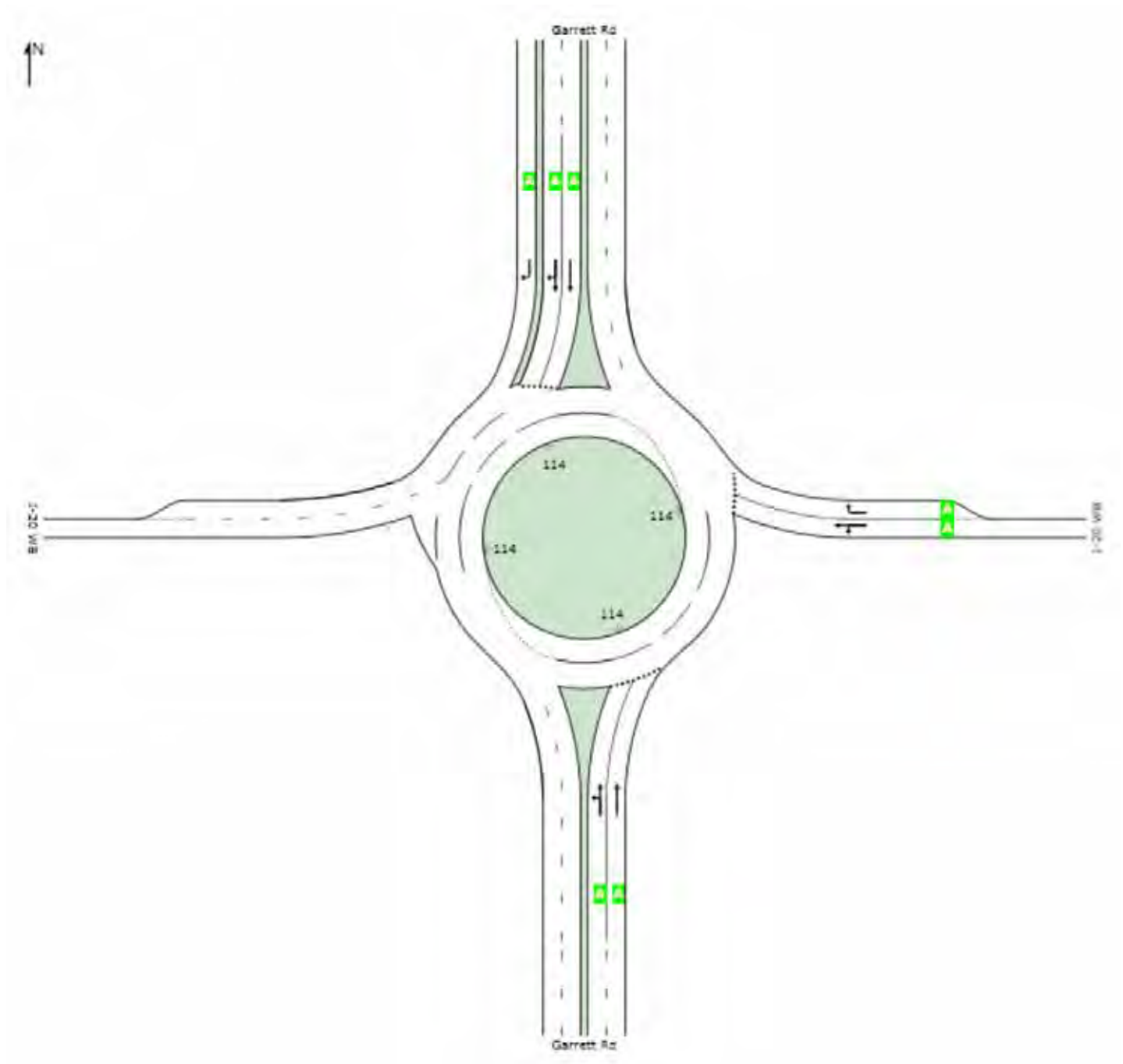
# LEVEL OF SERVICE

**Site: AM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	North	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# QUEUE DISTANCE (%ILE)

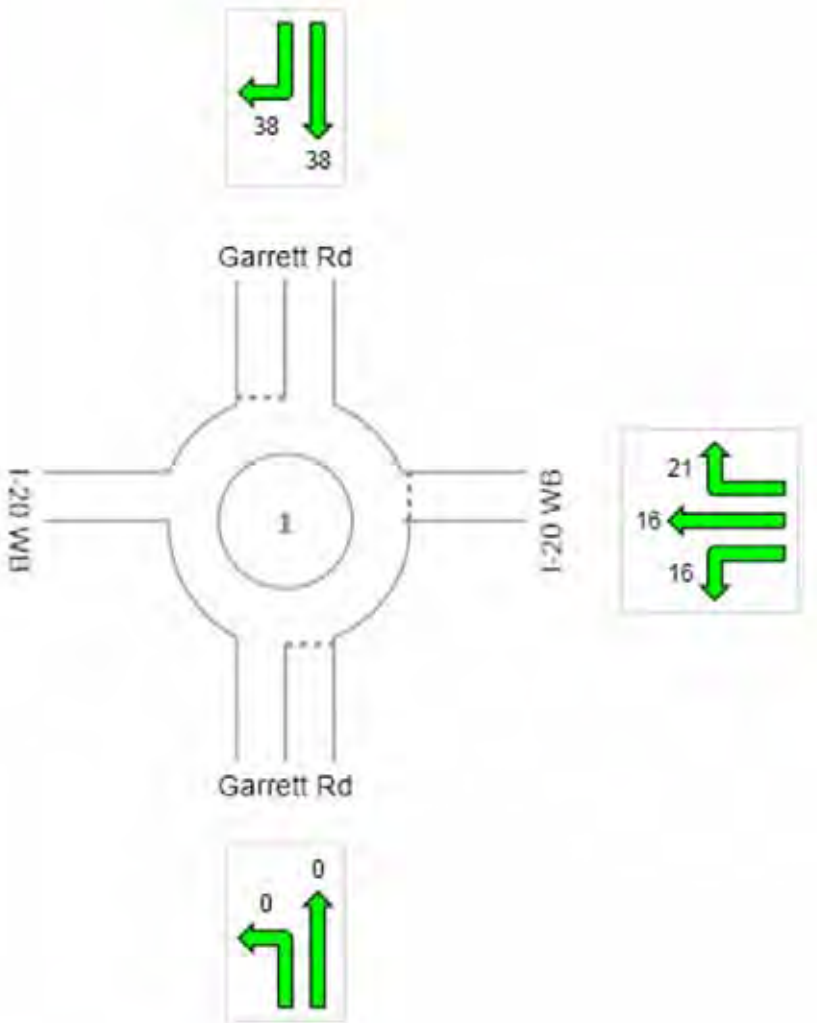
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: AM: Garrett Rd @ I-20 WB**

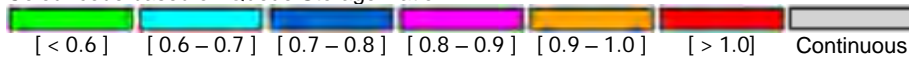
Build Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	North	Intersection
Vehicle Queue (%ile)	0	21	38	38



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20

Signals - Actuated

Volume Display Method: Total and %

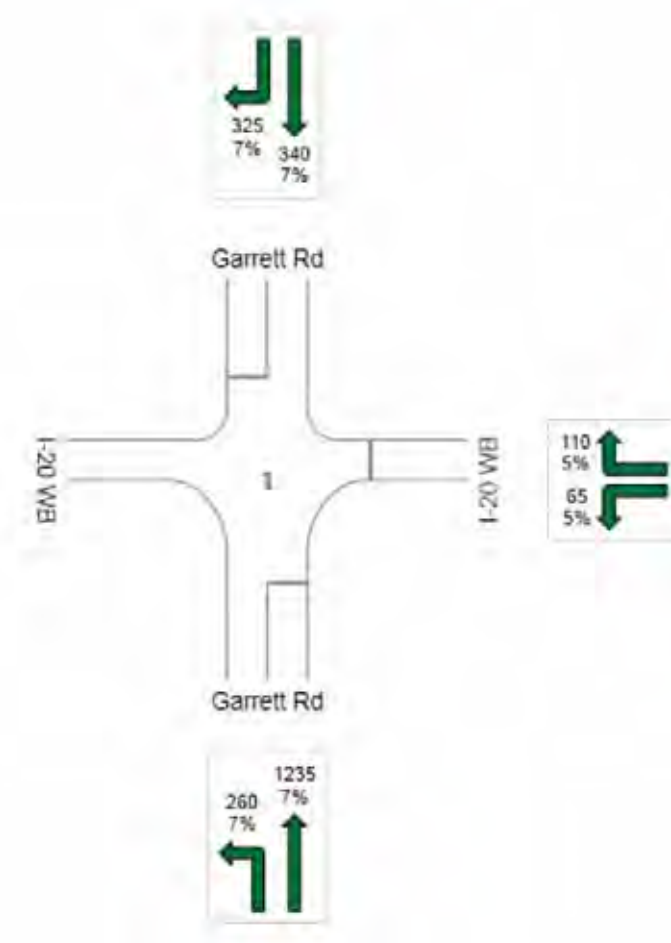
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2335

Light Vehicles (LV): 2175

Heavy Vehicles (HV): 160



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 39 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	32.4 mph	32.4 mph
Travel Distance (Total)	1068.5 veh-mi/h	1282.2 pers-mi/h
Travel Time (Total)	33.0 veh-h/h	39.6 pers-h/h
Demand Flows (Total)	2927 veh/h	3512 pers/h
Percent Heavy Vehicles (Demand)	6.9 %	
Degree of Saturation	0.746	
Practical Spare Capacity	20.6 %	
Effective Intersection Capacity	3923 veh/h	
Control Delay (Total)	6.93 veh-h/h	8.32 pers-h/h
Control Delay (Average)	8.5 sec	8.5 sec
Control Delay (Worst Lane)	22.6 sec	
Control Delay (Worst Movement)	22.6 sec	22.6 sec
Geometric Delay (Average)	1.6 sec	
Stop-Line Delay (Average)	6.9 sec	
Idling Time (Average)	4.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	13.7 veh	
95% Back of Queue - Distance (Worst Lane)	361.3 ft	
Queue Storage Ratio (Worst Lane)	1.01	
Total Effective Stops	2039 veh/h	2446 pers/h
Effective Stop Rate	0.70 per veh	0.70 per pers
Proportion Queued	0.70	0.70
Performance Index	69.4	69.4
Cost (Total)	760.89 \$/h	760.89 \$/h
Fuel Consumption (Total)	63.1 gal/h	
Carbon Dioxide (Total)	568.1 kg/h	
Hydrocarbons (Total)	0.169 kg/h	
Carbon Monoxide (Total)	2.254 kg/h	
NOx (Total)	1.766 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,404,941 veh/y	1,685,930 pers/y
Delay	3,329 veh-h/y	3,995 pers-h/y
Effective Stops	978,587 veh/y	1,174,304 pers/y
Travel Distance	512,883 veh-mi/y	615,459 pers-mi/y
Travel Time	15,832 veh-h/y	18,999 pers-h/y
Cost	365,227 \$/y	365,227 \$/y
Fuel Consumption	30,276 gal/y	
Carbon Dioxide	272,693 kg/y	
Hydrocarbons	81 kg/y	
Carbon Monoxide	1,082 kg/y	
NOx	848 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 39 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	310	7.0	0.241	11.3	LOS B	1.6	42.0	0.61	0.73	31.5
8	T1	1625	7.0	0.746	6.8	LOS A	13.7	361.3	0.78	0.70	36.4
Approach		1935	7.0	0.746	7.5	LOS A	13.7	361.3	0.75	0.70	35.2
East: I-20 WB											
1	L2	65	5.0	0.236	22.6	LOS C	1.3	33.1	0.89	0.73	27.0
16	R2	122	5.0	0.228	6.2	LOS A	0.6	15.1	0.32	0.64	20.2
Approach		187	5.0	0.236	11.9	LOS B	1.3	33.1	0.52	0.67	23.0
North: Garrett Rd											
4	T1	436	7.0	0.460	14.5	LOS B	4.1	107.7	0.87	0.71	29.9
14	R2	369	7.0	0.175	5.3	LOS A	0.7	18.4	0.30	0.65	28.3
Approach		805	7.0	0.460	10.2	LOS B	4.1	107.7	0.61	0.68	29.3
All Vehicles		2927	6.9	0.746	8.5	LOS A	13.7	361.3	0.70	0.70	32.4

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

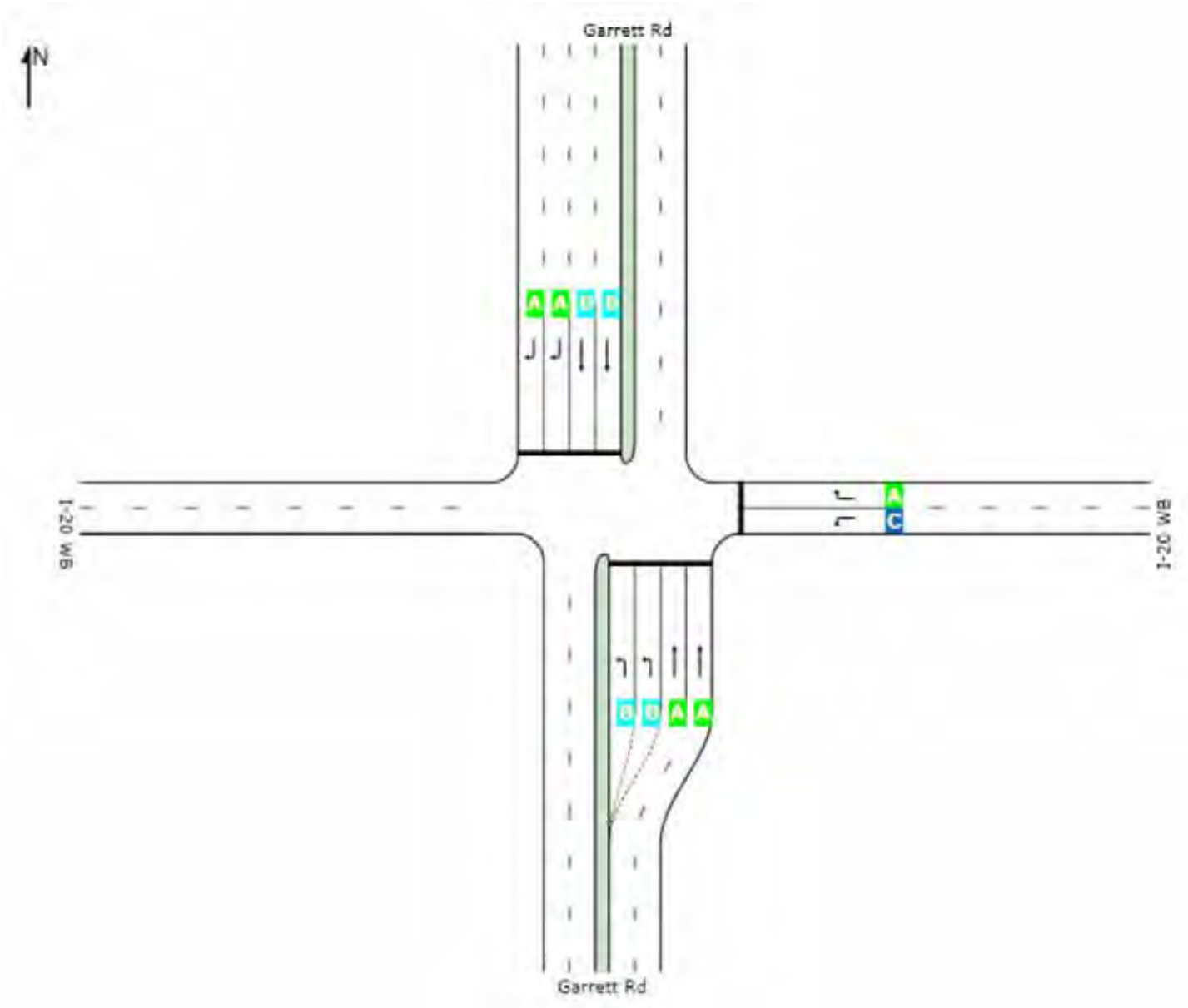
 **Site: AM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 39 seconds (Practical Cycle Time)

## All Movement Classes

	South	East	North	Intersection
LOS	A	B	B	A



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

**STOP** Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Stop (Two-Way)

Volume Display Method: Total and %

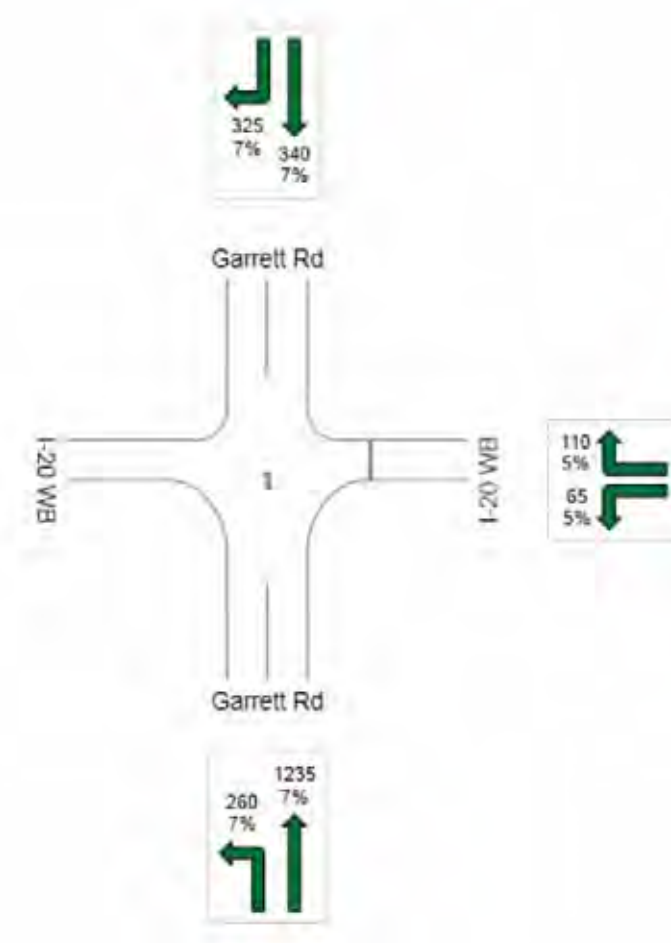
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2335

Light Vehicles (LV): 2175

Heavy Vehicles (HV): 160



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	9.3 mph	9.3 mph
Travel Distance (Total)	1168.1 veh-mi/h	1401.8 pers-mi/h
Travel Time (Total)	125.2 veh-h/h	150.3 pers-h/h
Demand Flows (Total)	2927 veh/h	3512 pers/h
Percent Heavy Vehicles (Demand)	6.9 %	
Degree of Saturation	10.833	
Practical Spare Capacity	-92.6 %	
Effective Intersection Capacity	270 veh/h	
Control Delay (Total)	96.89 veh-h/h	116.27 pers-h/h
Control Delay (Average)	119.2 sec	119.2 sec
Control Delay (Worst Lane)	5002.2 sec	
Control Delay (Worst Movement)	5002.2 sec	5002.2 sec
Geometric Delay (Average)	1.9 sec	
Stop-Line Delay (Average)	117.2 sec	
Idling Time (Average)	115.6 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	40.8 veh	
95% Back of Queue - Distance (Worst Lane)	1059.8 ft	
Queue Storage Ratio (Worst Lane)	0.90	
Total Effective Stops	892 veh/h	1071 pers/h
Effective Stop Rate	0.30 per veh	0.30 per pers
Proportion Queued	0.16	0.16
Performance Index	167.1	167.1
Cost (Total)	1690.72 \$/h	1690.72 \$/h
Fuel Consumption (Total)	80.0 gal/h	
Carbon Dioxide (Total)	722.1 kg/h	
Hydrocarbons (Total)	0.347 kg/h	
Carbon Monoxide (Total)	2.975 kg/h	
NOx (Total)	1.468 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,404,941 veh/y	1,685,930 pers/y
Delay	46,509 veh-h/y	55,811 pers-h/y
Effective Stops	428,280 veh/y	513,936 pers/y
Travel Distance	560,704 veh-mi/y	672,845 pers-mi/y
Travel Time	60,102 veh-h/y	72,122 pers-h/y
Cost	811,548 \$/y	811,548 \$/y
Fuel Consumption	38,400 gal/y	
Carbon Dioxide	346,624 kg/y	
Hydrocarbons	167 kg/y	
Carbon Monoxide	1,428 kg/y	
NOx	705 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	310	7.0	0.804	26.8	LOS D	6.5	171.7	0.91	1.31	24.3
8	T1	1625	7.0	0.440	0.0	LOS A	0.0	0.0	0.00	0.00	44.9
Approach		1935	7.0	0.804	4.3	NA	6.5	171.7	0.15	0.21	36.3
East: I-20 WB											
1	L2	65	5.0	10.833	5002.2	LOS F	40.8	1059.8	1.00	1.22	0.3
16	R2	122	5.0	0.952	105.5	LOS F	7.3	189.6	0.99	1.47	12.3
Approach		187	5.0	10.833	1805.6	LOS F	40.8	1059.8	1.00	1.38	0.9
North: Garrett Rd											
4	T1	436	7.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
14	R2	369	7.0	0.118	6.6	LOS A	0.0	0.0	0.00	0.61	38.6
Approach		805	7.0	0.118	3.0	NA	0.0	0.0	0.00	0.28	40.4
All Vehicles		2927	6.9	10.833	119.2	NA	40.8	1059.8	0.16	0.30	9.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

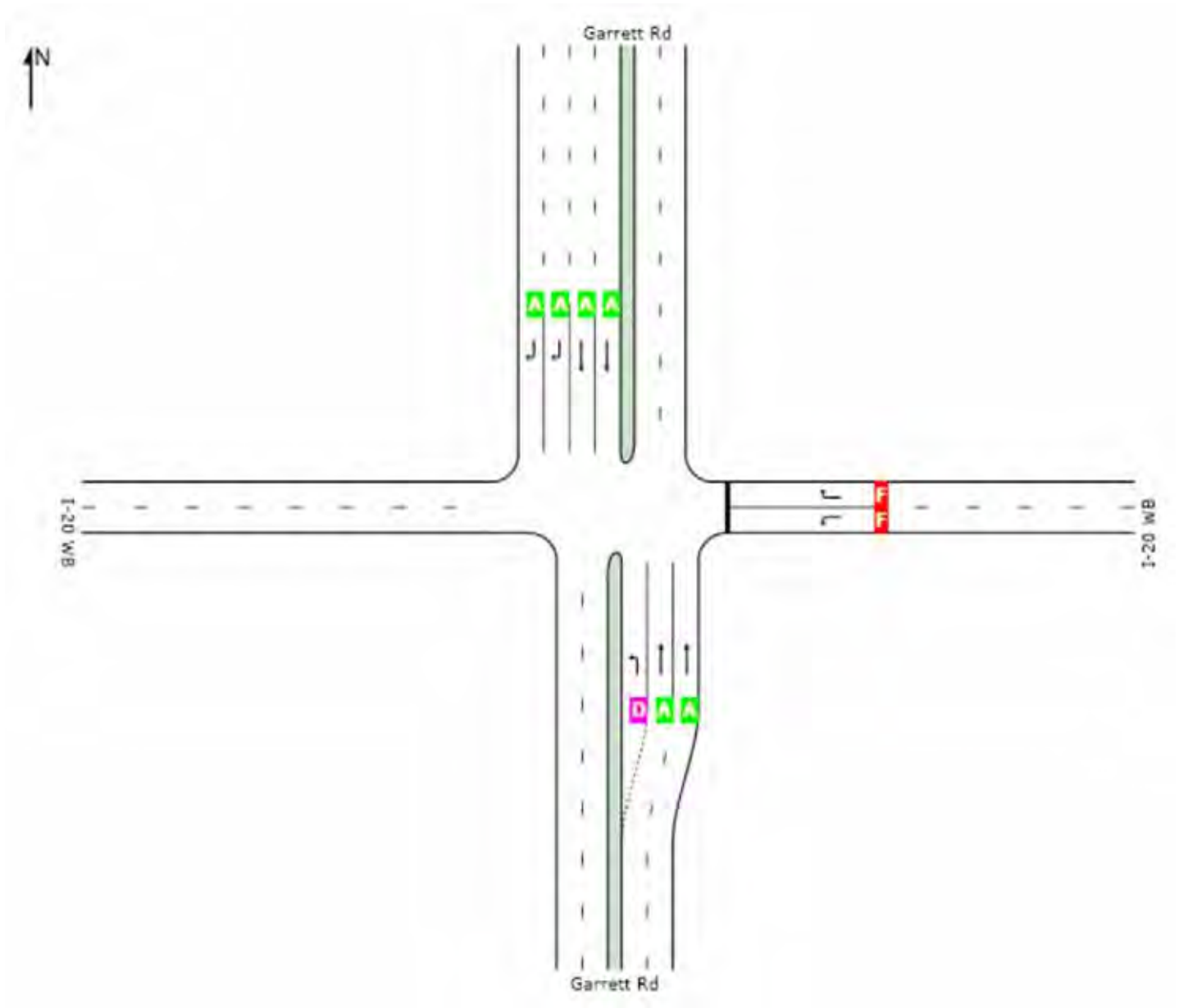
# LEVEL OF SERVICE

**STOP** Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Stop (Two-Way)

## All Movement Classes

	South	East	North	Intersection
LOS	NA	F	NA	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Roundabout

Volume Display Method: Total and %

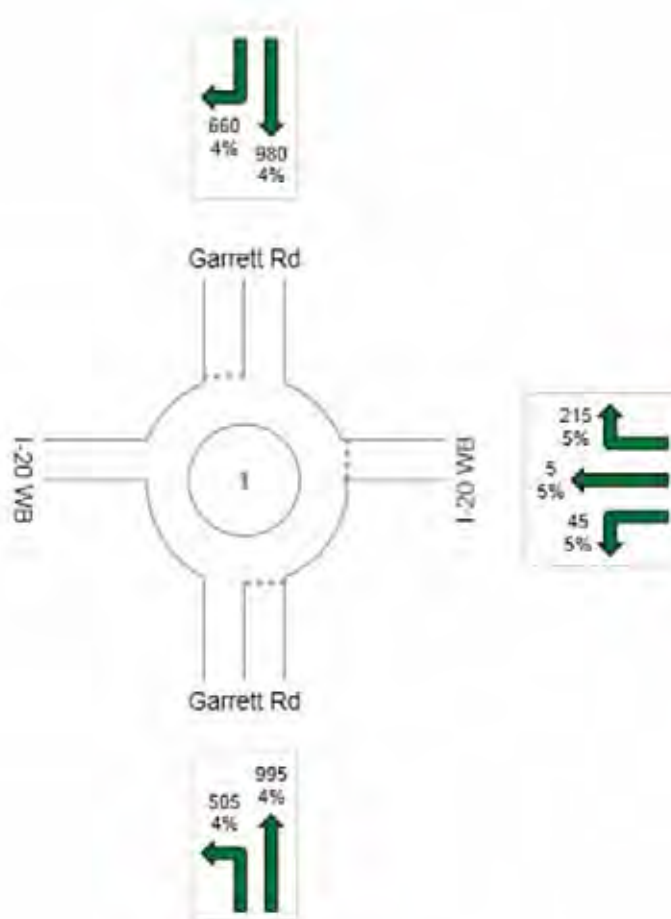
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3405

Light Vehicles (LV): 3266

Heavy Vehicles (HV): 139



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	28.0 mph	28.0 mph
Travel Distance (Total)	1991.9 veh-mi/h	2390.3 pers-mi/h
Travel Time (Total)	71.1 veh-h/h	85.4 pers-h/h
Demand Flows (Total)	3893 veh/h	4672 pers/h
Percent Heavy Vehicles (Demand)	4.1 %	
Degree of Saturation	0.687	
Practical Spare Capacity	23.7 %	
Effective Intersection Capacity	5666 veh/h	
Control Delay (Total)	3.87 veh-h/h	4.65 pers-h/h
Control Delay (Average)	3.6 sec	3.6 sec
Control Delay (Worst Lane)	9.7 sec	
Control Delay (Worst Movement)	8.9 sec	8.9 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	3.6 sec	
Idling Time (Average)	0.8 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	8.5 veh	
95% Back of Queue - Distance (Worst Lane)	218.8 ft	
Queue Storage Ratio (Worst Lane)	1.34	
Total Effective Stops	1582 veh/h	1898 pers/h
Effective Stop Rate	0.41 per veh	0.41 per pers
Proportion Queued	0.37	0.37
Performance Index	69.3	69.3
Cost (Total)	1040.48 \$/h	1040.48 \$/h
Fuel Consumption (Total)	108.3 gal/h	
Carbon Dioxide (Total)	972.5 kg/h	
Hydrocarbons (Total)	0.336 kg/h	
Carbon Monoxide (Total)	3.909 kg/h	
NOx (Total)	2.948 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,868,687 veh/y	2,242,425 pers/y
Delay	1,859 veh-h/y	2,231 pers-h/y
Effective Stops	759,273 veh/y	911,128 pers/y
Travel Distance	956,132 veh-mi/y	1,147,358 pers-mi/y
Travel Time	34,141 veh-h/y	40,969 pers-h/y
Cost	499,432 \$/y	499,432 \$/y
Fuel Consumption	51,971 gal/y	
Carbon Dioxide	466,816 kg/y	
Hydrocarbons	161 kg/y	
Carbon Monoxide	1,876 kg/y	
NOx	1,415 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	639	4.0	0.540	0.0	LOS A	0.0	0.0	0.00	0.00	35.8
8	T1	1093	4.0	0.540	0.0	LOS A	0.0	0.0	0.00	0.00	17.8
Approach		1733	4.0	0.540	0.0	LOS A	0.0	0.0	0.00	0.00	25.0
East: I-20 WB											
1	L2	76	5.0	0.155	7.0	LOS A	0.6	15.8	0.70	0.70	31.4
6	T1	6	5.0	0.155	7.0	LOS A	0.6	15.8	0.70	0.70	32.7
16	R2	239	5.0	0.308	5.5	LOS A	1.4	37.4	0.73	0.74	15.5
Approach		321	5.0	0.308	5.8	LOS A	1.4	37.4	0.72	0.73	19.5
North: Garrett Rd											
4	T1	1054	4.0	0.687	8.9	LOS A	8.5	218.8	0.87	0.98	32.4
14	R2	786	4.0	0.687	3.4	LOS A	8.5	218.8	0.38	0.41	38.5
Approach		1839	4.0	0.687	6.6	LOS A	8.5	218.8	0.66	0.73	35.4
All Vehicles		3893	4.1	0.687	3.6	LOS A	8.5	218.8	0.37	0.41	28.0

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

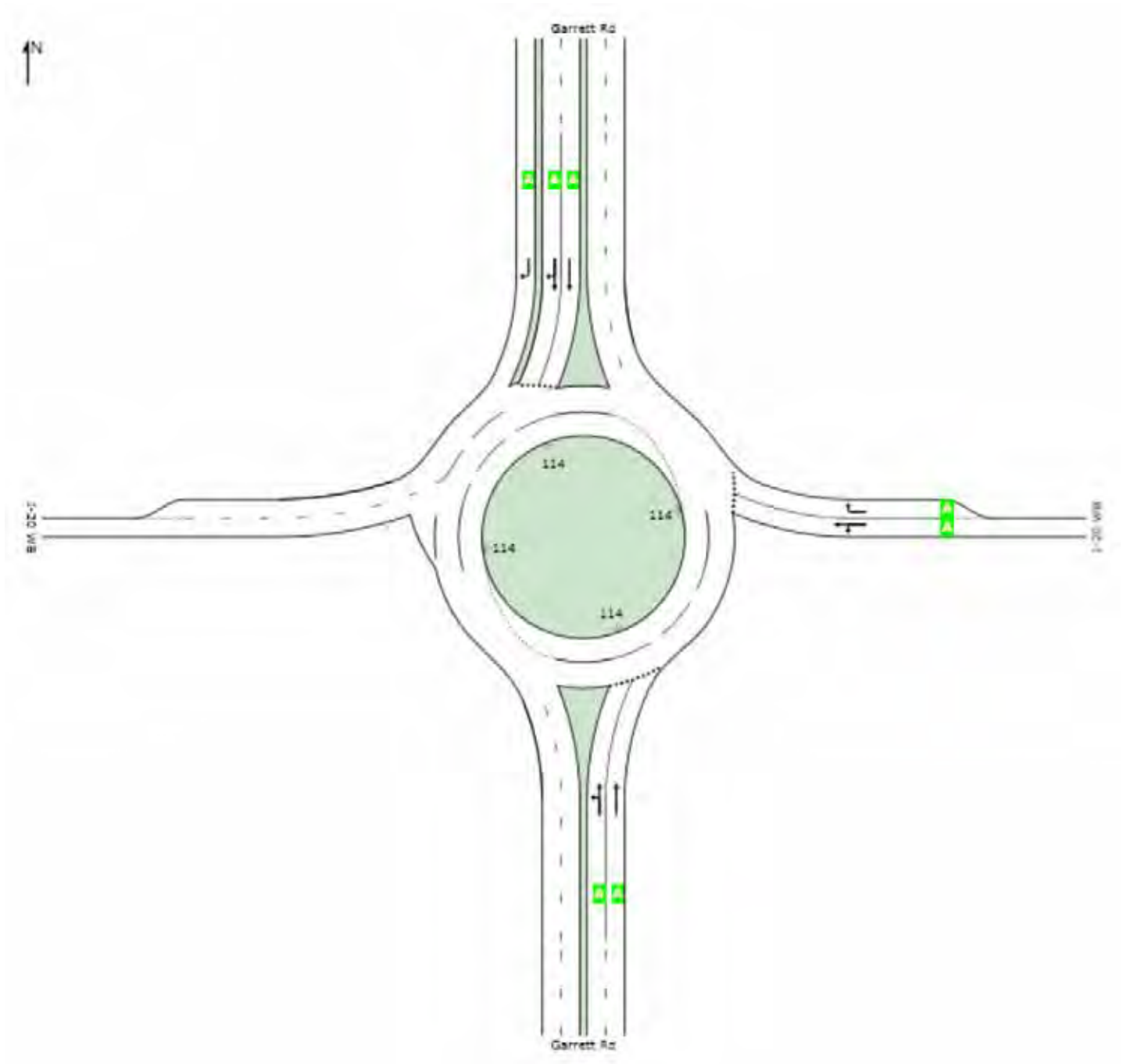
# LEVEL OF SERVICE

**Site: PM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	North	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.



# QUEUE DISTANCE (%ILE)

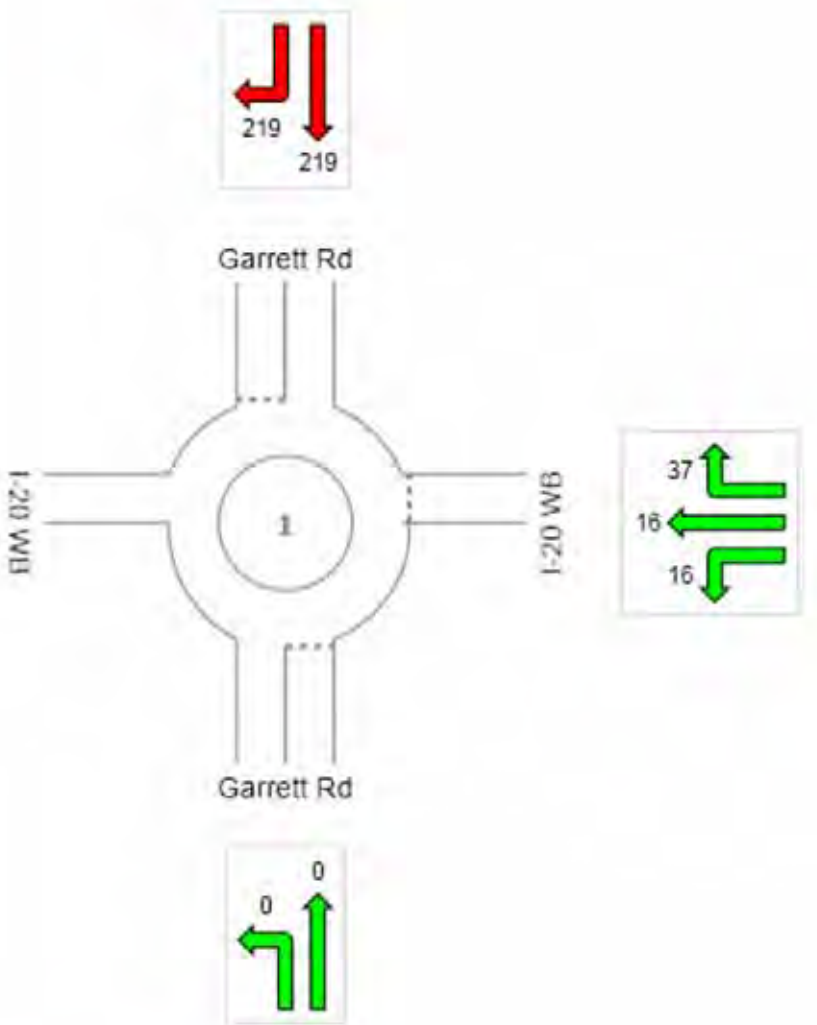
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: PM: Garrett Rd @ I-20 WB**

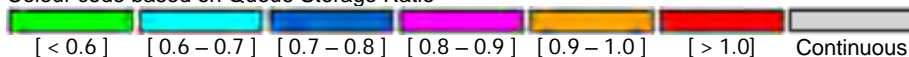
Build Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	North	Intersection
Vehicle Queue (%ile)	0	37	219	219



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20

Signals - Actuated

Volume Display Method: Total and %

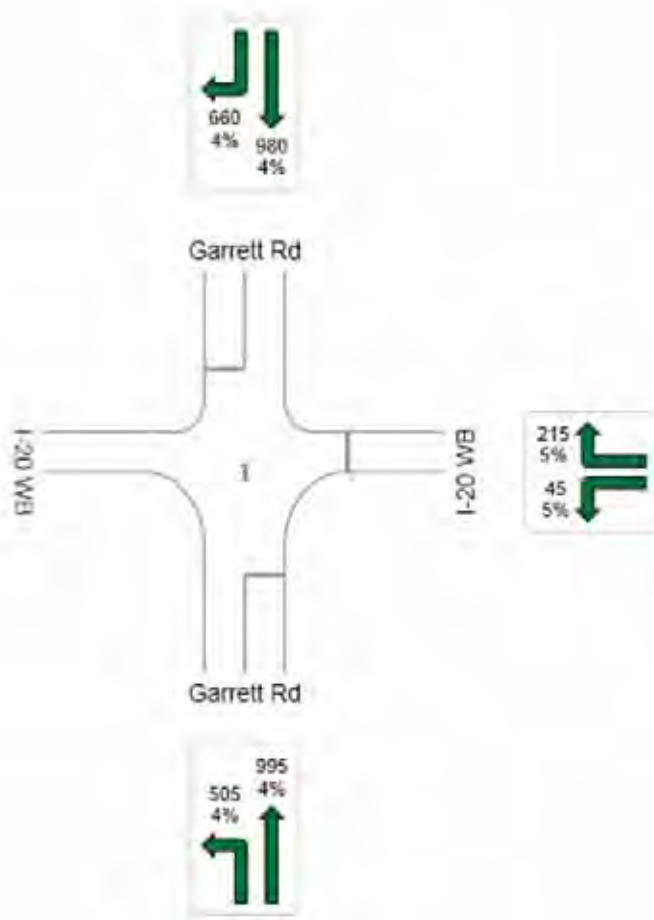
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3400

Light Vehicles (LV): 3261

Heavy Vehicles (HV): 139



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 60 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	31.3 mph	31.3 mph
Travel Distance (Total)	1414.8 veh-mi/h	1697.8 pers-mi/h
Travel Time (Total)	45.1 veh-h/h	54.2 pers-h/h
Demand Flows (Total)	3887 veh/h	4665 pers/h
Percent Heavy Vehicles (Demand)	4.1 %	
Degree of Saturation	0.700	
Practical Spare Capacity	28.6 %	
Effective Intersection Capacity	5554 veh/h	
Control Delay (Total)	9.15 veh-h/h	10.98 pers-h/h
Control Delay (Average)	8.5 sec	8.5 sec
Control Delay (Worst Lane)	34.3 sec	
Control Delay (Worst Movement)	34.3 sec	34.3 sec
Geometric Delay (Average)	2.4 sec	
Stop-Line Delay (Average)	6.1 sec	
Idling Time (Average)	4.2 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	12.3 veh	
95% Back of Queue - Distance (Worst Lane)	316.8 ft	
Queue Storage Ratio (Worst Lane)	2.96	
Total Effective Stops	2377 veh/h	2852 pers/h
Effective Stop Rate	0.61 per veh	0.61 per pers
Proportion Queued	0.56	0.56
Performance Index	95.1	95.1
Cost (Total)	822.84 \$/h	822.84 \$/h
Fuel Consumption (Total)	71.0 gal/h	
Carbon Dioxide (Total)	637.8 kg/h	
Hydrocarbons (Total)	0.208 kg/h	
Carbon Monoxide (Total)	2.845 kg/h	
NOx (Total)	1.521 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,865,897 veh/y	2,239,076 pers/y
Delay	4,390 veh-h/y	5,268 pers-h/y
Effective Stops	1,140,873 veh/y	1,369,048 pers/y
Travel Distance	679,125 veh-mi/y	814,950 pers-mi/y
Travel Time	21,667 veh-h/y	26,001 pers-h/y
Cost	394,963 \$/y	394,963 \$/y
Fuel Consumption	34,100 gal/y	
Carbon Dioxide	306,155 kg/y	
Hydrocarbons	100 kg/y	
Carbon Monoxide	1,365 kg/y	
NOx	730 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 60 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	639	4.0	0.700	11.6	LOS B	6.6	169.7	0.89	0.85	31.1
8	T1	1093	4.0	0.401	3.8	LOS A	7.1	182.2	0.42	0.37	39.8
Approach		1733	4.0	0.700	6.7	LOS A	7.1	182.2	0.59	0.55	35.3
East: I-20 WB											
1	L2	76	5.0	0.365	34.3	LOS C	2.4	62.7	0.94	0.75	23.6
16	R2	239	5.0	0.550	6.4	LOS A	2.7	70.7	0.39	0.68	20.1
Approach		315	5.0	0.550	13.1	LOS B	2.7	70.7	0.52	0.69	21.3
North: Garrett Rd											
4	T1	1054	4.0	0.574	12.6	LOS B	12.3	316.8	0.75	0.66	31.3
14	R2	786	4.0	0.328	5.1	LOS A	2.0	51.2	0.25	0.65	28.6
Approach		1839	4.0	0.574	9.4	LOS A	12.3	316.8	0.53	0.66	30.3
All Vehicles		3887	4.1	0.700	8.5	LOS A	12.3	316.8	0.56	0.61	31.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

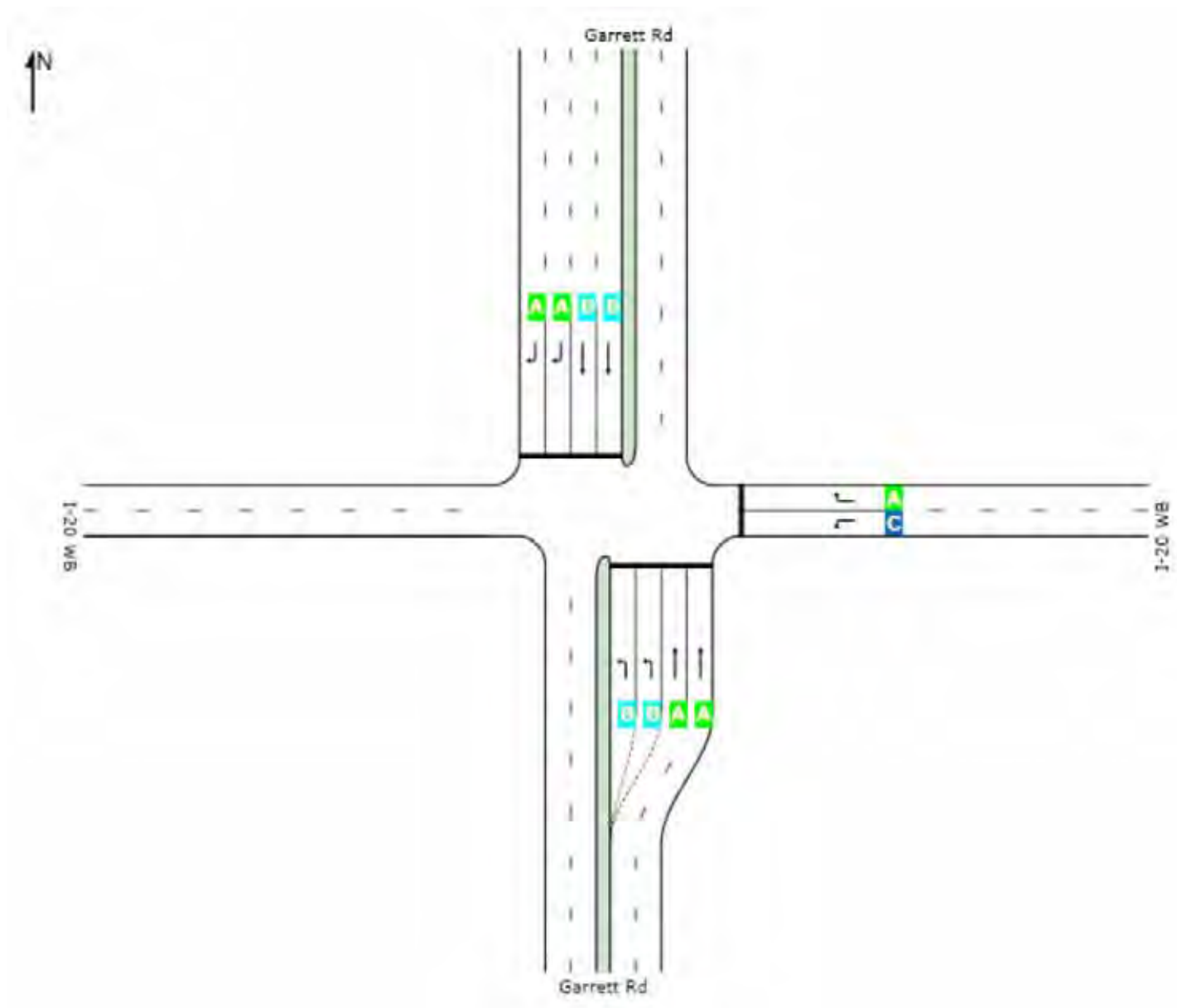
 Site: PM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 60 seconds (Practical Cycle Time)

## All Movement Classes

	South	East	North	Intersection
LOS	A	B	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

**STOP** Site: PM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Stop (Two-Way)

Volume Display Method: Total and %

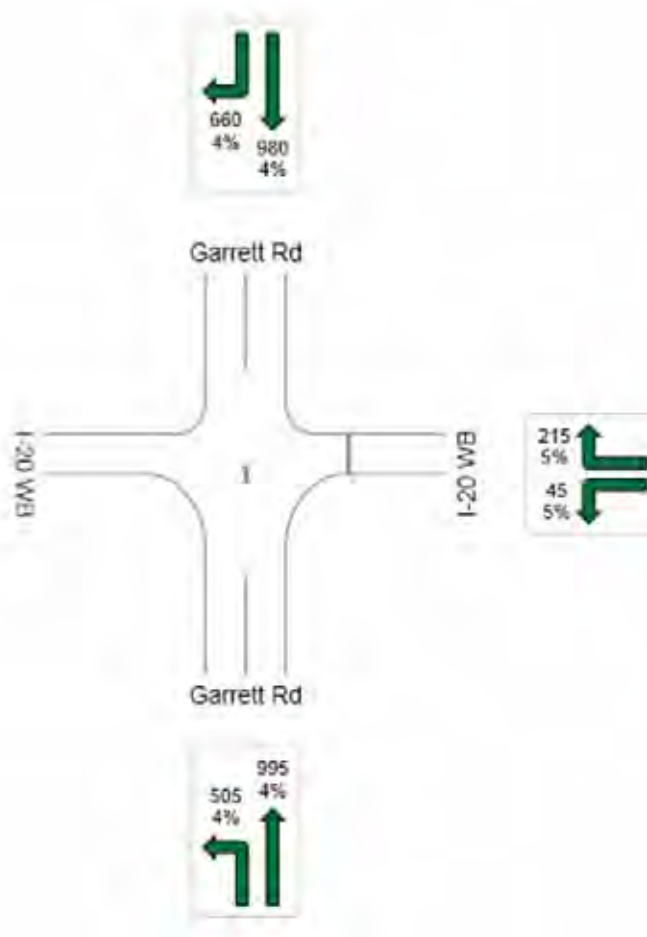
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3400

Light Vehicles (LV): 3261

Heavy Vehicles (HV): 139



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	2.0 mph	2.0 mph
Travel Distance (Total)	1775.8 veh-mi/h	2131.0 pers-mi/h
Travel Time (Total)	893.9 veh-h/h	1072.7 pers-h/h
Demand Flows (Total)	3887 veh/h	4665 pers/h
Percent Heavy Vehicles (Demand)	4.1 %	
Degree of Saturation	12.712	
Practical Spare Capacity	-93.7 %	
Effective Intersection Capacity	306 veh/h	
Control Delay (Total)	850.15 veh-h/h	1020.18 pers-h/h
Control Delay (Average)	787.3 sec	787.3 sec
Control Delay (Worst Lane)	5817.7 sec	
Control Delay (Worst Movement)	5817.7 sec	5817.7 sec
Geometric Delay (Average)	2.9 sec	
Stop-Line Delay (Average)	784.4 sec	
Idling Time (Average)	777.8 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	207.2 veh	
95% Back of Queue - Distance (Worst Lane)	5346.9 ft	
Queue Storage Ratio (Worst Lane)	1.05	
Total Effective Stops	2526 veh/h	3031 pers/h
Effective Stop Rate	0.65 per veh	0.65 per pers
Proportion Queued	0.24	0.24
Performance Index	947.6	947.6
Cost (Total)	12355.44 \$/h	12355.44 \$/h
Fuel Consumption (Total)	349.6 gal/h	
Carbon Dioxide (Total)	3129.8 kg/h	
Hydrocarbons (Total)	2.244 kg/h	
Carbon Monoxide (Total)	12.054 kg/h	
NOx (Total)	3.315 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,865,897 veh/y	2,239,076 pers/y
Delay	408,072 veh-h/y	489,686 pers-h/y
Effective Stops	1,212,511 veh/y	1,455,014 pers/y
Travel Distance	852,383 veh-mi/y	1,022,859 pers-mi/y
Travel Time	429,092 veh-h/y	514,910 pers-h/y
Cost	5,930,609 \$/y	5,930,609 \$/y
Fuel Consumption	167,798 gal/y	
Carbon Dioxide	1,502,308 kg/y	
Hydrocarbons	1,077 kg/y	
Carbon Monoxide	5,786 kg/y	
NOx	1,591 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	639	4.0	9.890	4073.0	LOS F	207.2	5346.9	1.00	2.55	0.5
8	T1	1093	4.0	0.288	0.0	LOS A	0.0	0.0	0.00	0.00	44.9
Approach		1733	4.0	9.890	1502.7	NA	207.2	5346.9	0.37	0.94	1.0
East: I-20 WB											
1	L2	76	5.0	12.712	5817.7	LOS F	47.3	1230.4	1.00	1.22	0.2
16	R2	239	5.0	0.722	33.3	LOS D	6.1	158.9	0.89	1.35	22.7
Approach		315	5.0	12.712	1433.1	LOS F	47.3	1230.4	0.91	1.32	1.2
North: Garrett Rd											
4	T1	1054	4.0	0.277	0.0	LOS A	0.0	0.0	0.00	0.00	44.9
14	R2	786	4.0	0.244	6.6	LOS A	0.0	0.0	0.00	0.61	38.8
Approach		1839	4.0	0.277	2.8	NA	0.0	0.0	0.00	0.26	40.7
All Vehicles		3887	4.1	12.712	787.3	NA	207.2	5346.9	0.24	0.65	2.0

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



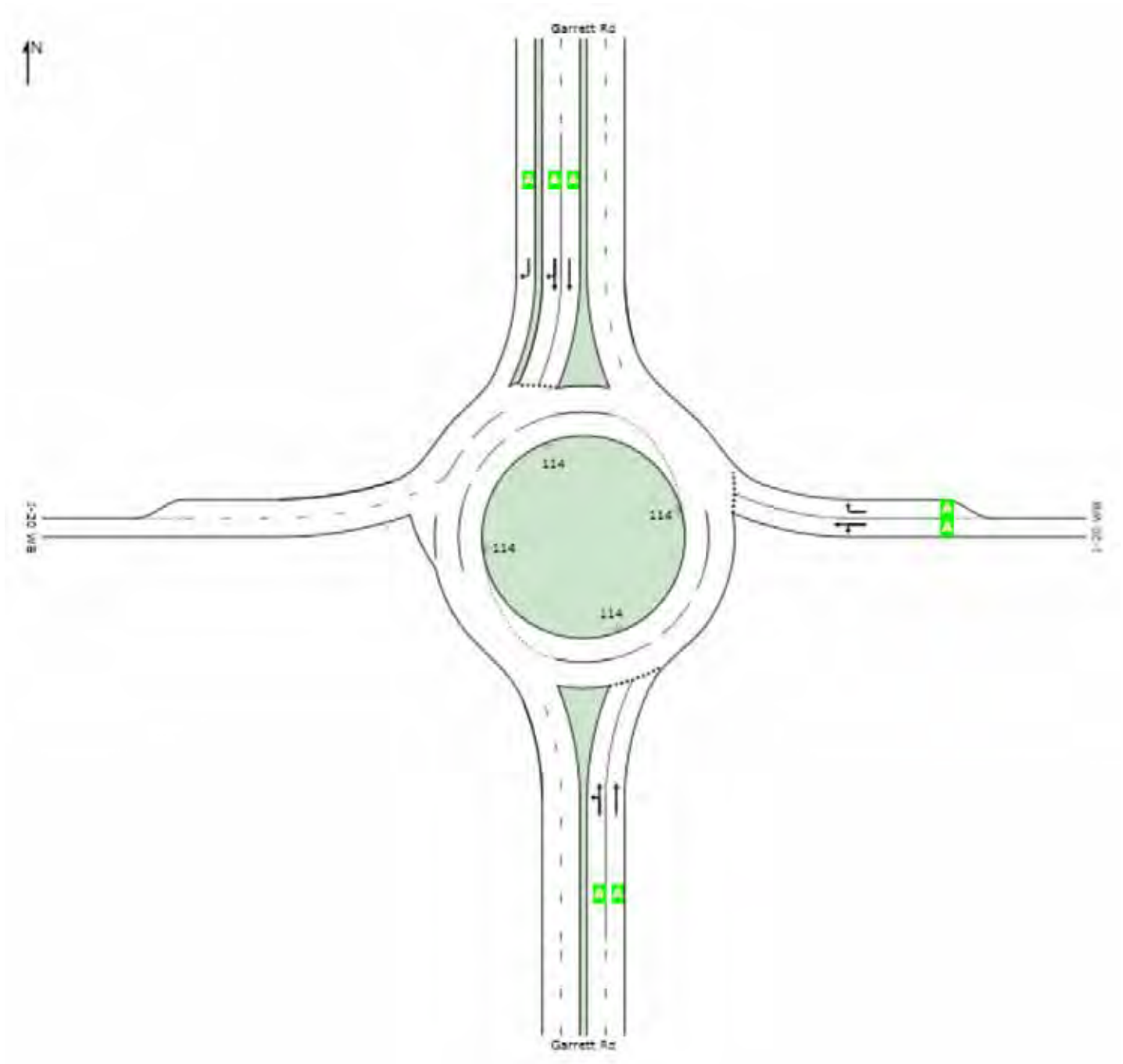
# LEVEL OF SERVICE

**Site: AM: Garrett Rd @ I-20 WB**

Build Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	North	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions - North of I-20  
Roundabout

Volume Display Method: Total and %

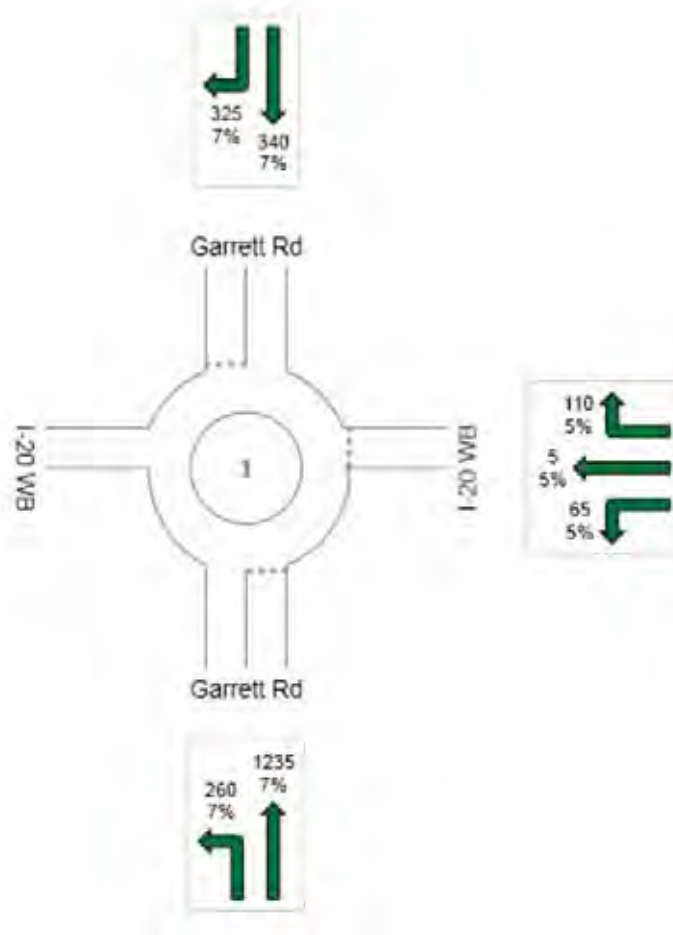
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2340

Light Vehicles (LV): 2180

Heavy Vehicles (HV): 160



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	36.0 mph	36.0 mph
Travel Distance (Total)	941.7 veh-mi/h	1130.0 pers-mi/h
Travel Time (Total)	26.2 veh-h/h	31.4 pers-h/h
Demand Flows (Total)	2476 veh/h	2971 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.686	
Practical Spare Capacity	42.9 %	
Effective Intersection Capacity	3611 veh/h	
Control Delay (Total)	0.51 veh-h/h	0.61 pers-h/h
Control Delay (Average)	0.7 sec	0.7 sec
Control Delay (Worst Lane)	2.8 sec	
Control Delay (Worst Movement)	2.8 sec	2.8 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	0.7 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	3.1 veh	
95% Back of Queue - Distance (Worst Lane)	83.1 ft	
Queue Storage Ratio (Worst Lane)	0.14	
Total Effective Stops	375 veh/h	450 pers/h
Effective Stop Rate	0.15 per veh	0.15 per pers
Proportion Queued	0.22	0.22
Performance Index	29.1	29.1
Cost (Total)	595.37 \$/h	595.37 \$/h
Fuel Consumption (Total)	60.8 gal/h	
Carbon Dioxide (Total)	548.8 kg/h	
Hydrocarbons (Total)	0.156 kg/h	
Carbon Monoxide (Total)	2.100 kg/h	
NOx (Total)	1.804 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,188,405 veh/y	1,426,086 pers/y
Delay	244 veh-h/y	293 pers-h/y
Effective Stops	180,106 veh/y	216,127 pers/y
Travel Distance	451,996 veh-mi/y	542,396 pers-mi/y
Travel Time	12,565 veh-h/y	15,078 pers-h/y
Cost	285,778 \$/y	285,778 \$/y
Fuel Consumption	29,167 gal/y	
Carbon Dioxide	263,414 kg/y	
Hydrocarbons	75 kg/y	
Carbon Monoxide	1,008 kg/y	
NOx	866 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3u	U	78	7.0	0.143	2.8	LOS A	0.9	24.3	0.68	0.53	31.2
3	L2	56	7.0	0.143	2.8	LOS A	0.9	24.3	0.68	0.53	29.7
18	R2	1070	7.0	0.686	0.1	LOS A	0.0	0.0	0.00	0.00	37.2
Approach		1204	7.0	0.686	0.4	LOS A	0.9	24.3	0.08	0.06	36.3
East: Millhaven Rd											
1	L2	205	7.0	0.195	0.8	LOS A	1.2	31.7	0.38	0.21	32.7
6	T1	377	7.0	0.195	0.1	LOS A	1.2	31.7	0.02	0.01	39.0
Approach		582	7.0	0.195	0.3	LOS A	1.2	31.7	0.15	0.08	36.3
West: Millhaven Rd											
2	T1	547	7.0	0.438	1.7	LOS A	3.1	83.1	0.57	0.40	35.3
12	R2	144	7.0	0.116	1.2	LOS A	0.6	16.9	0.45	0.28	34.3
Approach		690	7.0	0.438	1.6	LOS A	3.1	83.1	0.55	0.37	35.1
All Vehicles		2476	7.0	0.686	0.7	LOS A	3.1	83.1	0.22	0.15	36.0

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

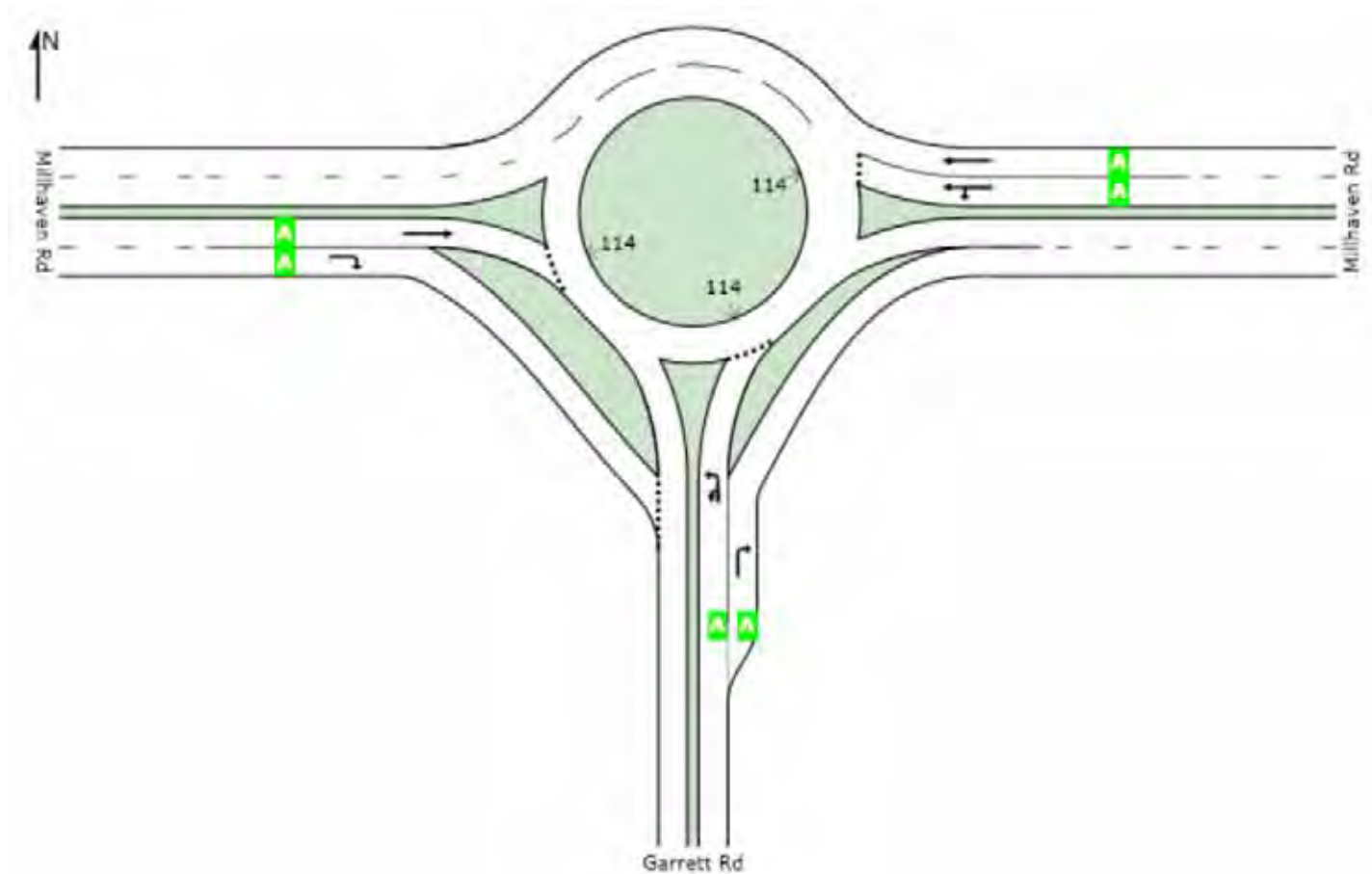
# LEVEL OF SERVICE

**Site: AM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	West	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalized Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# QUEUE DISTANCE (%ILE)

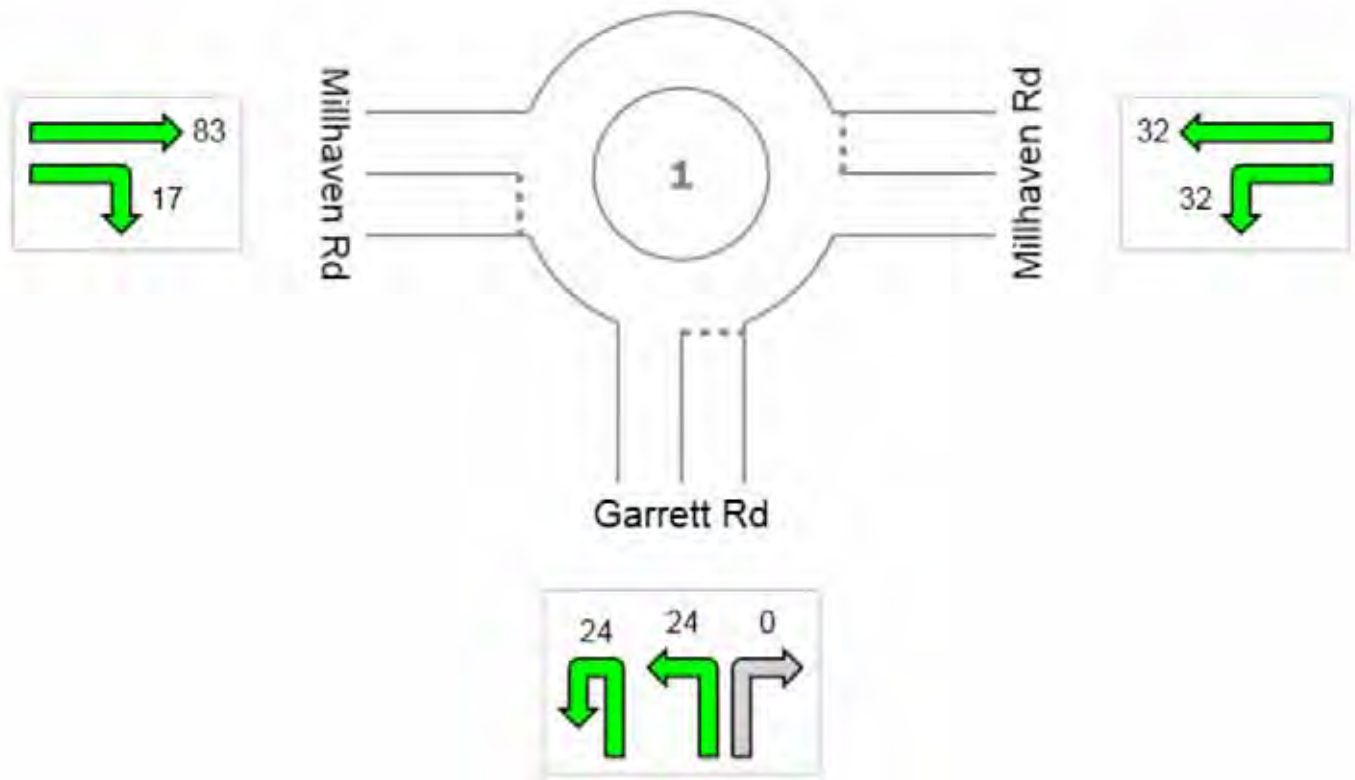
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: AM: Garrett Rd @ Millhaven Rd**

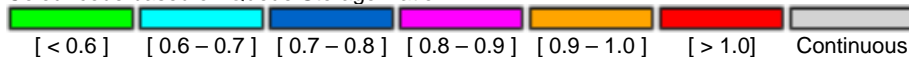
Built Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	West	Intersection
Vehicle Queue (%ile)	24	32	83	83



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20

Signals - Actuated

Volume Display Method: Total and %

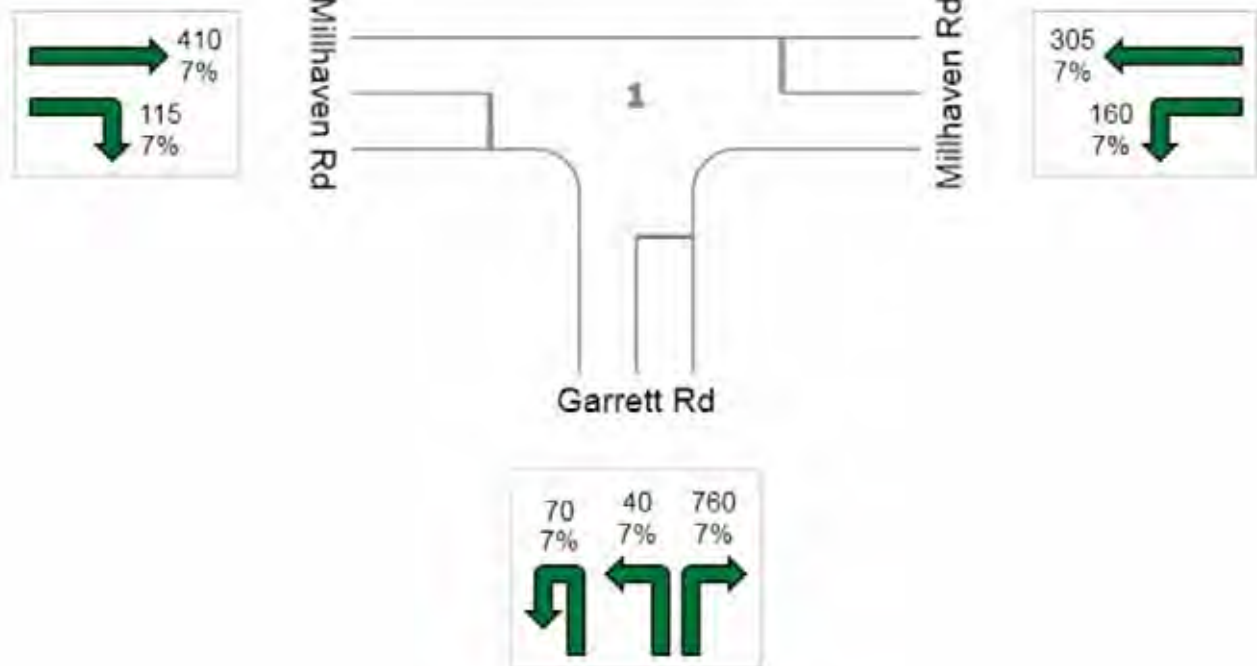
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1860

Light Vehicles (LV): 1730

Heavy Vehicles (HV): 130



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20

Signals - Actuated Cycle Time = 89 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	26.2 mph	26.2 mph
Travel Distance (Total)	1402.1 veh-mi/h	1682.6 pers-mi/h
Travel Time (Total)	53.5 veh-h/h	64.2 pers-h/h
Demand Flows (Total)	2470 veh/h	2964 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.823	
Practical Spare Capacity	9.4 %	
Effective Intersection Capacity	3002 veh/h	
Control Delay (Total)	20.30 veh-h/h	24.37 pers-h/h
Control Delay (Average)	29.6 sec	29.6 sec
Control Delay (Worst Lane)	46.7 sec	
Control Delay (Worst Movement)	46.7 sec	46.7 sec
Geometric Delay (Average)	4.2 sec	
Stop-Line Delay (Average)	25.4 sec	
Idling Time (Average)	21.7 sec	
Intersection Level of Service (LOS)	LOS C	
95% Back of Queue - Vehicles (Worst Lane)	24.4 veh	
95% Back of Queue - Distance (Worst Lane)	643.7 ft	
Queue Storage Ratio (Worst Lane)	0.79	
Total Effective Stops	1924 veh/h	2309 pers/h
Effective Stop Rate	0.78 per veh	0.78 per pers
Proportion Queued	0.83	0.83
Performance Index	135.7	135.7
Cost (Total)	988.72 \$/h	988.72 \$/h
Fuel Consumption (Total)	83.5 gal/h	
Carbon Dioxide (Total)	754.1 kg/h	
Hydrocarbons (Total)	0.232 kg/h	
Carbon Monoxide (Total)	2.999 kg/h	
NOx (Total)	2.380 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,185,442 veh/y	1,422,530 pers/y
Delay	9,746 veh-h/y	11,695 pers-h/y
Effective Stops	923,411 veh/y	1,108,094 pers/y
Travel Distance	673,021 veh-mi/y	807,626 pers-mi/y
Travel Time	25,672 veh-h/y	30,806 pers-h/y
Cost	474,584 \$/y	474,584 \$/y
Fuel Consumption	40,103 gal/y	
Carbon Dioxide	361,985 kg/y	
Hydrocarbons	111 kg/y	
Carbon Monoxide	1,440 kg/y	
NOx	1,142 kg/y	



# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20

Signals - Actuated Cycle Time = 89 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3u	U	78	7.0	0.209	26.5	LOS C	3.8	99.5	0.66	0.77	27.9
3	L2	49	7.0	0.209	25.5	LOS C	3.8	99.5	0.66	0.77	26.1
18	R2	1070	7.0	0.823	32.8	LOS C	24.4	643.7	0.94	0.87	25.6
Approach		1198	7.0	0.823	32.1	LOS C	24.4	643.7	0.91	0.86	25.7
East: Millhaven Rd											
1	L2	205	7.0	0.399	46.7	LOS D	4.5	119.5	0.93	0.77	22.2
6	T1	377	7.0	0.432	17.4	LOS B	11.6	306.1	0.69	0.60	31.4
Approach		582	7.0	0.432	27.7	LOS C	11.6	306.1	0.77	0.66	26.9
West: Millhaven Rd											
2	T1	547	7.0	0.571	32.0	LOS C	11.4	300.2	0.89	0.76	25.1
12	R2	144	7.0	0.148	7.0	LOS A	0.6	16.1	0.13	0.64	34.8
Approach		690	7.0	0.571	26.8	LOS C	11.4	300.2	0.74	0.73	26.6
All Vehicles		2470	7.0	0.823	29.6	LOS C	24.4	643.7	0.83	0.78	26.2

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

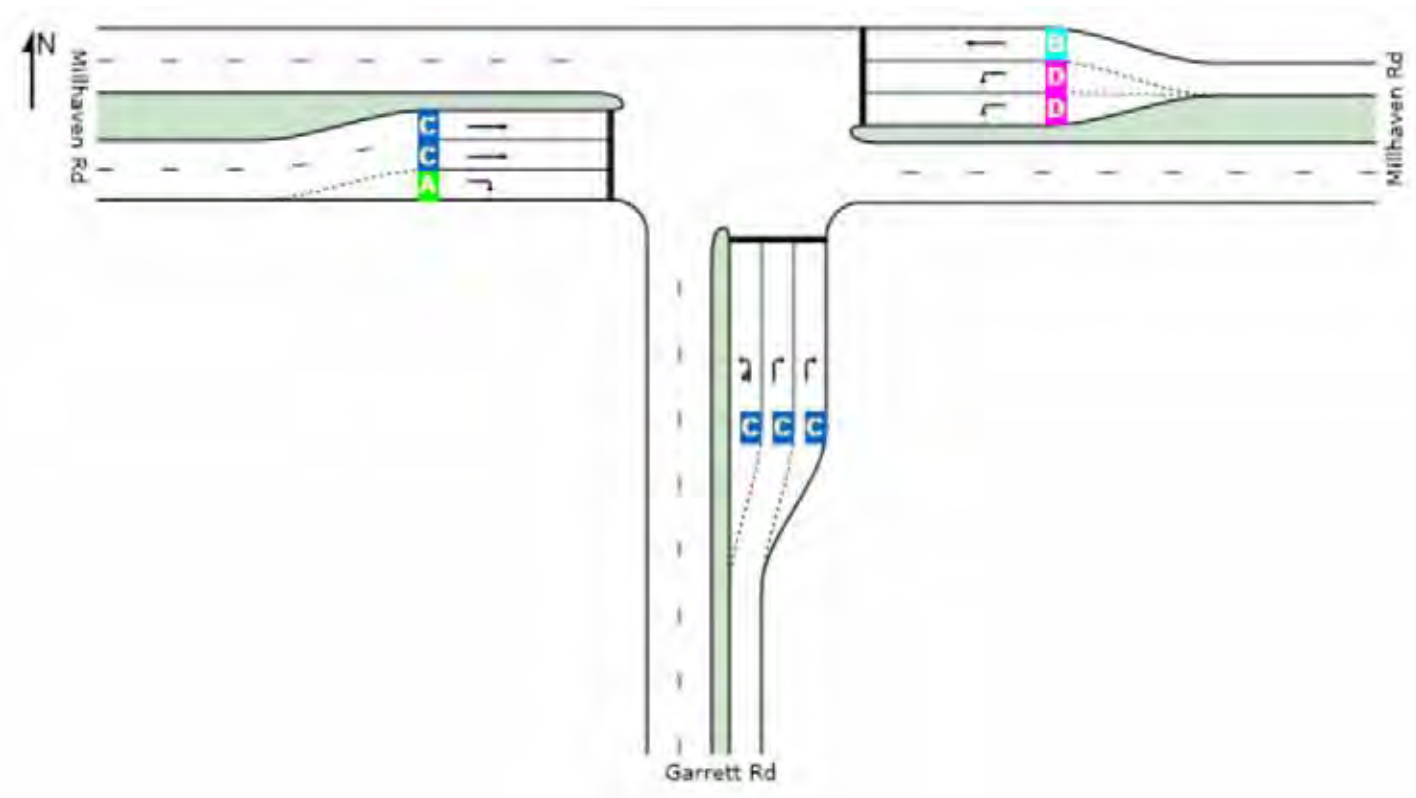
 **Site: AM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20

Signals - Actuated Cycle Time = 89 seconds (Practical Cycle Time)

## All Movement Classes

	South	East	West	Intersection
LOS	C	C	C	C



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

**STOP** Site: AM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Stop (Two-Way)

Volume Display Method: Total and %

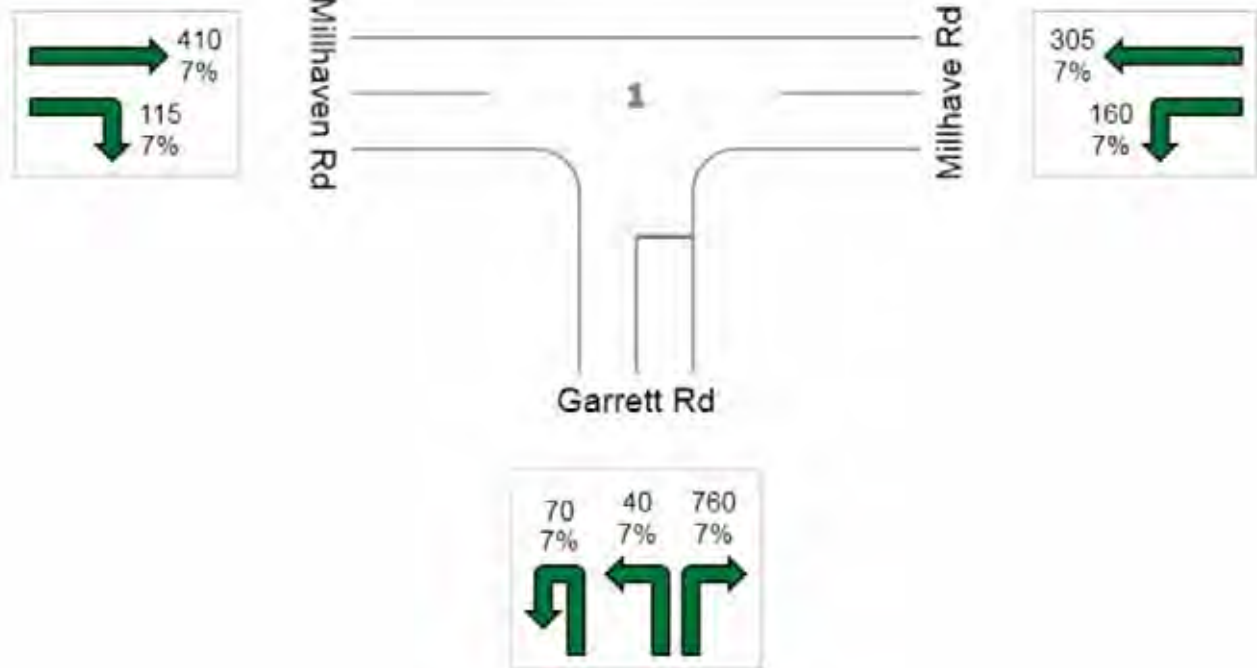
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1860

Light Vehicles (LV): 1730

Heavy Vehicles (HV): 130



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	13.9 mph	13.9 mph
Travel Distance (Total)	913.8 veh-mi/h	1096.6 pers-mi/h
Travel Time (Total)	65.8 veh-h/h	79.0 pers-h/h
Demand Flows (Total)	2470 veh/h	2964 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	1.167	
Practical Spare Capacity	-31.4 %	
Effective Intersection Capacity	2116 veh/h	
Control Delay (Total)	44.55 veh-h/h	53.46 pers-h/h
Control Delay (Average)	64.9 sec	64.9 sec
Control Delay (Worst Lane)	263.3 sec	
Control Delay (Worst Movement)	263.4 sec	263.4 sec
Geometric Delay (Average)	5.3 sec	
Stop-Line Delay (Average)	59.6 sec	
Idling Time (Average)	44.6 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	58.0 veh	
95% Back of Queue - Distance (Worst Lane)	1532.4 ft	
Queue Storage Ratio (Worst Lane)	1.09	
Total Effective Stops	3184 veh/h	3821 pers/h
Effective Stop Rate	1.29 per veh	1.29 per pers
Proportion Queued	0.55	0.55
Performance Index	148.8	148.8
Cost (Total)	1101.93 \$/h	1101.93 \$/h
Fuel Consumption (Total)	67.2 gal/h	
Carbon Dioxide (Total)	605.5 kg/h	
Hydrocarbons (Total)	0.238 kg/h	
Carbon Monoxide (Total)	2.340 kg/h	
NOx (Total)	1.718 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,185,442 veh/y	1,422,530 pers/y
Delay	21,383 veh-h/y	25,659 pers-h/y
Effective Stops	1,528,374 veh/y	1,834,048 pers/y
Travel Distance	438,635 veh-mi/y	526,362 pers-mi/y
Travel Time	31,581 veh-h/y	37,897 pers-h/y
Cost	528,926 \$/y	528,926 \$/y
Fuel Consumption	32,234 gal/y	
Carbon Dioxide	290,617 kg/y	
Hydrocarbons	114 kg/y	
Carbon Monoxide	1,123 kg/y	
NOx	825 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3u	U	78	7.0	1.000	263.4	LOS F	17.0	448.2	1.00	1.92	4.5
3	L2	49	7.0	1.000	263.1	LOS F	17.0	448.2	1.00	1.92	4.2
18	R2	1070	7.0	1.167	114.5	LOS F	58.0	1532.4	1.00	2.48	9.3
Approach		1198	7.0	1.167	130.3	LOS F	58.0	1532.4	1.00	2.42	8.4
East: Millhave Rd											
1	L2	205	7.0	0.452	16.2	LOS C	2.3	60.0	0.73	0.98	27.5
6	T1	377	7.0	0.102	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
Approach		582	7.0	0.452	5.7	NA	2.3	60.0	0.26	0.35	36.5
West: Millhaven Rd											
2	T1	547	7.0	0.154	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
12	R2	144	7.0	0.096	6.6	LOS A	0.0	0.0	0.00	0.61	32.4
Approach		690	7.0	0.154	1.4	NA	0.0	0.0	0.00	0.13	41.7
All Vehicles		2470	7.0	1.167	64.9	NA	58.0	1532.4	0.55	1.29	13.9

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

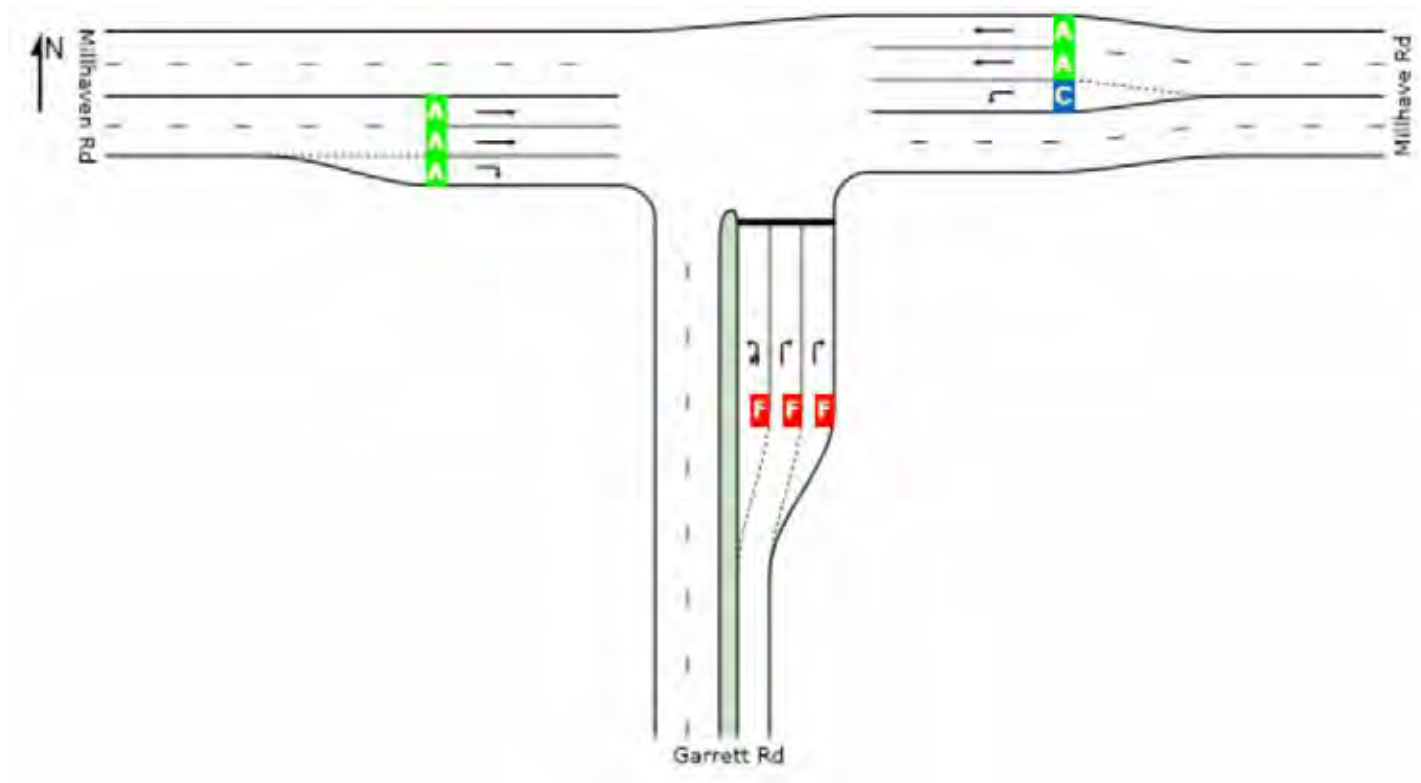
# LEVEL OF SERVICE

**STOP** Site: AM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
 Stop (Two-Way)

## All Movement Classes

	South	East	West	Intersection
LOS	F	NA	NA	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: PM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Roundabout

Volume Display Method: Total and %

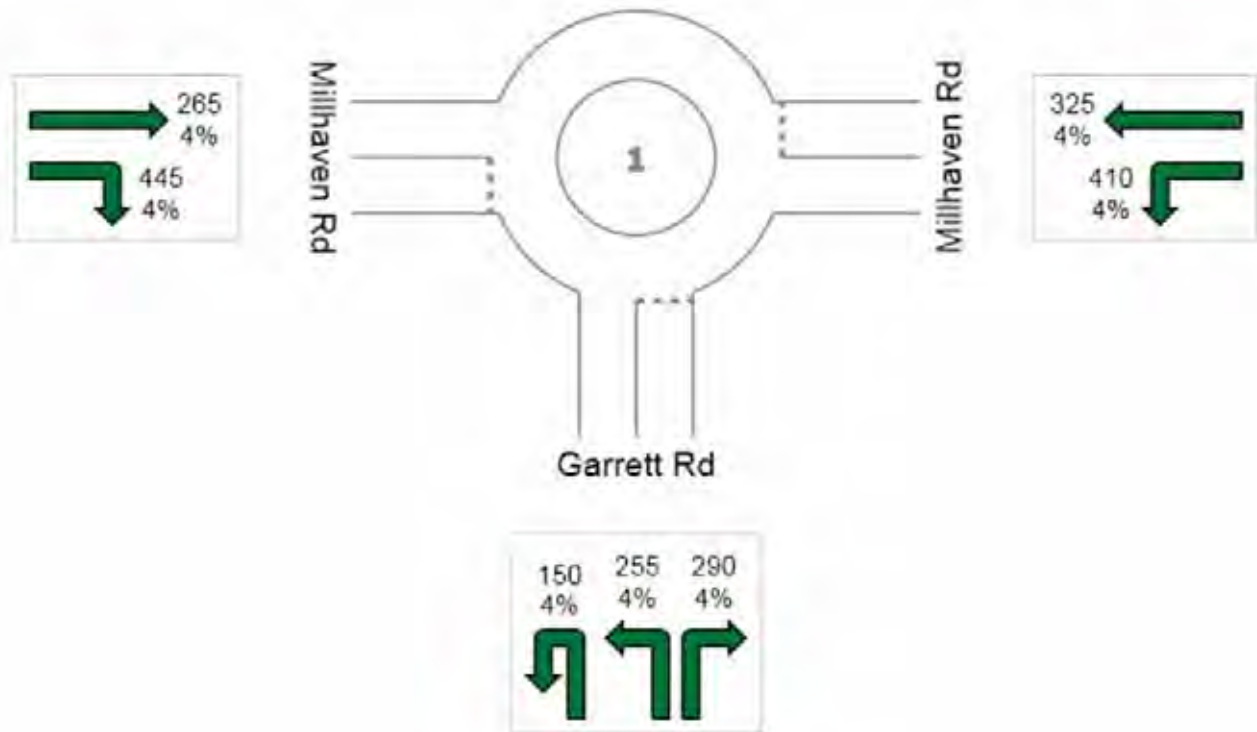
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2140

Light Vehicles (LV): 2054

Heavy Vehicles (HV): 86



# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	32.4 mph	32.4 mph
Travel Distance (Total)	1048.7 veh-mi/h	1258.4 pers-mi/h
Travel Time (Total)	32.4 veh-h/h	38.9 pers-h/h
Demand Flows (Total)	2744 veh/h	3293 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.691	
Practical Spare Capacity	23.0 %	
Effective Intersection Capacity	3970 veh/h	
Control Delay (Total)	3.18 veh-h/h	3.81 pers-h/h
Control Delay (Average)	4.2 sec	4.2 sec
Control Delay (Worst Lane)	12.3 sec	
Control Delay (Worst Movement)	12.3 sec	12.3 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	4.2 sec	
Idling Time (Average)	0.9 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	9.0 veh	
95% Back of Queue - Distance (Worst Lane)	231.7 ft	
Queue Storage Ratio (Worst Lane)	0.38	
Total Effective Stops	1532 veh/h	1838 pers/h
Effective Stop Rate	0.56 per veh	0.56 per pers
Proportion Queued	0.60	0.60
Performance Index	54.8	54.8
Cost (Total)	774.19 \$/h	774.19 \$/h
Fuel Consumption (Total)	68.3 gal/h	
Carbon Dioxide (Total)	612.7 kg/h	
Hydrocarbons (Total)	0.207 kg/h	
Carbon Monoxide (Total)	2.591 kg/h	
NOx (Total)	1.527 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,317,262 veh/y	1,580,714 pers/y
Delay	1,524 veh-h/y	1,829 pers-h/y
Effective Stops	735,290 veh/y	882,348 pers/y
Travel Distance	503,362 veh-mi/y	604,035 pers-mi/y
Travel Time	15,546 veh-h/y	18,655 pers-h/y
Cost	371,611 \$/y	371,611 \$/y
Fuel Consumption	32,779 gal/y	
Carbon Dioxide	294,092 kg/y	
Hydrocarbons	100 kg/y	
Carbon Monoxide	1,244 kg/y	
NOx	733 kg/y	



# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3u	U	176	4.0	0.405	1.7	LOS A	3.2	82.7	0.64	0.47	31.9
3	L2	300	4.0	0.405	1.7	LOS A	3.2	82.7	0.64	0.47	30.4
18	R2	367	4.0	0.229	0.0	LOS A	0.0	0.0	0.00	0.00	37.8
Approach		844	4.0	0.405	1.0	LOS A	3.2	82.7	0.36	0.26	33.5
East: Millhaven Rd											
1	L2	631	4.0	0.592	4.2	LOS A	6.0	153.9	0.84	0.75	31.1
6	T1	451	4.0	0.238	0.0	LOS A	0.0	0.0	0.00	0.00	39.7
Approach		1082	4.0	0.592	2.5	LOS A	6.0	153.9	0.49	0.44	34.0
West: Millhaven Rd											
2	T1	301	4.0	0.402	5.3	LOS A	3.3	85.0	0.93	0.84	33.7
12	R2	517	4.0	0.691	12.3	LOS B	9.0	231.7	1.00	1.12	26.9
Approach		819	4.0	0.691	9.7	LOS A	9.0	231.7	0.97	1.02	29.2
All Vehicles		2744	4.0	0.691	4.2	LOS A	9.0	231.7	0.60	0.56	32.4

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

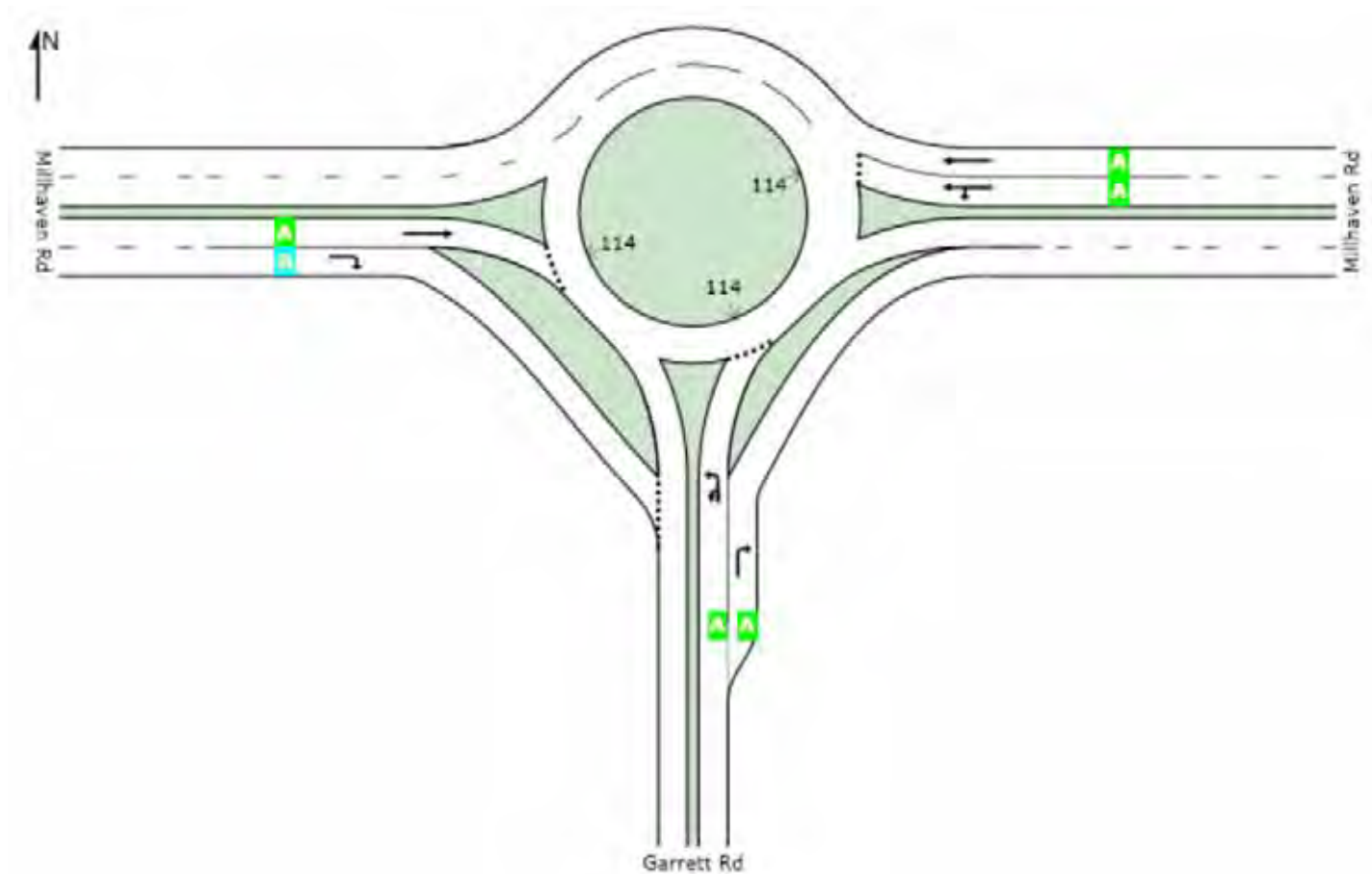
# LEVEL OF SERVICE

**Site: PM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	West	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# QUEUE DISTANCE (%ILE)

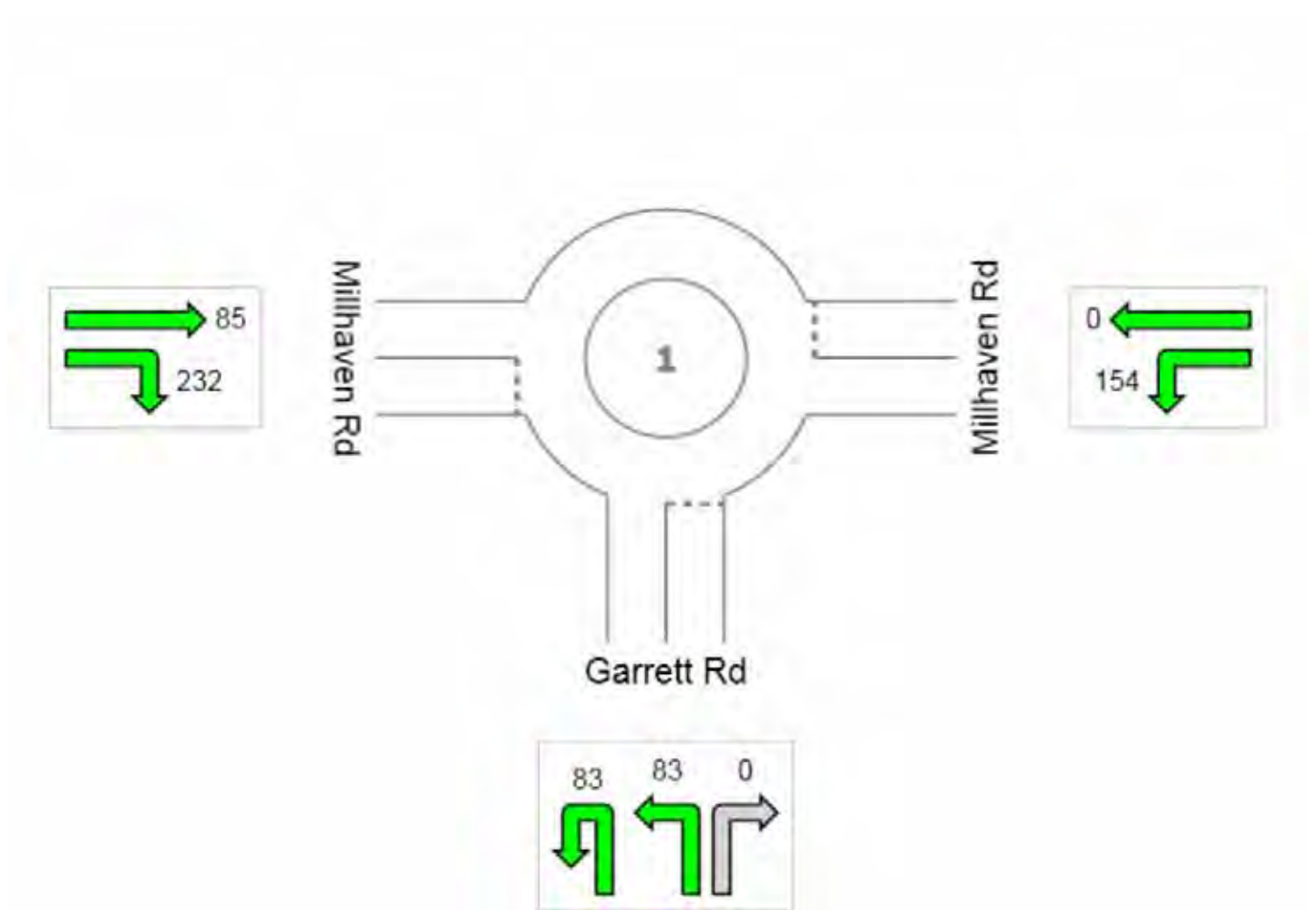
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: PM: Garrett Rd @ Millhaven Rd**

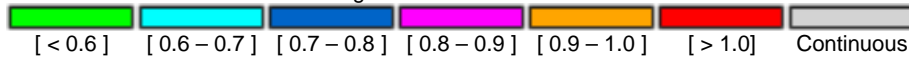
Built Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	East	West	Intersection
Vehicle Queue (%ile)	83	154	232	232



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20

Signals - Actuated

Volume Display Method: Total and %

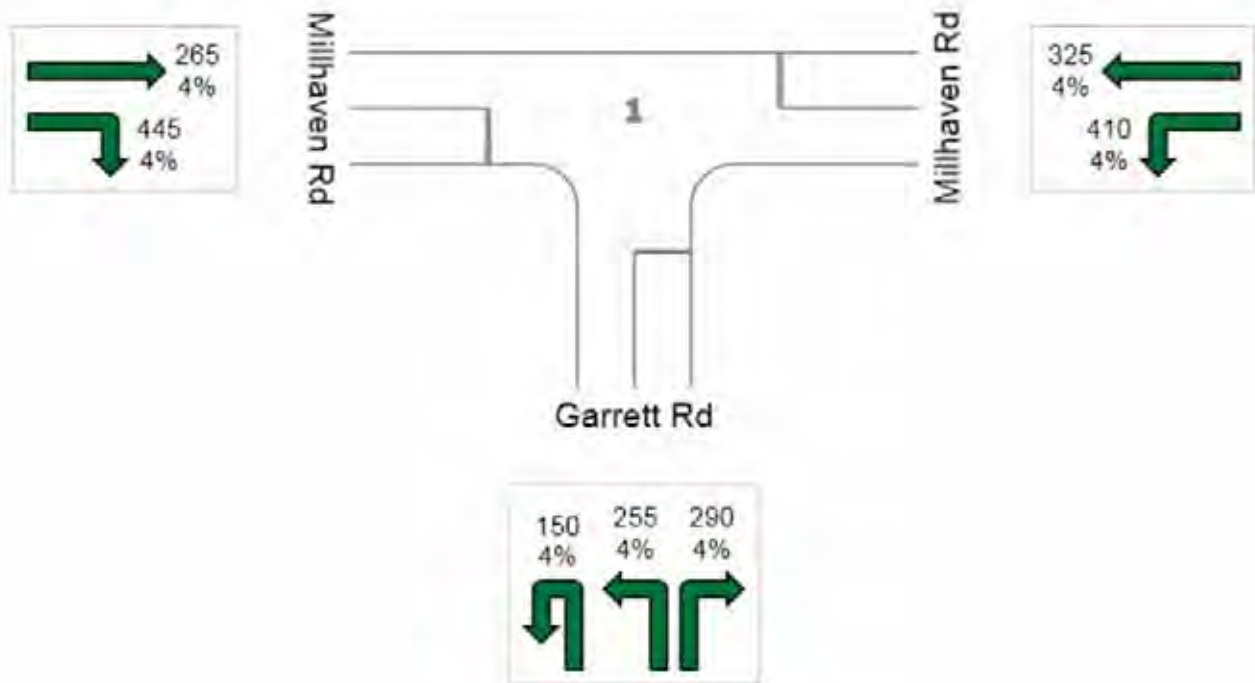
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2140

Light Vehicles (LV): 2054

Heavy Vehicles (HV): 86



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20

Signals - Actuated Cycle Time = 125 seconds (Practical Cycle Time)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	20.4 mph	20.4 mph
Travel Distance (Total)	1527.7 veh-mi/h	1833.2 pers-mi/h
Travel Time (Total)	74.9 veh-h/h	89.9 pers-h/h
Demand Flows (Total)	2744 veh/h	3293 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	1.089	
Practical Spare Capacity	-17.4 %	
Effective Intersection Capacity	2519 veh/h	
Control Delay (Total)	38.98 veh-h/h	46.77 pers-h/h
Control Delay (Average)	51.1 sec	51.1 sec
Control Delay (Worst Lane)	116.7 sec	
Control Delay (Worst Movement)	116.7 sec	116.7 sec
Geometric Delay (Average)	4.9 sec	
Stop-Line Delay (Average)	46.2 sec	
Idling Time (Average)	41.8 sec	
Intersection Level of Service (LOS)	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	30.3 veh	
95% Back of Queue - Distance (Worst Lane)	782.5 ft	
Queue Storage Ratio (Worst Lane)	0.56	
Total Effective Stops	2252 veh/h	2702 pers/h
Effective Stop Rate	0.82 per veh	0.82 per pers
Proportion Queued	0.83	0.83
Performance Index	262.3	262.3
Cost (Total)	1260.55 \$/h	1260.55 \$/h
Fuel Consumption (Total)	87.0 gal/h	
Carbon Dioxide (Total)	780.4 kg/h	
Hydrocarbons (Total)	0.296 kg/h	
Carbon Monoxide (Total)	3.473 kg/h	
NOx (Total)	1.753 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,317,262 veh/y	1,580,714 pers/y
Delay	18,709 veh-h/y	22,450 pers-h/y
Effective Stops	1,080,769 veh/y	1,296,923 pers/y
Travel Distance	733,288 veh-mi/y	879,946 pers-mi/y
Travel Time	35,971 veh-h/y	43,165 pers-h/y
Cost	605,063 \$/y	605,063 \$/y
Fuel Consumption	41,749 gal/y	
Carbon Dioxide	374,602 kg/y	
Hydrocarbons	142 kg/y	
Carbon Monoxide	1,667 kg/y	
NOx	841 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20

Signals - Actuated Cycle Time = 125 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed mph
		Total veh/h	HV %				Vehicles veh	Distance ft			
South: Garrett Rd											
3u	U	176	4.0	0.822	48.7	LOS D	30.3	782.5	0.96	0.88	22.2
3	L2	300	4.0	0.822	47.6	LOS D	30.3	782.5	0.96	0.88	20.1
18	R2	367	4.0	0.317	38.7	LOS D	8.5	219.5	0.75	0.78	24.2
Approach		844	4.0	0.822	44.0	LOS D	30.3	782.5	0.86	0.84	22.3
East: Millhaven Rd											
1	L2	631	4.0	1.089	116.7	LOS F	29.4	758.0	1.00	1.03	13.2
6	T1	451	4.0	0.424	17.4	LOS B	16.6	429.4	0.61	0.54	31.4
Approach		1082	4.0	1.089	75.3	LOS E	29.4	758.0	0.84	0.82	16.8
West: Millhaven Rd											
2	T1	301	4.0	0.229	30.8	LOS C	6.7	171.7	0.72	0.59	25.5
12	R2	517	4.0	0.671	24.2	LOS C	22.5	579.5	0.81	0.92	26.6
Approach		819	4.0	0.671	26.6	LOS C	22.5	579.5	0.77	0.80	26.2
All Vehicles		2744	4.0	1.089	51.1	LOS D	30.3	782.5	0.83	0.82	20.4

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

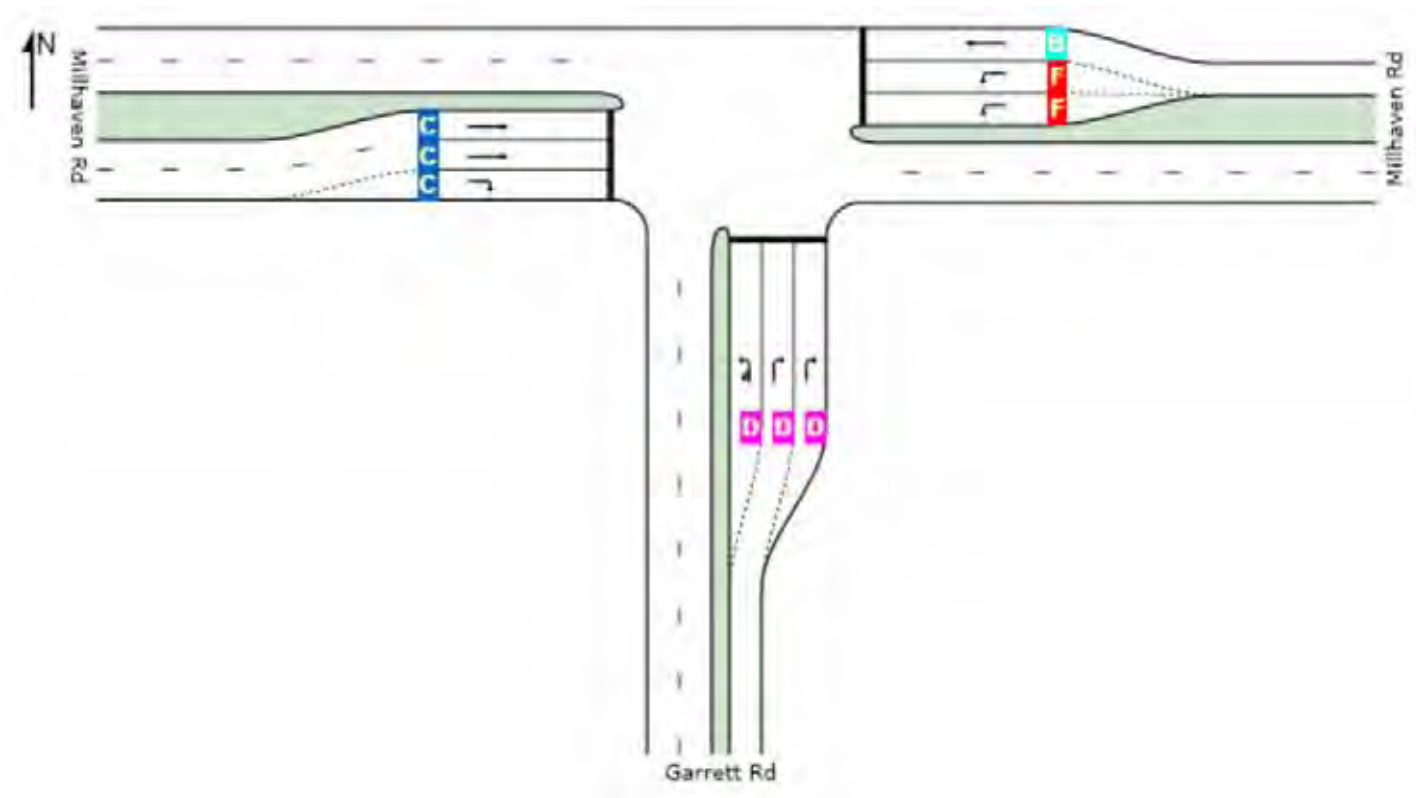
 **Site: PM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20

Signals - Actuated Cycle Time = 125 seconds (Practical Cycle Time)

## All Movement Classes

	South	East	West	Intersection
LOS	D	E	C	D



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: PM: Garrett Rd @ Millhaven Rd**

Built Conditions - North of I-20  
Stop (Two-Way)

Volume Display Method: Total and %

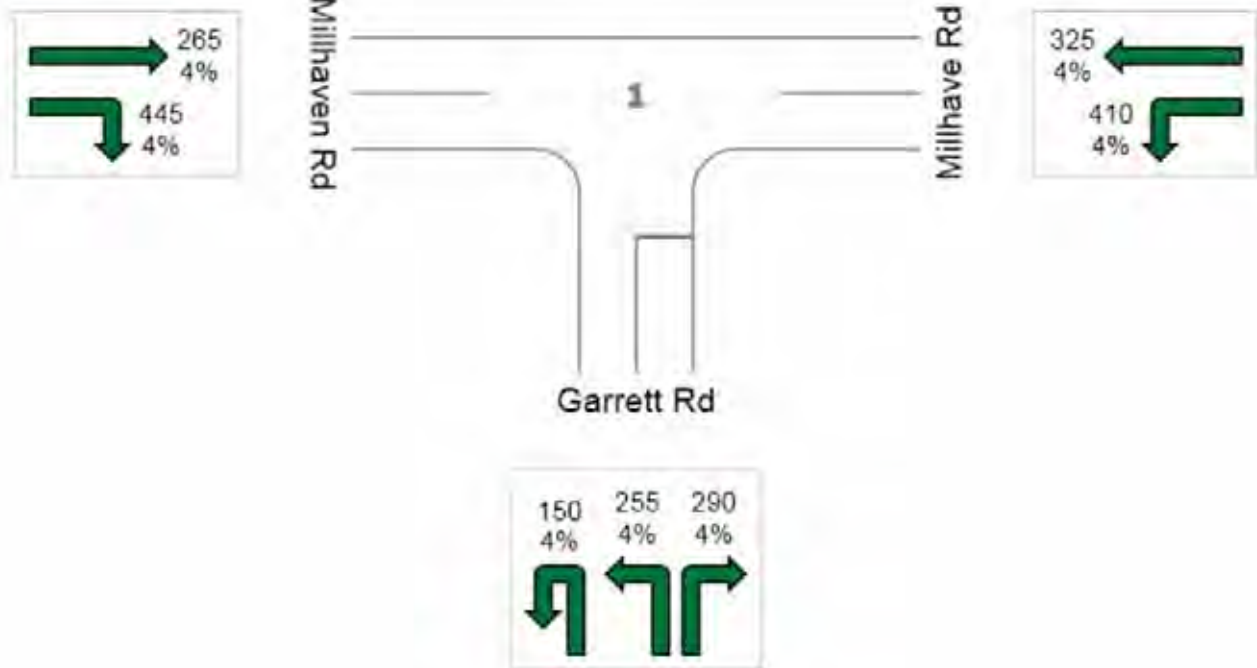
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2140

Light Vehicles (LV): 2054

Heavy Vehicles (HV): 86





# INTERSECTION SUMMARY

 Site: PM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	0.5 mph	0.5 mph
Travel Distance (Total)	997.2 veh-mi/h	1196.6 pers-mi/h
Travel Time (Total)	2206.4 veh-h/h	2647.6 pers-h/h
Demand Flows (Total)	2744 veh/h	3293 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	35.999	
Practical Spare Capacity	-97.8 %	
Effective Intersection Capacity	76 veh/h	
Control Delay (Total)	2182.84 veh-h/h	2619.41 pers-h/h
Control Delay (Average)	2863.5 sec	2863.5 sec
Control Delay (Worst Lane)	16070.1 sec	
Control Delay (Worst Movement)	16070.2 sec	16070.2 sec
Geometric Delay (Average)	5.6 sec	
Stop-Line Delay (Average)	2857.9 sec	
Idling Time (Average)	2839.9 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	233.9 veh	
95% Back of Queue - Distance (Worst Lane)	6035.5 ft	
Queue Storage Ratio (Worst Lane)	0.06	
Total Effective Stops	3901 veh/h	4681 pers/h
Effective Stop Rate	1.42 per veh	1.42 per pers
Proportion Queued	0.48	0.48
Performance Index	2604.6	2604.6
Cost (Total)	30787.53 \$/h	30787.53 \$/h
Fuel Consumption (Total)	770.5 gal/h	
Carbon Dioxide (Total)	6889.5 kg/h	
Hydrocarbons (Total)	5.440 kg/h	
Carbon Monoxide (Total)	25.253 kg/h	
NOx (Total)	5.892 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,317,262 veh/y	1,580,714 pers/y
Delay	1,047,764 veh-h/y	1,257,317 pers-h/y
Effective Stops	1,872,545 veh/y	2,247,054 pers/y
Travel Distance	478,643 veh-mi/y	574,371 pers-mi/y
Travel Time	1,059,053 veh-h/y	1,270,864 pers-h/y
Cost	14,778,010 \$/y	14,778,010 \$/y
Fuel Consumption	369,863 gal/y	
Carbon Dioxide	3,306,943 kg/y	
Hydrocarbons	2,611 kg/y	
Carbon Monoxide	12,121 kg/y	
NOx	2,828 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3u	U	176	4.0	35.999	16070.2	LOS F	233.9	6035.5	1.00	1.39	0.1
3	L2	300	4.0	35.999	16070.0	LOS F	233.9	6035.5	1.00	1.39	0.1
18	R2	367	4.0	0.306	13.7	LOS B	1.8	46.1	0.54	0.91	29.5
Approach		844	4.0	35.999	9082.9	LOS F	233.9	6035.5	0.80	1.18	0.1
East: Millhave Rd											
1	L2	631	4.0	1.625	305.8	LOS F	85.9	2215.3	1.00	4.10	4.1
6	T1	451	4.0	0.119	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
Approach		1082	4.0	1.625	178.2	NA	85.9	2215.3	0.58	2.39	6.4
West: Millhaven Rd											
2	T1	301	4.0	0.082	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
12	R2	517	4.0	0.334	6.6	LOS A	0.0	0.0	0.00	0.61	32.8
Approach		819	4.0	0.334	4.2	NA	0.0	0.0	0.00	0.39	36.6
All Vehicles		2744	4.0	35.999	2863.5	NA	233.9	6035.5	0.48	1.42	0.5

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

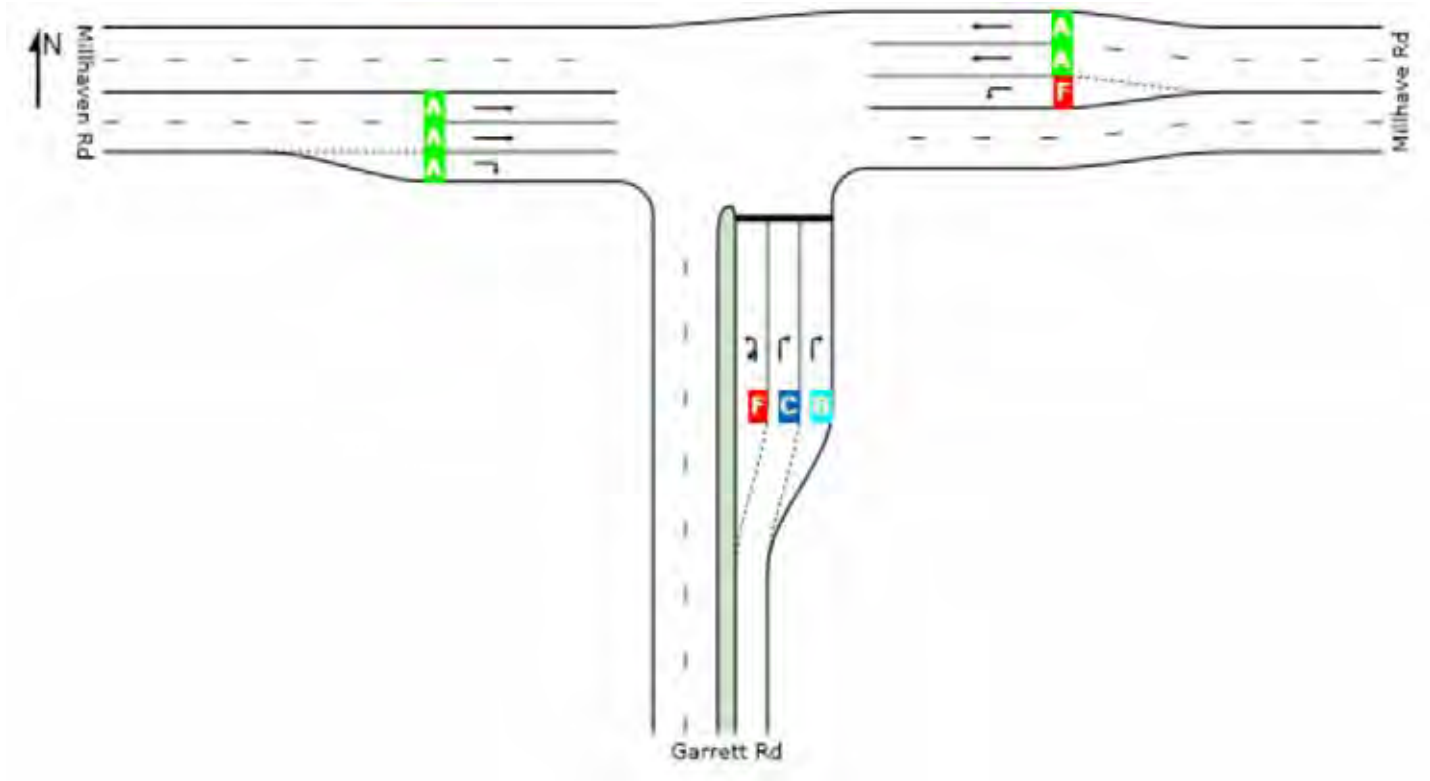
# LEVEL OF SERVICE

**STOP** Site: PM: Garrett Rd @ Millhaven Rd

Built Conditions - North of I-20  
 Stop (Two-Way)

## All Movement Classes

	South	East	West	Intersection
LOS	F	NA	NA	NA



Level of Service (LOS) Method: Delay (HCM 2000).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Overpass at Kansas Lane

Build Conditions - North of I-20  
Roundabout

Volume Display Method: Total and %

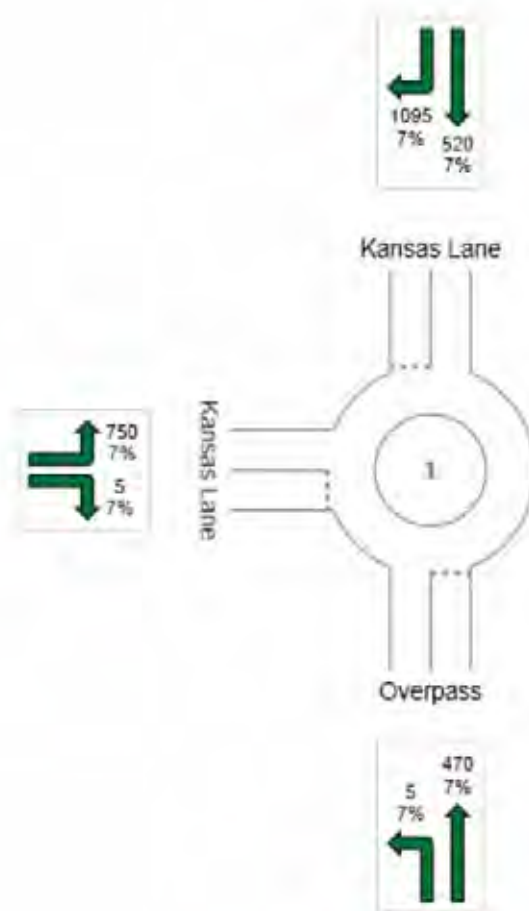
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2845

Light Vehicles (LV): 2646

Heavy Vehicles (HV): 199



# INTERSECTION SUMMARY

 **Site: AM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	36.5 mph	36.5 mph
Travel Distance (Total)	1600.9 veh-mi/h	1921.1 pers-mi/h
Travel Time (Total)	43.8 veh-h/h	52.6 pers-h/h
Demand Flows (Total)	3092 veh/h	3711 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.705	
Practical Spare Capacity	20.5 %	
Effective Intersection Capacity	4383 veh/h	
Control Delay (Total)	1.50 veh-h/h	1.80 pers-h/h
Control Delay (Average)	1.7 sec	1.7 sec
Control Delay (Worst Lane)	4.9 sec	
Control Delay (Worst Movement)	4.6 sec	4.6 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	1.7 sec	
Idling Time (Average)	0.1 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	11.2 veh	
95% Back of Queue - Distance (Worst Lane)	296.4 ft	
Queue Storage Ratio (Worst Lane)	0.36	
Total Effective Stops	875 veh/h	1049 pers/h
Effective Stop Rate	0.28 per veh	0.28 per pers
Proportion Queued	0.37	0.37
Performance Index	61.7	61.7
Cost (Total)	969.87 \$/h	969.87 \$/h
Fuel Consumption (Total)	98.5 gal/h	
Carbon Dioxide (Total)	890.2 kg/h	
Hydrocarbons (Total)	0.249 kg/h	
Carbon Monoxide (Total)	3.441 kg/h	
NOx (Total)	2.956 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,484,348 veh/y	1,781,217 pers/y
Delay	718 veh-h/y	862 pers-h/y
Effective Stops	419,794 veh/y	503,753 pers/y
Travel Distance	768,446 veh-mi/y	922,136 pers-mi/y
Travel Time	21,045 veh-h/y	25,254 pers-h/y
Cost	465,540 \$/y	465,540 \$/y
Fuel Consumption	47,303 gal/y	
Carbon Dioxide	427,311 kg/y	
Hydrocarbons	119 kg/y	
Carbon Monoxide	1,652 kg/y	
NOx	1,419 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
<b>South: Overpass</b>											
3	L2	5	7.0	0.344	3.4	LOS A	1.7	43.7	0.69	0.58	37.6
8	T1	511	7.0	0.344	2.9	LOS A	1.7	45.6	0.69	0.54	37.7
Approach		516	7.0	0.344	2.9	LOS A	1.7	45.6	0.69	0.54	37.7
<b>North: Kansas Lane</b>											
4	T1	565	7.0	0.418	0.0	LOS A	3.7	96.7	0.09	0.02	41.2
14	R2	1190	7.0	0.705	0.1	LOS A	11.2	296.4	0.13	0.02	36.9
Approach		1755	7.0	0.705	0.1	LOS A	11.2	296.4	0.11	0.02	38.5
<b>West: Kansas Lane</b>											
5	L2	815	7.0	0.476	4.6	LOS A	3.2	84.2	0.70	0.68	32.1
12	R2	5	7.0	0.476	4.3	LOS A	3.2	84.2	0.70	0.67	34.1
Approach		821	7.0	0.476	4.6	LOS A	3.2	84.2	0.70	0.68	32.1
All Vehicles		3092	7.0	0.705	1.7	LOS A	11.2	296.4	0.37	0.28	36.5

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

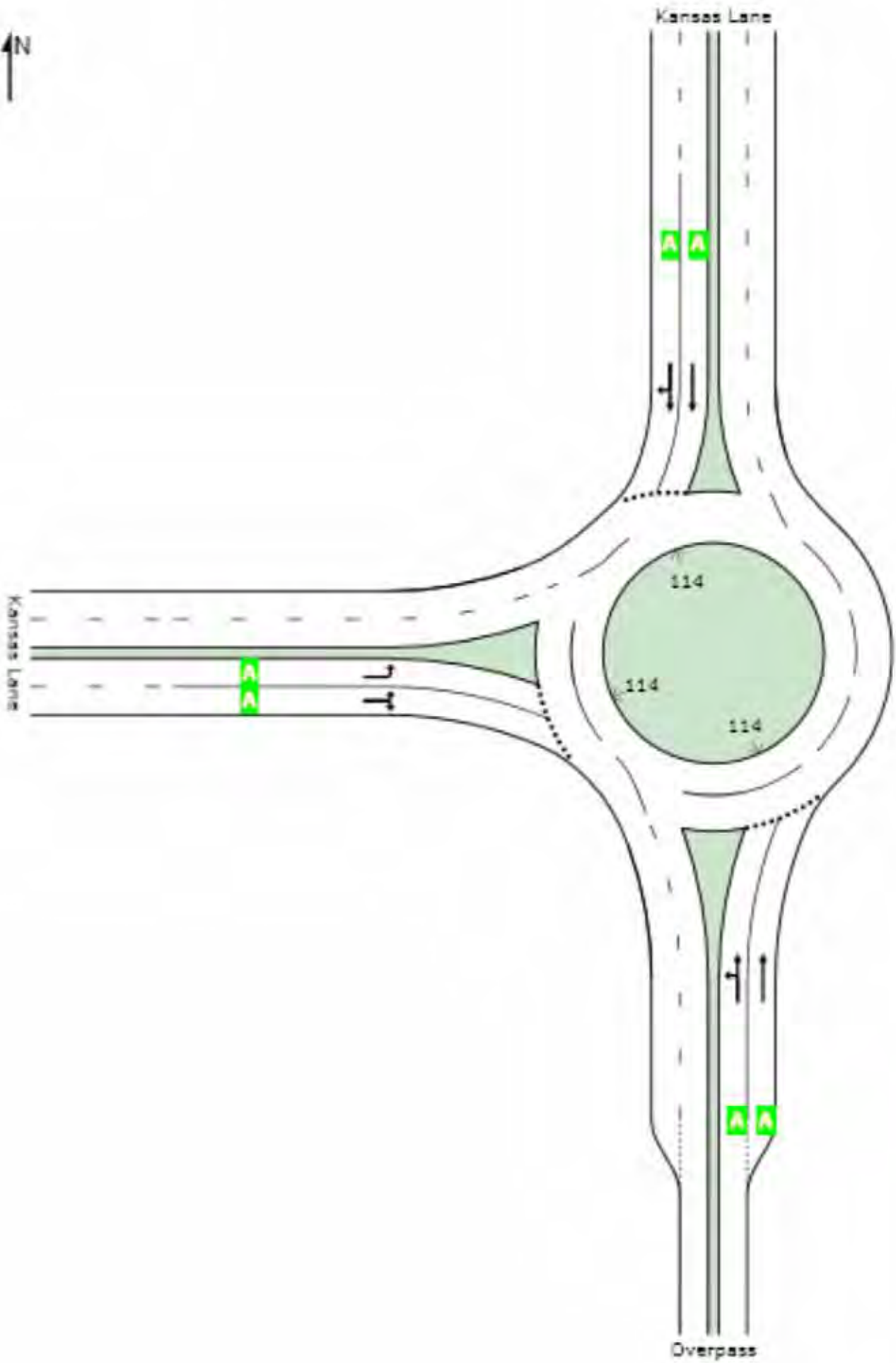
 **Site: AM: Overpass at Kansas Lane**

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Build Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	A	A





# QUEUE DISTANCE (%ILE)

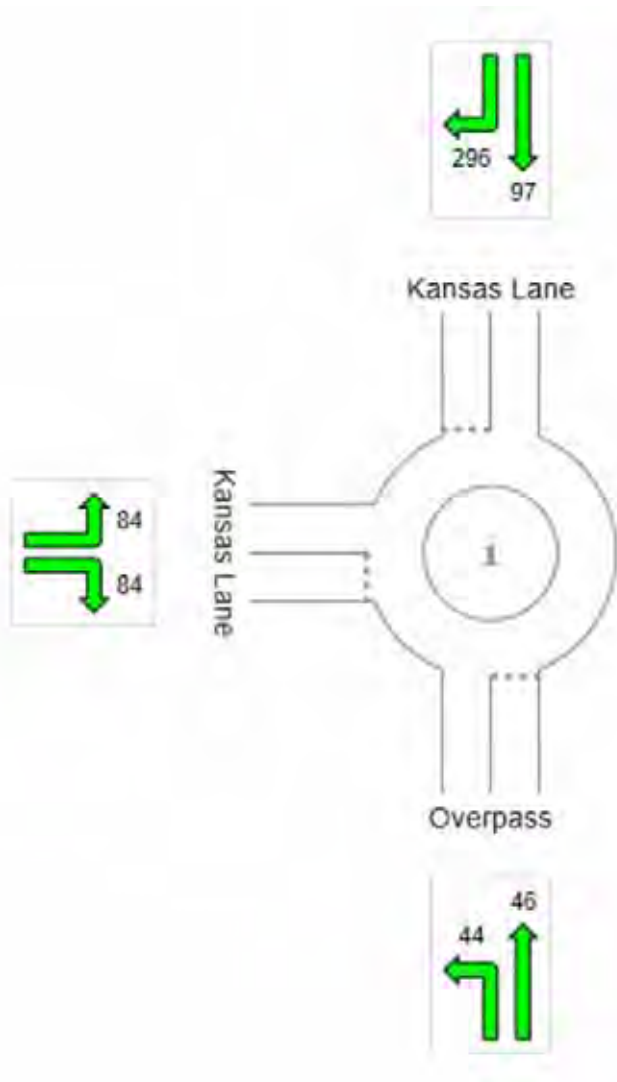
Largest 95% Back of Queue for any lane used by movement (feet)

## Site: AM: Overpass at Kansas Lane

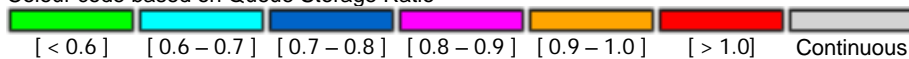
Build Conditions - North of I-20  
Roundabout

### All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	46	296	84	296



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

## Vehicles and pedestrians per 60 minutes

 **Site: AM: Overpass at Kansas Lane**

Build Conditions - North of I-20

Signals - Actuated

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2845

Light Vehicles (LV): 2646

Heavy Vehicles (HV): 199



# INTERSECTION SUMMARY

 **Site: AM: Overpass at Kansas Lane**

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 30 seconds (Optimum Cycle Time - Minimum Delay)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	31.3 mph	31.3 mph
Travel Distance (Total)	1550.4 veh-mi/h	1860.4 pers-mi/h
Travel Time (Total)	49.6 veh-h/h	59.5 pers-h/h
Demand Flows (Total)	3092 veh/h	3711 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.904	
Practical Spare Capacity	-0.4 %	
Effective Intersection Capacity	3421 veh/h	
Control Delay (Total)	9.67 veh-h/h	11.61 pers-h/h
Control Delay (Average)	11.3 sec	11.3 sec
Control Delay (Worst Lane)	20.3 sec	
Control Delay (Worst Movement)	20.3 sec	20.3 sec
Geometric Delay (Average)	4.0 sec	
Stop-Line Delay (Average)	7.3 sec	
Idling Time (Average)	3.8 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	8.9 veh	
95% Back of Queue - Distance (Worst Lane)	235.9 ft	
Queue Storage Ratio (Worst Lane)	0.40	
Total Effective Stops	2385 veh/h	2862 pers/h
Effective Stop Rate	0.77 per veh	0.77 per pers
Proportion Queued	0.77	0.77
Performance Index	100.7	100.7
Cost (Total)	926.29 \$/h	926.29 \$/h
Fuel Consumption (Total)	85.6 gal/h	
Carbon Dioxide (Total)	773.5 kg/h	
Hydrocarbons (Total)	0.220 kg/h	
Carbon Monoxide (Total)	2.967 kg/h	
NOx (Total)	2.501 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,484,348 veh/y	1,781,217 pers/y
Delay	4,643 veh-h/y	5,571 pers-h/y
Effective Stops	1,144,683 veh/y	1,373,620 pers/y
Travel Distance	744,179 veh-mi/y	893,015 pers-mi/y
Travel Time	23,794 veh-h/y	28,552 pers-h/y
Cost	444,619 \$/y	444,619 \$/y
Fuel Consumption	41,111 gal/y	
Carbon Dioxide	371,275 kg/y	
Hydrocarbons	105 kg/y	
Carbon Monoxide	1,424 kg/y	
NOx	1,201 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Overpass at Kansas Lane**

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 30 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Overpass											
3	L2	5	7.0	0.755	16.0	LOS B	8.3	219.3	0.90	0.78	35.5
8	T1	511	7.0	0.755	9.2	LOS A	8.3	219.3	0.90	0.78	37.7
Approach		516	7.0	0.755	9.3	LOS A	8.3	219.3	0.90	0.78	37.7
North: Kansas Lane											
4	T1	565	7.0	0.398	7.6	LOS A	3.4	90.6	0.74	0.62	35.1
14	R2	1190	7.0	0.593	7.7	LOS A	3.5	92.9	0.58	0.76	30.8
Approach		1755	7.0	0.593	7.7	LOS A	3.5	92.9	0.63	0.71	32.3
West: Kansas Lane											
5	L2	815	7.0	0.904	20.3	LOS C	8.9	235.9	1.00	0.90	25.6
12	R2	5	7.0	0.007	7.6	LOS A	0.0	0.5	0.34	0.63	36.5
Approach		821	7.0	0.904	20.2	LOS C	8.9	235.9	1.00	0.89	25.6
All Vehicles		3092	7.0	0.904	11.3	LOS B	8.9	235.9	0.77	0.77	31.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

 **Site: AM: Overpass at Kansas Lane**

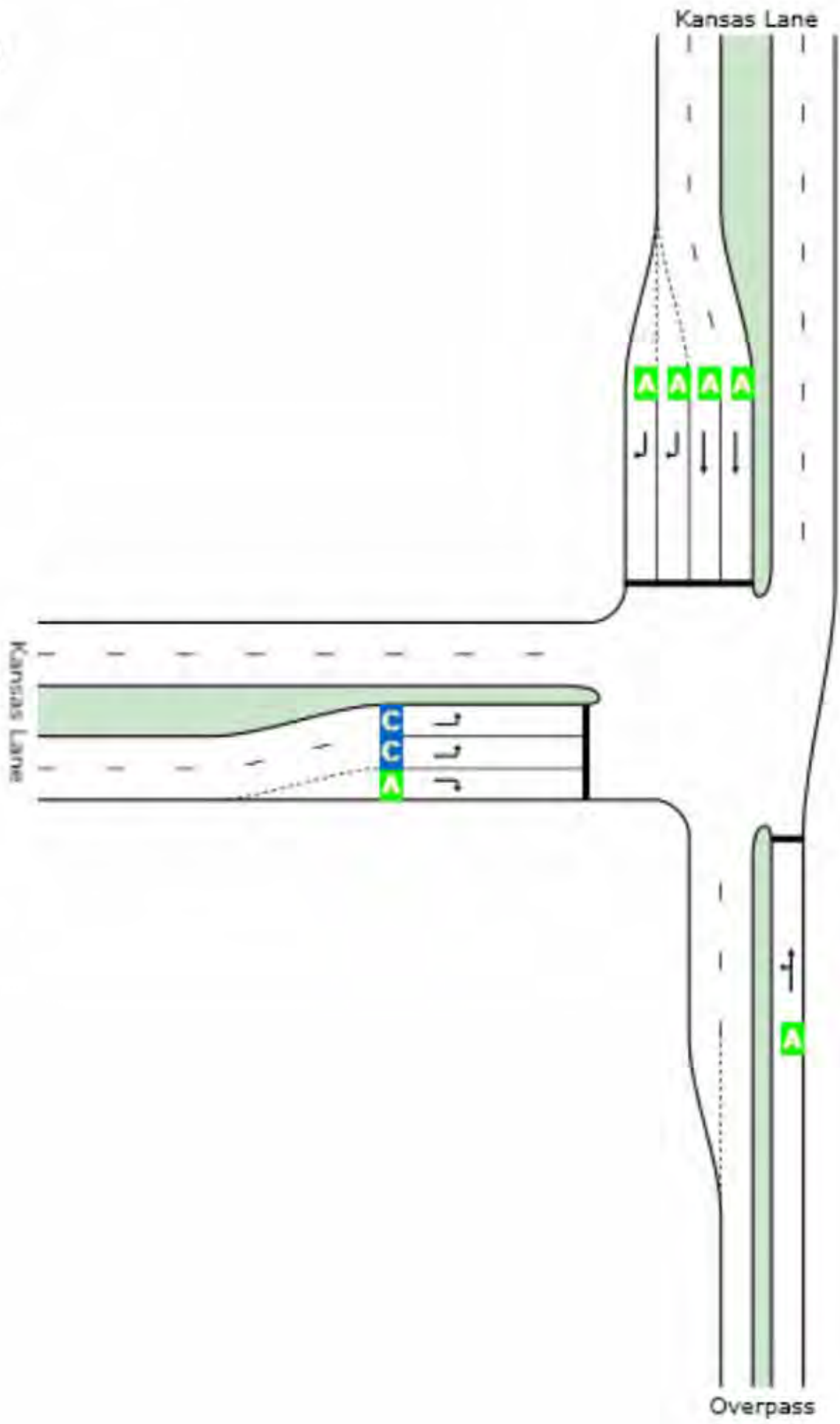
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Build Conditions - North of I-20

Signals - Actuated Cycle Time = 30 seconds (Optimum Cycle Time - Minimum Delay)

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	C	B



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Stop (Two-Way)

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 2845

Light Vehicles (LV): 2646

Heavy Vehicles (HV): 199



# INTERSECTION SUMMARY

 **Site: AM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	0.3 mph	0.3 mph
Travel Distance (Total)	1547.9 veh-mi/h	1857.5 pers-mi/h
Travel Time (Total)	4488.2 veh-h/h	5385.9 pers-h/h
Demand Flows (Total)	3092 veh/h	3711 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	44.120	
Practical Spare Capacity	-98.2 %	
Effective Intersection Capacity	70 veh/h	
Control Delay (Total)	4452.19 veh-h/h	5342.63 pers-h/h
Control Delay (Average)	5183.0 sec	5183.0 sec
Control Delay (Worst Lane)	19625.6 sec	
Control Delay (Worst Movement)	19625.6 sec	19625.6 sec
Geometric Delay (Average)	5.1 sec	
Stop-Line Delay (Average)	5177.9 sec	
Idling Time (Average)	5173.5 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	364.6 veh	
95% Back of Queue - Distance (Worst Lane)	9624.5 ft	
Queue Storage Ratio (Worst Lane)	10.59	
Total Effective Stops	1969 veh/h	2362 pers/h
Effective Stop Rate	0.64 per veh	0.64 per pers
Proportion Queued	0.43	0.43
Performance Index	4790.9	4790.9
Cost (Total)	62764.39 \$/h	62764.39 \$/h
Fuel Consumption (Total)	1584.2 gal/h	
Carbon Dioxide (Total)	14216.7 kg/h	
Hydrocarbons (Total)	11.070 kg/h	
Carbon Monoxide (Total)	52.223 kg/h	
NOx (Total)	17.784 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,484,348 veh/y	1,781,217 pers/y
Delay	2,137,053 veh-h/y	2,564,464 pers-h/y
Effective Stops	944,936 veh/y	1,133,924 pers/y
Travel Distance	743,000 veh-mi/y	891,600 pers-mi/y
Travel Time	2,154,344 veh-h/y	2,585,212 pers-h/y
Cost	30,126,910 \$/y	30,126,910 \$/y
Fuel Consumption	760,431 gal/y	
Carbon Dioxide	6,824,033 kg/y	
Hydrocarbons	5,313 kg/y	
Carbon Monoxide	25,067 kg/y	
NOx	8,536 kg/y	



# MOVEMENT SUMMARY

 **Site: AM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
<b>South: Overpass</b>											
3	L2	5	7.0	0.323	46.8	LOS E	12.9	339.5	1.00	0.01	23.7
8	T1	511	7.0	0.323	40.1	LOS E	12.9	339.5	1.00	0.01	24.5
Approach		516	7.0	0.323	40.2	NA	12.9	339.5	1.00	0.01	24.4
<b>North: Overpass</b>											
4	T1	565	7.0	0.159	0.0	LOS A	0.0	0.0	0.00	0.00	45.0
14	R2	1190	7.0	0.395	6.7	LOS A	0.0	0.0	0.00	0.61	34.4
Approach		1755	7.0	0.395	4.5	NA	0.0	0.0	0.00	0.42	37.8
<b>West: Kansas Lane</b>											
5	L2	815	7.0	44.120	19625.6	LOS F	364.6	9624.5	1.00	1.51	0.1
12	R2	5	7.0	0.009	12.3	LOS B	0.0	1.0	0.50	0.81	34.8
Approach		821	7.0	44.120	19495.7	LOS F	364.6	9624.5	1.00	1.50	0.1
All Vehicles		3092	7.0	44.120	5183.0	NA	364.6	9624.5	0.43	0.64	0.3

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE



Site: AM: Overpass at Kansas Lane

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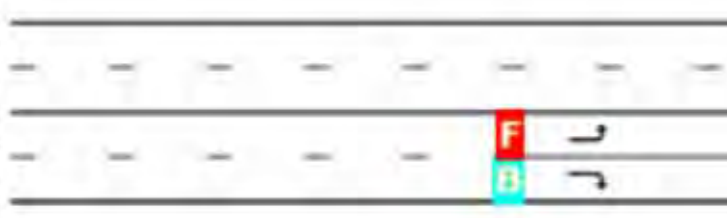
Build Conditions - North of I-20  
Stop (Two-Way)

## All Movement Classes

	South	North	West	Intersection
LOS	NA	NA	F	NA



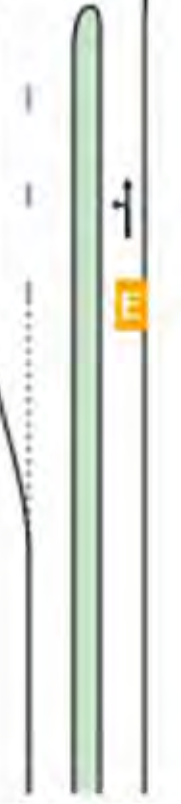
Kansas Lane



Overpass



Overpass



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Overpass at Kansas Lane

Build Conditions - North of I-20  
Roundabout

Volume Display Method: Total and %

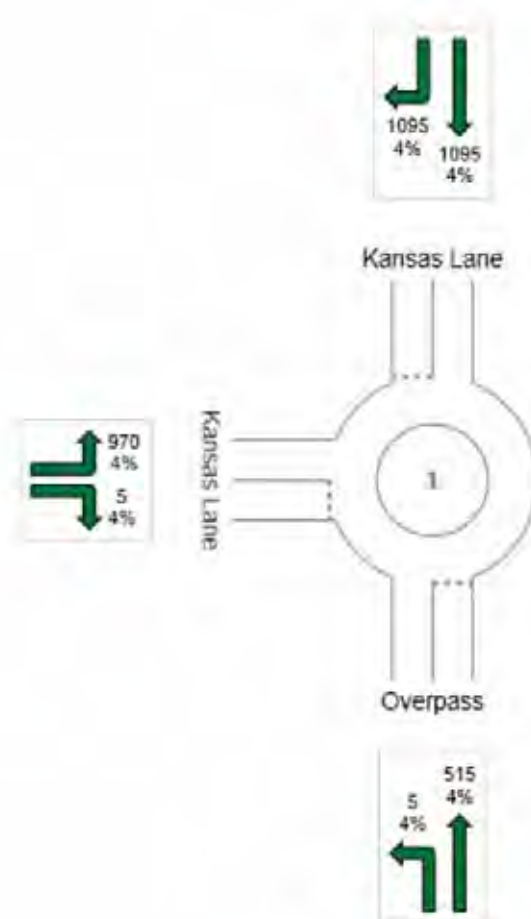
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3685

Light Vehicles (LV): 3538

Heavy Vehicles (HV): 147



# INTERSECTION SUMMARY

 **Site: PM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	32.8 mph	32.8 mph
Travel Distance (Total)	2133.4 veh-mi/h	2560.0 pers-mi/h
Travel Time (Total)	65.0 veh-h/h	78.0 pers-h/h
Demand Flows (Total)	4005 veh/h	4807 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.885	
Practical Spare Capacity	-4.0 %	
Effective Intersection Capacity	4524 veh/h	
Control Delay (Total)	9.59 veh-h/h	11.51 pers-h/h
Control Delay (Average)	8.6 sec	8.6 sec
Control Delay (Worst Lane)	31.8 sec	
Control Delay (Worst Movement)	30.0 sec	30.0 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	8.6 sec	
Idling Time (Average)	4.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	14.8 veh	
95% Back of Queue - Distance (Worst Lane)	381.9 ft	
Queue Storage Ratio (Worst Lane)	0.43	
Total Effective Stops	2060 veh/h	2472 pers/h
Effective Stop Rate	0.51 per veh	0.51 per pers
Proportion Queued	0.47	0.47
Performance Index	118.1	118.1
Cost (Total)	1314.63 \$/h	1314.63 \$/h
Fuel Consumption (Total)	121.2 gal/h	
Carbon Dioxide (Total)	1088.4 kg/h	
Hydrocarbons (Total)	0.357 kg/h	
Carbon Monoxide (Total)	4.745 kg/h	
NOx (Total)	2.735 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,922,608 veh/y	2,307,131 pers/y
Delay	4,604 veh-h/y	5,525 pers-h/y
Effective Stops	988,644 veh/y	1,186,373 pers/y
Travel Distance	1,024,014 veh-mi/y	1,228,817 pers-mi/y
Travel Time	31,193 veh-h/y	37,432 pers-h/y
Cost	631,021 \$/y	631,021 \$/y
Fuel Consumption	58,177 gal/y	
Carbon Dioxide	522,447 kg/y	
Hydrocarbons	171 kg/y	
Carbon Monoxide	2,278 kg/y	
NOx	1,313 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
<b>South: Overpass</b>											
3	L2	5	4.0	0.468	5.1	LOS A	2.7	69.5	0.82	0.81	37.4
8	T1	560	4.0	0.468	4.5	LOS A	2.9	75.5	0.83	0.76	37.4
Approach		565	4.0	0.468	4.5	LOS A	2.9	75.5	0.83	0.76	37.4
<b>North: Kansas Lane</b>											
4	T1	1190	4.0	0.740	0.1	LOS A	14.0	360.1	0.16	0.03	40.9
14	R2	1190	4.0	0.740	0.1	LOS A	14.0	360.1	0.14	0.02	37.4
Approach		2380	4.0	0.740	0.1	LOS A	14.0	360.1	0.15	0.03	39.3
<b>West: Kansas Lane</b>											
5	L2	1054	4.0	0.885	30.0	LOS C	14.8	381.9	1.00	1.48	22.1
12	R2	5	4.0	0.885	28.6	LOS C	14.8	381.9	1.00	1.50	25.3
Approach		1060	4.0	0.885	30.0	LOS C	14.8	381.9	1.00	1.48	22.1
All Vehicles		4005	4.0	0.885	8.6	LOS A	14.8	381.9	0.47	0.51	32.8

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

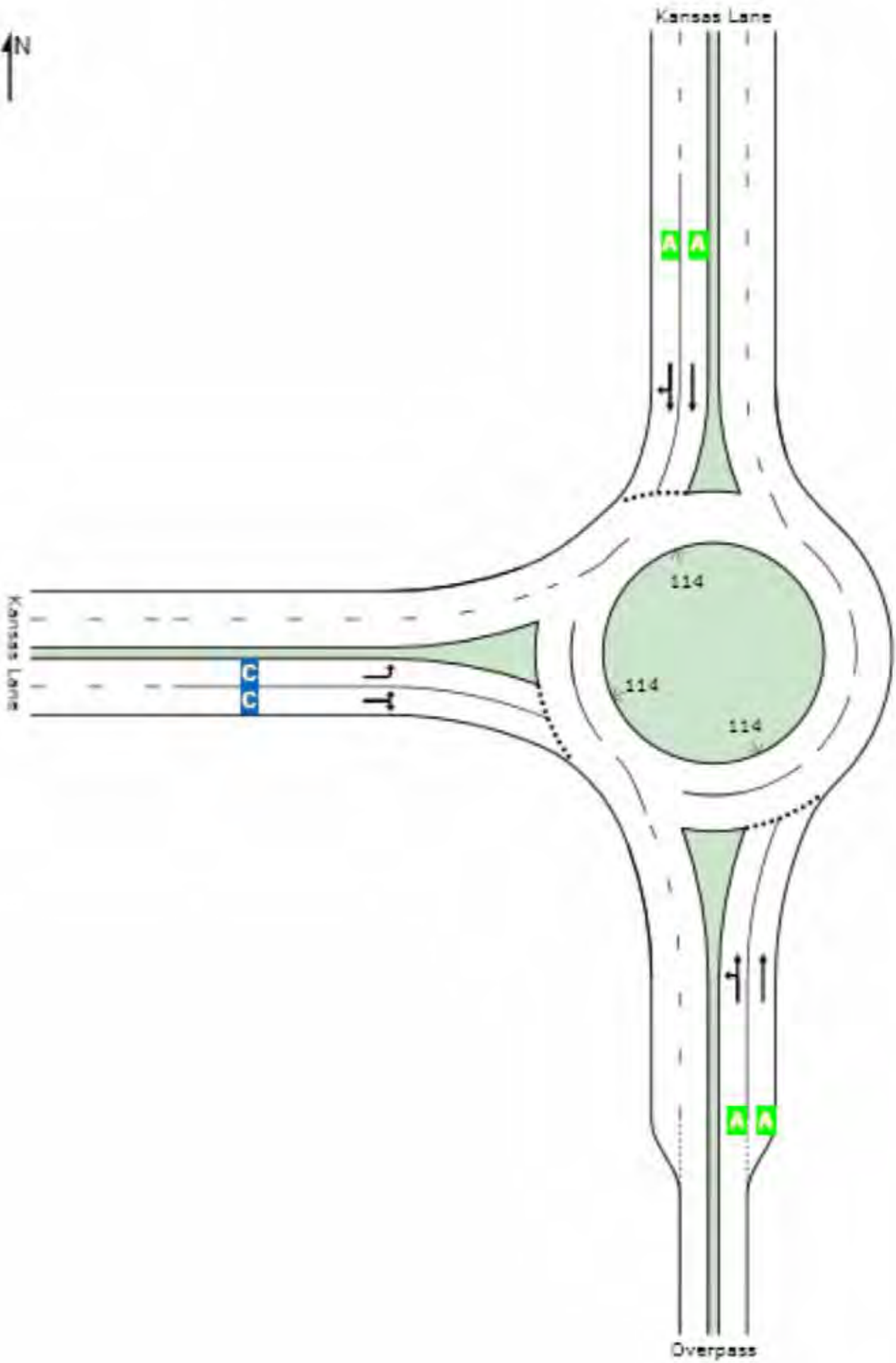
 **Site: PM: Overpass at Kansas Lane**

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Build Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	C	A





# QUEUE DISTANCE (%ILE)

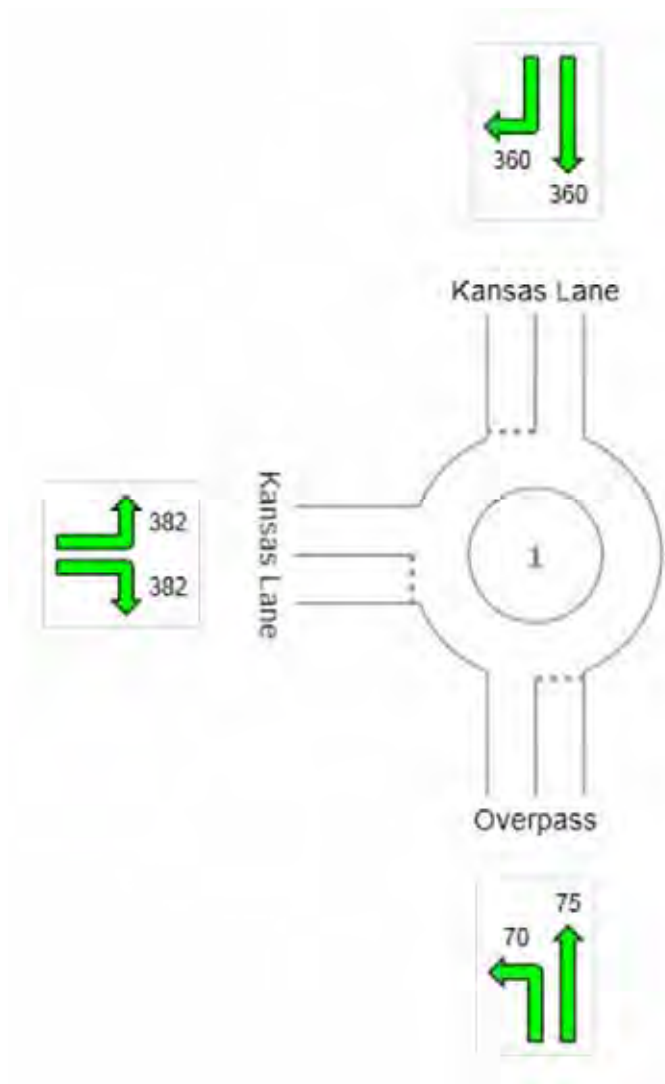
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: PM: Overpass at Kansas Lane**

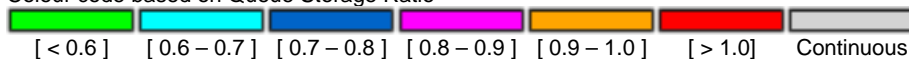
Build Conditions - North of I-20  
Roundabout

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	75	360	382	382



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Overpass at Kansas Lane

Build Conditions - North of I-20

Signals - Actuated

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3685

Light Vehicles (LV): 3538

Heavy Vehicles (HV): 147



# INTERSECTION SUMMARY

 **Site: PM: Overpass at Kansas Lane**

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 40 seconds (Optimum Cycle Time - Minimum Delay)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	30.5 mph	30.5 mph
Travel Distance (Total)	2062.9 veh-mi/h	2475.5 pers-mi/h
Travel Time (Total)	67.7 veh-h/h	81.2 pers-h/h
Demand Flows (Total)	4005 veh/h	4807 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.932	
Practical Spare Capacity	-3.5 %	
Effective Intersection Capacity	4296 veh/h	
Control Delay (Total)	15.32 veh-h/h	18.39 pers-h/h
Control Delay (Average)	13.8 sec	13.8 sec
Control Delay (Worst Lane)	25.0 sec	
Control Delay (Worst Movement)	25.0 sec	25.0 sec
Geometric Delay (Average)	3.4 sec	
Stop-Line Delay (Average)	10.4 sec	
Idling Time (Average)	6.5 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	14.9 veh	
95% Back of Queue - Distance (Worst Lane)	384.8 ft	
Queue Storage Ratio (Worst Lane)	0.64	
Total Effective Stops	3235 veh/h	3881 pers/h
Effective Stop Rate	0.81 per veh	0.81 per pers
Proportion Queued	0.78	0.78
Performance Index	150.0	150.0
Cost (Total)	1161.57 \$/h	1161.57 \$/h
Fuel Consumption (Total)	101.2 gal/h	
Carbon Dioxide (Total)	908.7 kg/h	
Hydrocarbons (Total)	0.296 kg/h	
Carbon Monoxide (Total)	3.967 kg/h	
NOx (Total)	2.185 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,922,608 veh/y	2,307,131 pers/y
Delay	7,354 veh-h/y	8,825 pers-h/y
Effective Stops	1,552,569 veh/y	1,863,082 pers/y
Travel Distance	990,201 veh-mi/y	1,188,241 pers-mi/y
Travel Time	32,495 veh-h/y	38,994 pers-h/y
Cost	557,554 \$/y	557,554 \$/y
Fuel Consumption	48,569 gal/y	
Carbon Dioxide	436,169 kg/y	
Hydrocarbons	142 kg/y	
Carbon Monoxide	1,904 kg/y	
NOx	1,049 kg/y	

# MOVEMENT SUMMARY

## Site: PM: Overpass at Kansas Lane

Build Conditions - North of I-20

Signals - Actuated Cycle Time = 40 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Overpass											
3	L2	5	4.0	0.773	18.3	LOS B	11.7	302.7	0.90	0.79	34.6
8	T1	560	4.0	0.773	11.5	LOS B	11.7	302.7	0.90	0.79	36.2
Approach		565	4.0	0.773	11.6	LOS B	11.7	302.7	0.90	0.79	36.2
North: Kansas Lane											
4	T1	1190	4.0	0.766	11.5	LOS B	12.2	314.3	0.90	0.79	33.0
14	R2	1190	4.0	0.513	7.2	LOS A	3.3	85.6	0.43	0.71	31.6
Approach		2380	4.0	0.766	9.3	LOS A	12.2	314.3	0.66	0.75	32.4
West: Kansas Lane											
5	L2	1054	4.0	0.932	25.0	LOS C	14.9	384.8	1.00	0.95	24.0
12	R2	5	4.0	0.007	7.3	LOS A	0.0	0.5	0.25	0.63	36.9
Approach		1060	4.0	0.932	24.9	LOS C	14.9	384.8	1.00	0.95	24.1
All Vehicles		4005	4.0	0.932	13.8	LOS B	14.9	384.8	0.78	0.81	30.5

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

 **Site: PM: Overpass at Kansas Lane**

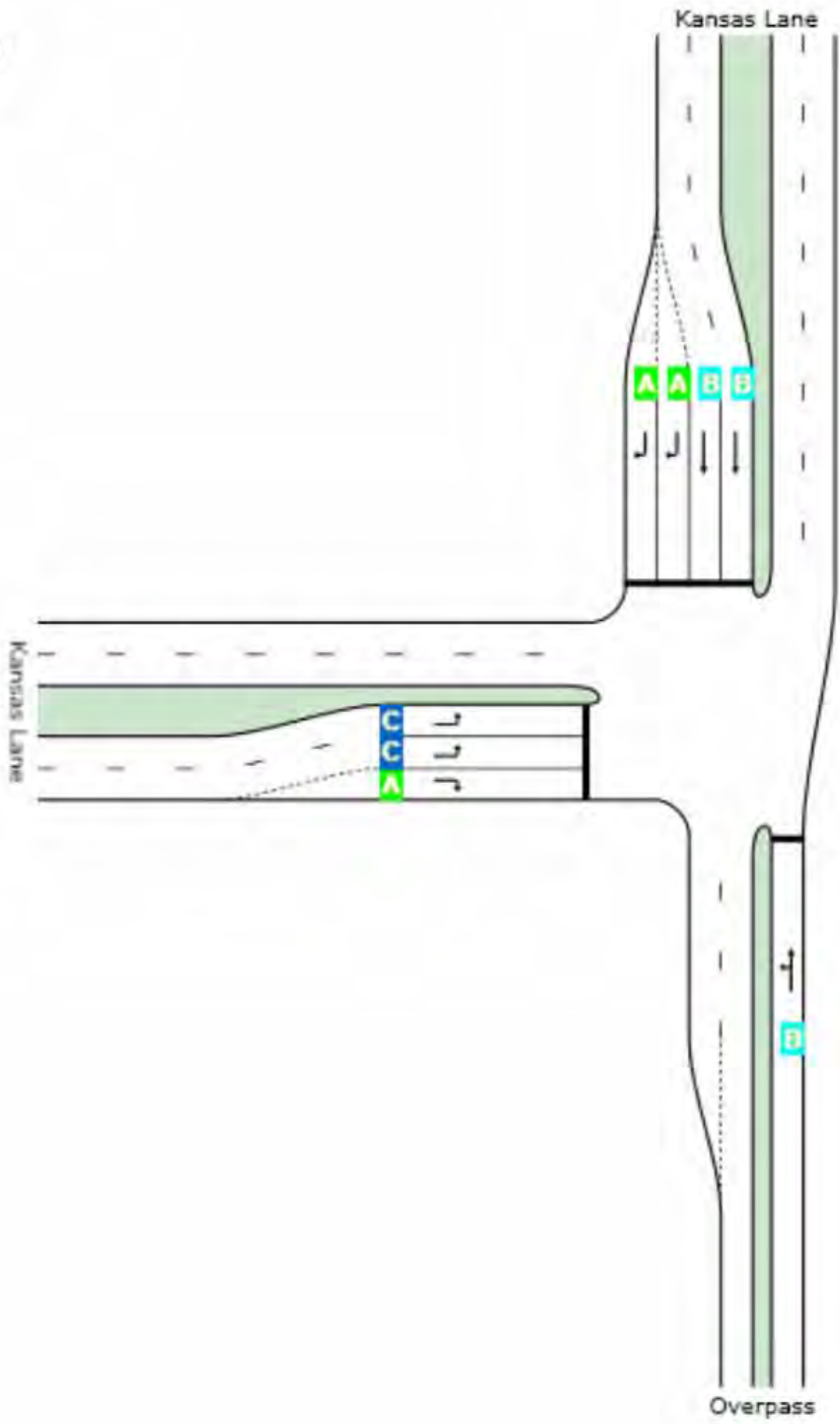
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Build Conditions - North of I-20

Signals - Actuated Cycle Time = 40 seconds (Optimum Cycle Time - Minimum Delay)

## All Movement Classes

	South	North	West	Intersection
LOS	B	A	C	B



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: PM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Stop (Two-Way)

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 3685

Light Vehicles (LV): 3538

Heavy Vehicles (HV): 147



# INTERSECTION SUMMARY

 **Site: PM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	0.1 mph	0.1 mph
Travel Distance (Total)	2058.9 veh-mi/h	2470.7 pers-mi/h
Travel Time (Total)	23256.3 veh-h/h	27907.5 pers-h/h
Demand Flows (Total)	4005 veh/h	4807 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	175.725	
Practical Spare Capacity	-99.5 %	
Effective Intersection Capacity	23 veh/h	
Control Delay (Total)	23209.16 veh-h/h	27850.99 pers-h/h
Control Delay (Average)	20859.9 sec	20859.9 sec
Control Delay (Worst Lane)	79182.2 sec	
Control Delay (Worst Movement)	79182.2 sec	79182.2 sec
Geometric Delay (Average)	4.5 sec	
Stop-Line Delay (Average)	20855.5 sec	
Idling Time (Average)	20853.1 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	425.6 veh	
95% Back of Queue - Distance (Worst Lane)	10979.7 ft	
Queue Storage Ratio (Worst Lane)	12.08	
Total Effective Stops	1985 veh/h	2381 pers/h
Effective Stop Rate	0.50 per veh	0.50 per pers
Proportion Queued	0.41	0.41
Performance Index	23608.5	23608.5
Cost (Total)	322665.60 \$/h	322665.60 \$/h
Fuel Consumption (Total)	7718.2 gal/h	
Carbon Dioxide (Total)	68993.5 kg/h	
Hydrocarbons (Total)	56.503 kg/h	
Carbon Monoxide (Total)	249.930 kg/h	
NOx (Total)	51.702 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,922,608 veh/y	2,307,131 pers/y
Delay	11,140,400 veh-h/y	13,368,480 pers-h/y
Effective Stops	952,560 veh/y	1,143,072 pers/y
Travel Distance	988,286 veh-mi/y	1,185,944 pers-mi/y
Travel Time	11,163,000 veh-h/y	13,395,600 pers-h/y
Cost	154,879,500 \$/y	154,879,500 \$/y
Fuel Consumption	3,704,728 gal/y	
Carbon Dioxide	33,116,860 kg/y	
Hydrocarbons	27,121 kg/y	
Carbon Monoxide	119,967 kg/y	
NOx	24,817 kg/y	



# MOVEMENT SUMMARY

 **Site: PM: Overpass at Kansas Lane**

Build Conditions - North of I-20  
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
<b>South: Overpass</b>											
3	L2	5	4.0	0.391	111.6	LOS F	29.4	758.0	1.00	0.01	14.1
8	T1	560	4.0	0.391	105.0	LOS F	29.4	758.0	1.00	0.01	14.1
Approach		565	4.0	0.391	105.0	NA	29.4	758.0	1.00	0.01	14.1
<b>North: Overpass</b>											
4	T1	1190	4.0	0.326	0.0	LOS A	0.0	0.0	0.00	0.00	44.9
14	R2	1190	4.0	0.384	6.6	LOS A	0.0	0.0	0.00	0.61	34.9
Approach		2380	4.0	0.384	3.3	NA	0.0	0.0	0.00	0.31	40.0
<b>West: Kansas Lane</b>											
5	L2	1054	4.0	175.725	79182.2	LOS F	425.6	10979.7	1.00	1.18	0.0
12	R2	5	4.0	0.017	19.1	LOS C	0.1	1.7	0.70	0.90	31.7
Approach		1060	4.0	175.725	78776.3	LOS F	425.6	10979.7	1.00	1.18	0.0
All Vehicles		4005	4.0	175.725	20859.9	NA	425.6	10979.7	0.41	0.50	0.1

Level of Service (LOS) Method: Delay (HCM 2000).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE



Site: PM: Overpass at Kansas Lane

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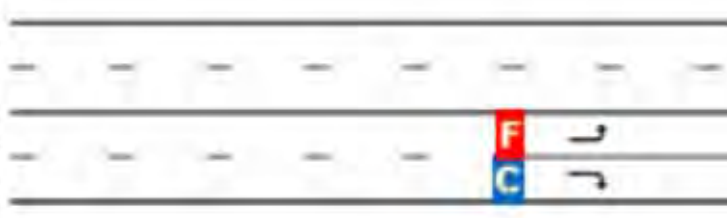
Build Conditions - North of I-20  
Stop (Two-Way)

## All Movement Classes

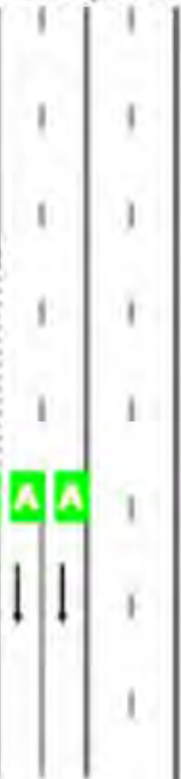
	South	North	West	Intersection
LOS	NA	NA	F	NA



Kansas Lane



Overpass



Overpass

# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: AM: Garrett Rd @ S. Frontage Rd

Build Alt 1 Breakdown AM  
Roundabout

Volume Display Method: Total and %

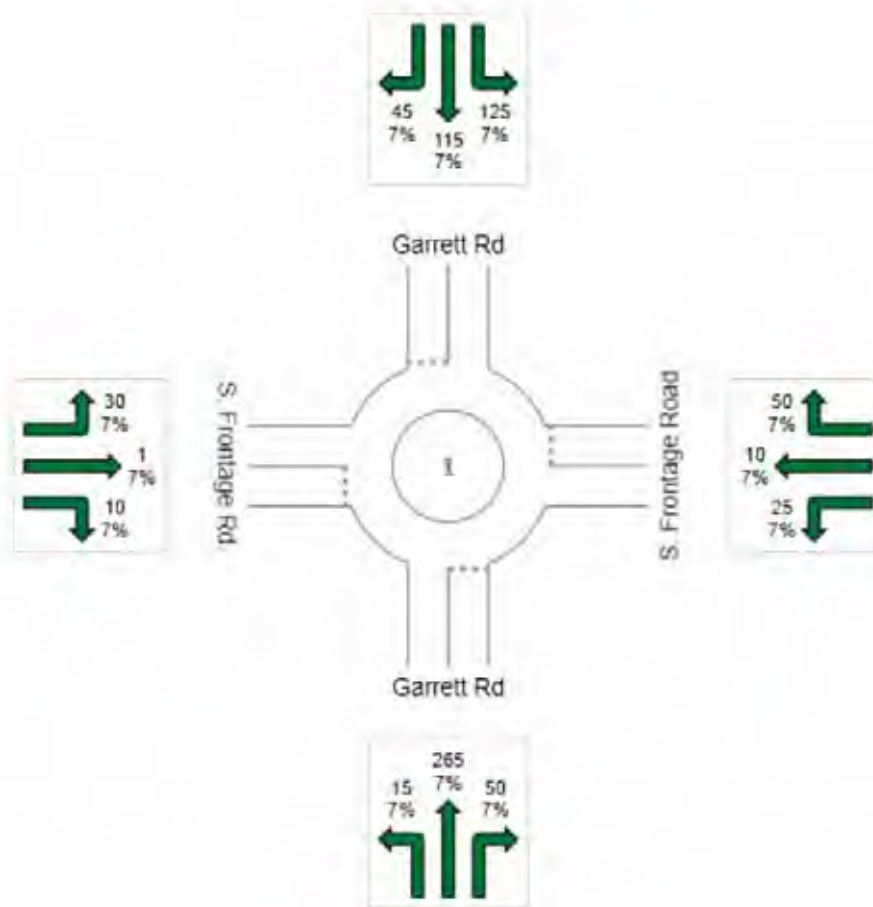
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 741

Light Vehicles (LV): 689

Heavy Vehicles (HV): 52



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ S. Frontage Rd**

Build Alt 1 Breakdown AM  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	25.6 mph	25.6 mph
Travel Distance (Total)	322.0 veh-mi/h	386.5 pers-mi/h
Travel Time (Total)	12.6 veh-h/h	15.1 pers-h/h
Demand Flows (Total)	1420 veh/h	1704 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.680	
Practical Spare Capacity	25.0 %	
Effective Intersection Capacity	2087 veh/h	
Control Delay (Total)	1.39 veh-h/h	1.66 pers-h/h
Control Delay (Average)	3.5 sec	3.5 sec
Control Delay (Worst Lane)	5.6 sec	
Control Delay (Worst Movement)	5.6 sec	5.6 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	3.5 sec	
Idling Time (Average)	0.3 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	7.5 veh	
95% Back of Queue - Distance (Worst Lane)	197.3 ft	
Queue Storage Ratio (Worst Lane)	0.36	
Total Effective Stops	742 veh/h	891 pers/h
Effective Stop Rate	0.52 per veh	0.52 per pers
Proportion Queued	0.63	0.63
Performance Index	44.3	44.3
Cost (Total)	285.09 \$/h	285.09 \$/h
Fuel Consumption (Total)	23.6 gal/h	
Carbon Dioxide (Total)	212.8 kg/h	
Hydrocarbons (Total)	0.068 kg/h	
Carbon Monoxide (Total)	0.775 kg/h	
NOx (Total)	0.667 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	681,525 veh/y	817,830 pers/y
Delay	666 veh-h/y	799 pers-h/y
Effective Stops	356,288 veh/y	427,546 pers/y
Travel Distance	154,583 veh-mi/y	185,499 pers-mi/y
Travel Time	6,045 veh-h/y	7,253 pers-h/y
Cost	136,843 \$/y	136,843 \$/y
Fuel Consumption	11,339 gal/y	
Carbon Dioxide	102,150 kg/y	
Hydrocarbons	33 kg/y	
Carbon Monoxide	372 kg/y	
NOx	320 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ S. Frontage Rd

Build Alt 1 Breakdown AM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	35	7.0	0.680	5.6	LOS A	7.5	197.3	0.81	0.75	30.1
8	T1	482	7.0	0.680	5.6	LOS A	7.5	197.3	0.81	0.75	22.5
18	R2	121	7.0	0.680	5.6	LOS A	7.5	197.3	0.81	0.75	27.5
Approach		637	7.0	0.680	5.6	LOS A	7.5	197.3	0.81	0.75	23.9
East: S. Frontage Road											
1	L2	39	7.0	0.247	4.5	LOS A	1.6	41.4	0.77	0.69	28.5
6	T1	15	7.0	0.247	4.5	LOS A	1.6	41.4	0.77	0.69	28.2
16	R2	106	7.0	0.247	4.5	LOS A	1.6	41.4	0.77	0.69	21.7
Approach		160	7.0	0.247	4.5	LOS A	1.6	41.4	0.77	0.69	24.2
North: Garrett Rd											
7	L2	245	7.0	0.417	0.7	LOS A	3.2	83.8	0.37	0.19	29.3
4	T1	195	7.0	0.417	0.7	LOS A	3.2	83.8	0.37	0.19	31.2
14	R2	78	7.0	0.417	0.7	LOS A	3.2	83.8	0.37	0.19	28.2
Approach		518	7.0	0.417	0.7	LOS A	3.2	83.8	0.37	0.19	29.8
West: S. Frontage Rd.											
5	L2	74	7.0	0.134	3.3	LOS A	0.7	19.3	0.62	0.50	21.1
2	T1	3	7.0	0.134	3.3	LOS A	0.7	19.3	0.62	0.50	27.1
12	R2	28	7.0	0.134	3.3	LOS A	0.7	19.3	0.62	0.50	27.6
Approach		104	7.0	0.134	3.3	LOS A	0.7	19.3	0.62	0.50	23.0
All Vehicles		1420	7.0	0.680	3.5	LOS A	7.5	197.3	0.63	0.52	25.6

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

**Site: AM: Garrett Rd @ S. Frontage Rd**

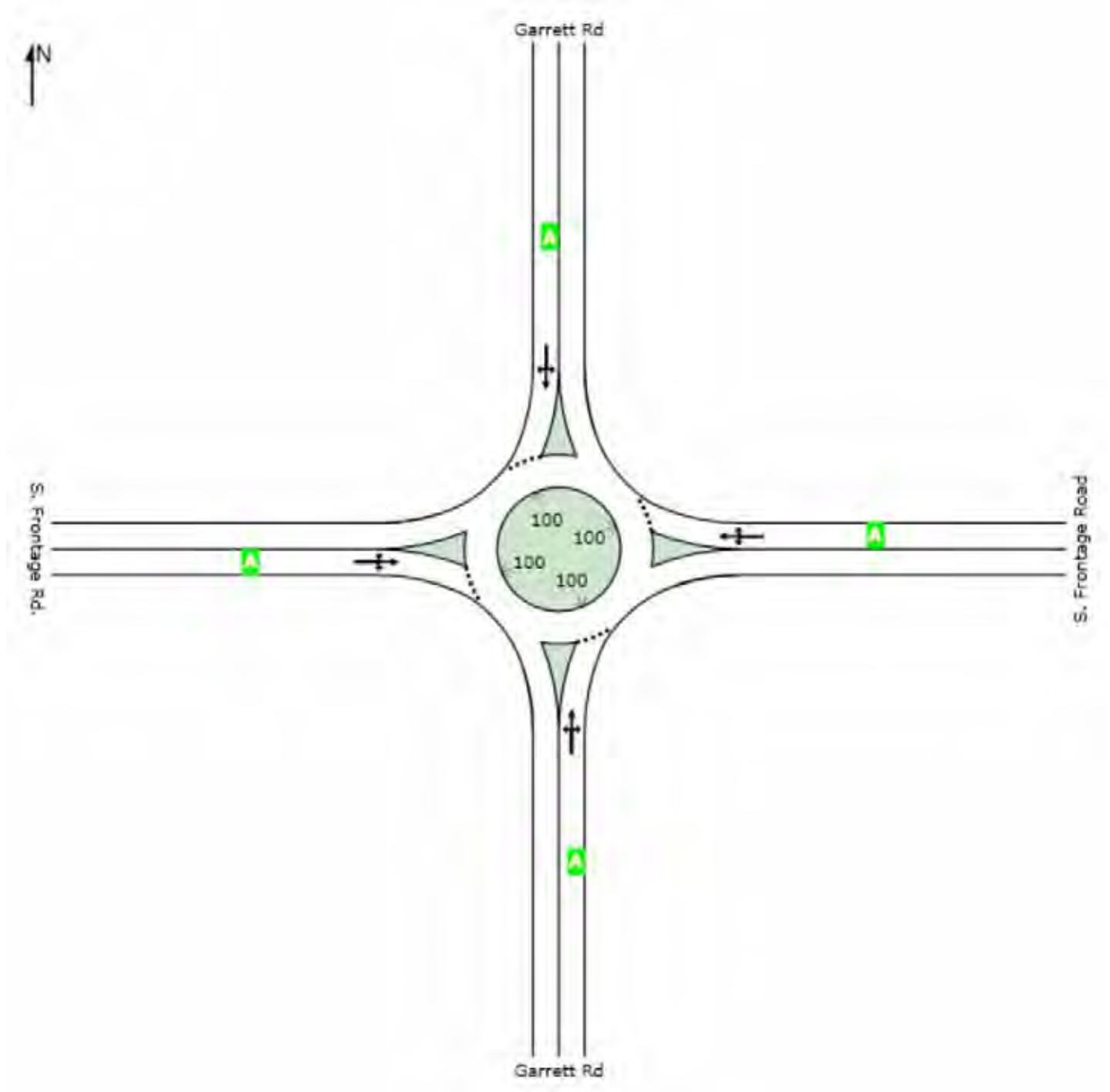
Build Alt 1 Breakdown AM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

**Site: AM: Garrett Rd @ S. Frontage Rd**

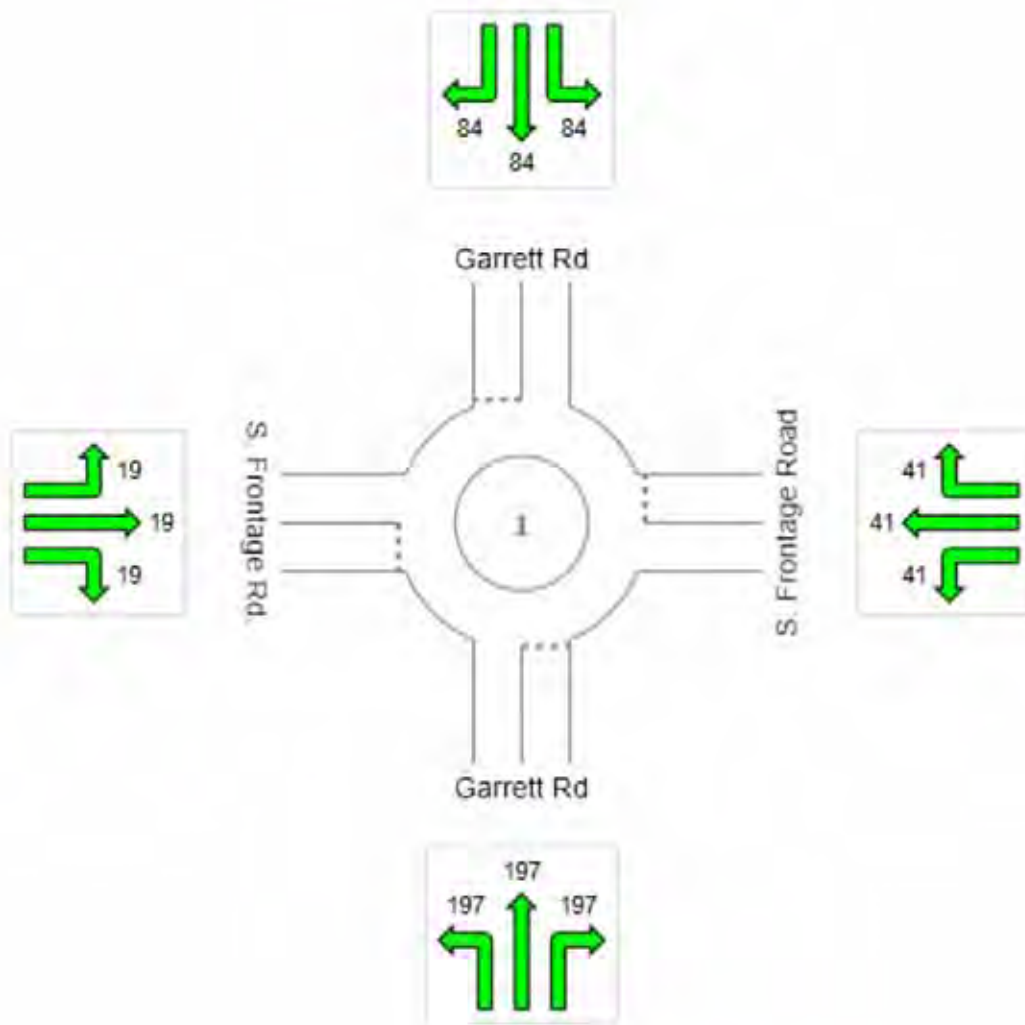
Build Alt 1 Breakdown AM

Roundabout

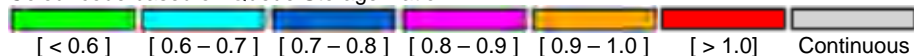
Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	East	North	West	Intersection
Vehicle Queue (%ile)	197	41	84	19	197



Colour code based on Queue Storage Ratio





# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 Breakdown AM  
Roundabout

Volume Display Method: Total and %

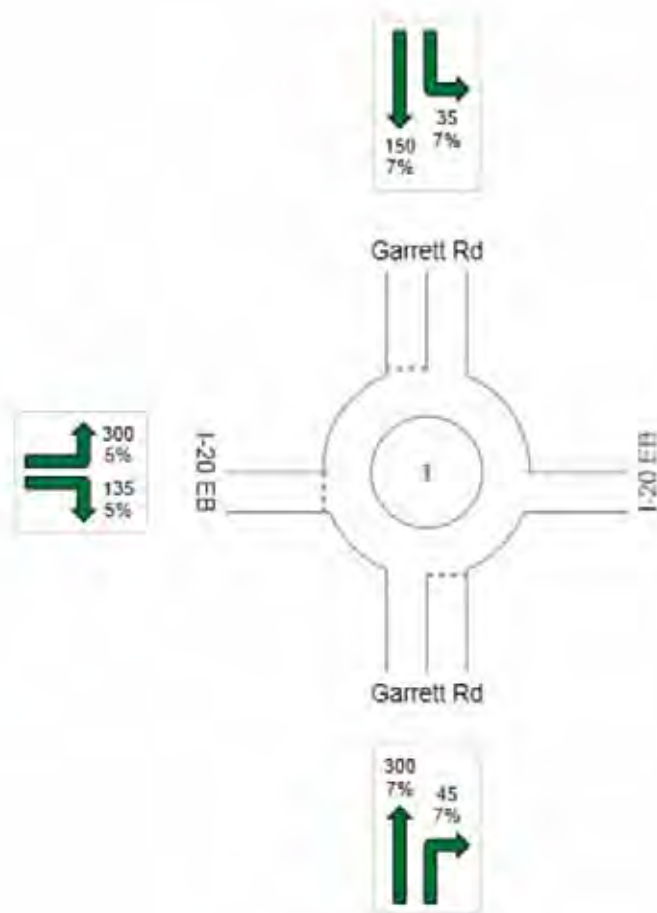
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 965

Light Vehicles (LV): 906

Heavy Vehicles (HV): 59



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ I-20 EB**

Built Alt 1 Breakdown AM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	30.5 mph	30.5 mph
Travel Distance (Total)	964.0 veh-mi/h	1156.8 pers-mi/h
Travel Time (Total)	31.6 veh-h/h	37.9 pers-h/h
Demand Flows (Total)	1823 veh/h	2188 pers/h
Percent Heavy Vehicles (Demand)	6.1 %	
Degree of Saturation	0.672	
Practical Spare Capacity	26.4 %	
Effective Intersection Capacity	2711 veh/h	
Control Delay (Total)	1.75 veh-h/h	2.10 pers-h/h
Control Delay (Average)	3.5 sec	3.5 sec
Control Delay (Worst Lane)	6.4 sec	
Control Delay (Worst Movement)	6.4 sec	6.4 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	3.5 sec	
Idling Time (Average)	0.2 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	6.1 veh	
95% Back of Queue - Distance (Worst Lane)	160.4 ft	
Queue Storage Ratio (Worst Lane)	0.73	
Total Effective Stops	1008 veh/h	1210 pers/h
Effective Stop Rate	0.55 per veh	0.55 per pers
Proportion Queued	0.58	0.58
Performance Index	42.2	42.2
Cost (Total)	596.97 \$/h	596.97 \$/h
Fuel Consumption (Total)	52.7 gal/h	
Carbon Dioxide (Total)	474.2 kg/h	
Hydrocarbons (Total)	0.140 kg/h	
Carbon Monoxide (Total)	1.904 kg/h	
NOx (Total)	1.376 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	875,132 veh/y	1,050,158 pers/y
Delay	840 veh-h/y	1,008 pers-h/y
Effective Stops	483,903 veh/y	580,683 pers/y
Travel Distance	462,737 veh-mi/y	555,284 pers-mi/y
Travel Time	15,157 veh-h/y	18,189 pers-h/y
Cost	286,544 \$/y	286,544 \$/y
Fuel Consumption	25,273 gal/y	
Carbon Dioxide	227,624 kg/y	
Hydrocarbons	67 kg/y	
Carbon Monoxide	914 kg/y	
NOx	660 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 1 Breakdown AM  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		Total veh/h	HV %	v/c	sec		Vehicles veh	Distance ft		per veh	mph	
South: Garrett Rd												
8	T1	533	7.0	0.672	6.4	LOS A	6.1	160.4	0.87	0.96	33.1	
18	R2	88	7.0	0.190	5.0	LOS A	0.9	22.5	0.67	0.67	29.5	
Approach		621	7.0	0.672	6.2	LOS A	6.1	160.4	0.84	0.92	32.6	
North: Garrett Rd												
7	L2	74	7.0	0.234	0.0	LOS A	0.0	0.0	0.00	0.00	37.5	
4	T1	301	7.0	0.234	0.0	LOS A	0.0	0.0	0.00	0.00	25.1	
Approach		375	7.0	0.234	0.0	LOS A	0.0	0.0	0.00	0.00	27.7	
West: I-20 EB												
5	L2	602	5.0	0.525	2.8	LOS A	3.9	101.7	0.66	0.54	32.7	
12	R2	224	5.0	0.274	3.1	LOS A	1.5	38.8	0.58	0.48	24.0	
Approach		827	5.0	0.525	2.9	LOS A	3.9	101.7	0.64	0.53	30.6	
All Vehicles		1823	6.1	0.672	3.5	LOS A	6.1	160.4	0.58	0.55	30.5	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

**Site: AM: Garrett Rd @ I-20 EB**

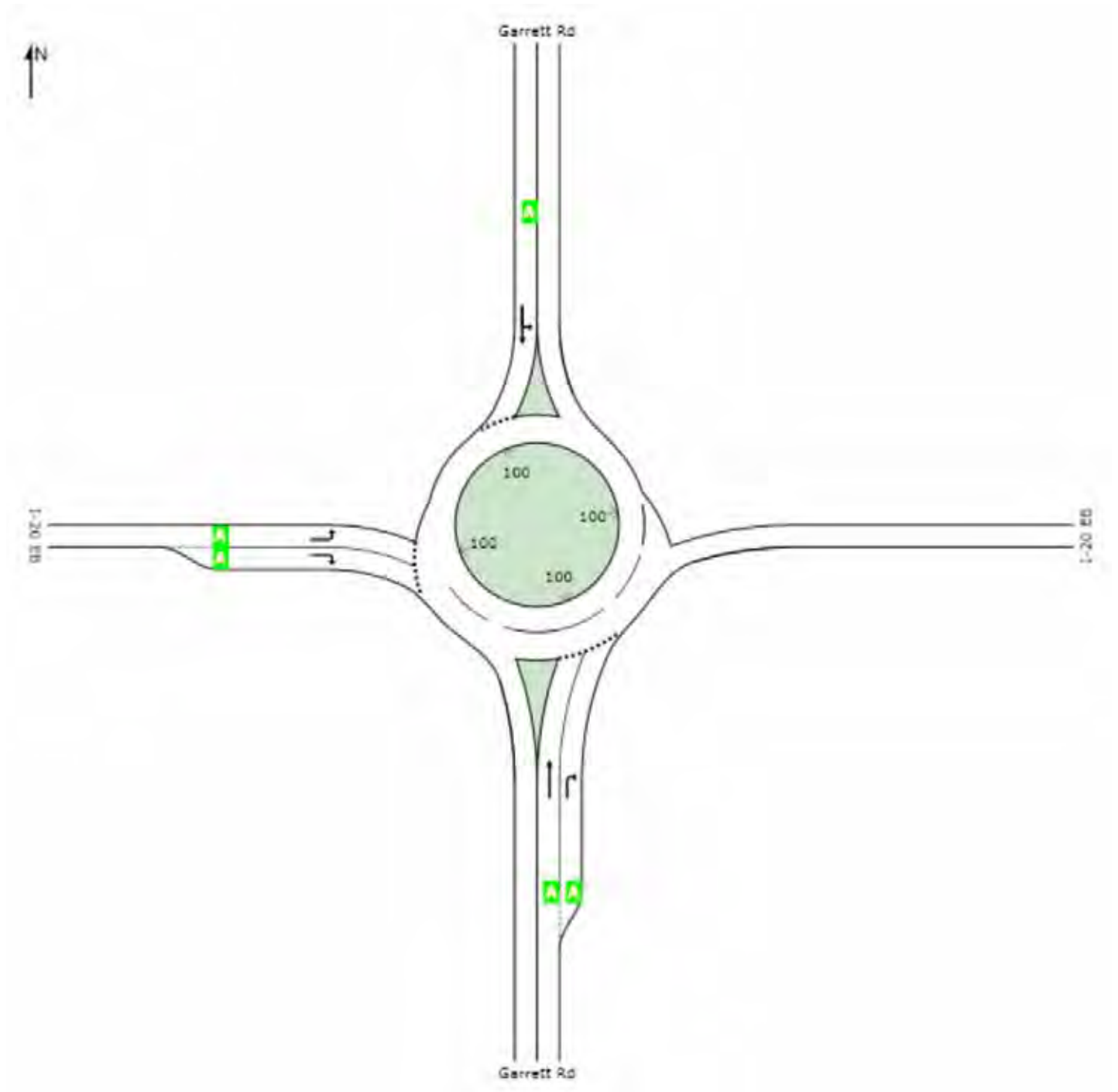
Built Alt 1 Breakdown AM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

# QUEUE DISTANCE (%ILE)

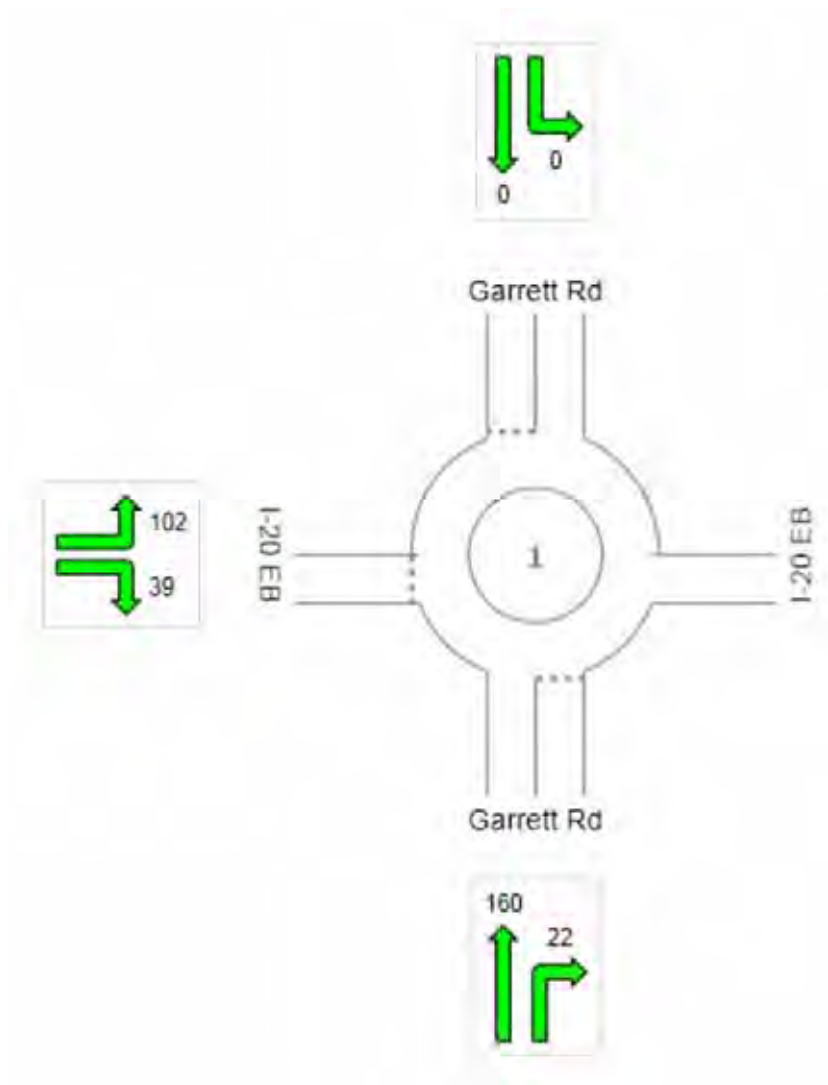
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: AM: Garrett Rd @ I-20 EB**

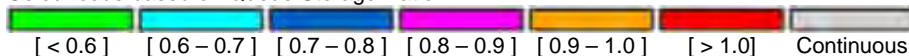
Built Alt 1 Breakdown AM  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	160	0	102	160



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ S. Frontage Rd

Build Alt 1 Breakdown PM  
Roundabout

Volume Display Method: Total and %

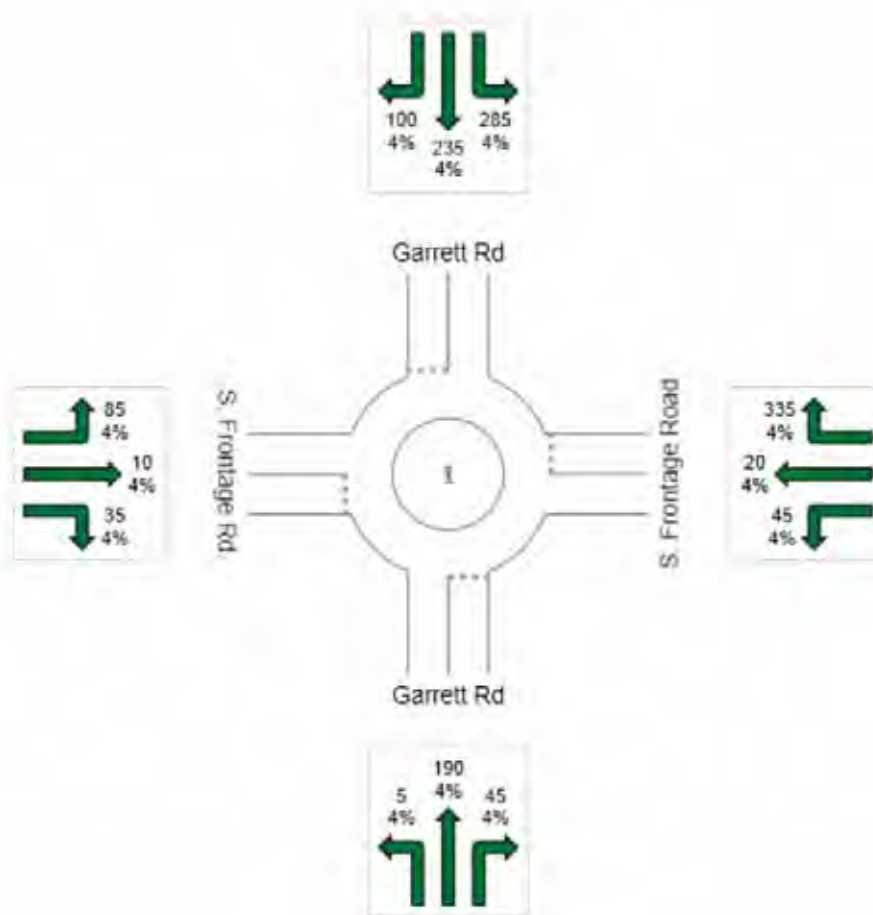
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1390

Light Vehicles (LV): 1334

Heavy Vehicles (HV): 56



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ S. Frontage Rd**

Build Alt 1 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 15 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	22.4 mph	22.4 mph
Travel Distance (Total)	498.7 veh-mi/h	598.4 pers-mi/h
Travel Time (Total)	22.3 veh-h/h	26.7 pers-h/h
Demand Flows (Total)	2285 veh/h	2742 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.844	
Practical Spare Capacity	0.7 %	
Effective Intersection Capacity	2708 veh/h	
Control Delay (Total)	5.24 veh-h/h	6.29 pers-h/h
Control Delay (Average)	8.3 sec	8.3 sec
Control Delay (Worst Lane)	15.9 sec	
Control Delay (Worst Movement)	15.9 sec	15.9 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	8.3 sec	
Idling Time (Average)	2.7 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	15.8 veh	
95% Back of Queue - Distance (Worst Lane)	407.4 ft	
Queue Storage Ratio (Worst Lane)	1.77	
Total Effective Stops	2106 veh/h	2527 pers/h
Effective Stop Rate	0.92 per veh	0.92 per pers
Proportion Queued	0.97	0.97
Performance Index	123.4	123.4
Cost (Total)	507.06 \$/h	507.06 \$/h
Fuel Consumption (Total)	38.8 gal/h	
Carbon Dioxide (Total)	347.9 kg/h	
Hydrocarbons (Total)	0.128 kg/h	
Carbon Monoxide (Total)	1.372 kg/h	
NOx (Total)	0.843 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,096,799 veh/y	1,316,159 pers/y
Delay	2,516 veh-h/y	3,019 pers-h/y
Effective Stops	1,010,851 veh/y	1,213,022 pers/y
Travel Distance	239,367 veh-mi/y	287,240 pers-mi/y
Travel Time	10,697 veh-h/y	12,836 pers-h/y
Cost	243,390 \$/y	243,390 \$/y
Fuel Consumption	18,631 gal/y	
Carbon Dioxide	166,968 kg/y	
Hydrocarbons	61 kg/y	
Carbon Monoxide	659 kg/y	
NOx	404 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd @ S. Frontage Rd**

Build Alt 1 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 15 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	12	4.0	0.531	6.8	LOS A	4.5	117.3	0.88	0.89	29.6
8	T1	284	4.0	0.531	6.8	LOS A	4.5	117.3	0.88	0.89	21.8
18	R2	66	4.0	0.531	6.8	LOS A	4.5	117.3	0.88	0.89	26.8
Approach		362	4.0	0.531	6.8	LOS A	4.5	117.3	0.88	0.89	23.0
East: S. Frontage Road											
1	L2	93	4.0	0.816	11.7	LOS B	12.8	330.3	1.00	1.16	23.9
6	T1	59	4.0	0.816	11.7	LOS B	12.8	330.3	1.00	1.16	23.6
16	R2	530	4.0	0.816	11.7	LOS B	12.8	330.3	1.00	1.16	17.6
Approach		682	4.0	0.816	11.7	LOS B	12.8	330.3	1.00	1.16	19.1
North: Garrett Rd											
7	L2	431	4.0	0.844	4.4	LOS A	15.8	407.4	0.98	0.71	26.1
4	T1	381	4.0	0.844	4.4	LOS A	15.8	407.4	0.98	0.71	28.2
14	R2	175	4.0	0.844	4.4	LOS A	15.8	407.4	0.98	0.71	25.7
Approach		987	4.0	0.844	4.4	LOS A	15.8	407.4	0.98	0.71	26.8
West: S. Frontage Rd.											
5	L2	145	4.0	0.611	15.9	LOS B	5.8	150.5	1.00	1.14	16.4
2	T1	24	4.0	0.611	15.9	LOS B	5.8	150.5	1.00	1.14	20.7
12	R2	86	4.0	0.611	15.9	LOS B	5.8	150.5	1.00	1.14	21.7
Approach		254	4.0	0.611	15.9	LOS B	5.8	150.5	1.00	1.14	18.6
All Vehicles		2285	4.0	0.844	8.3	LOS A	15.8	407.4	0.97	0.92	22.4

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



# LEVEL OF SERVICE

**Site: PM: Garrett Rd @ S. Frontage Rd**

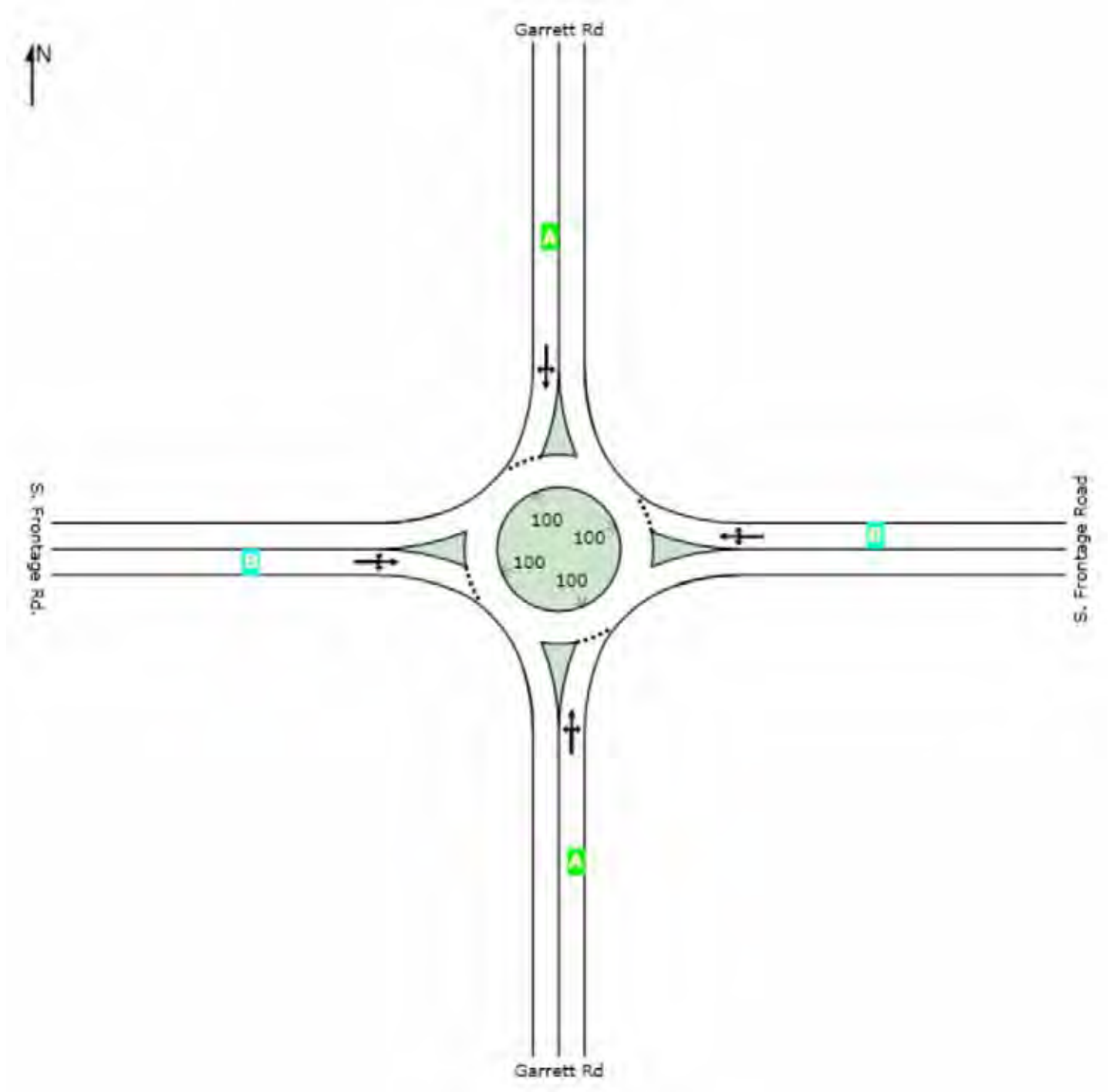
Build Alt 1 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 15 years

## All Movement Classes

	South	East	North	West	Intersection
LOS	A	B	A	B	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

**Site: PM: Garrett Rd @ S. Frontage Rd**

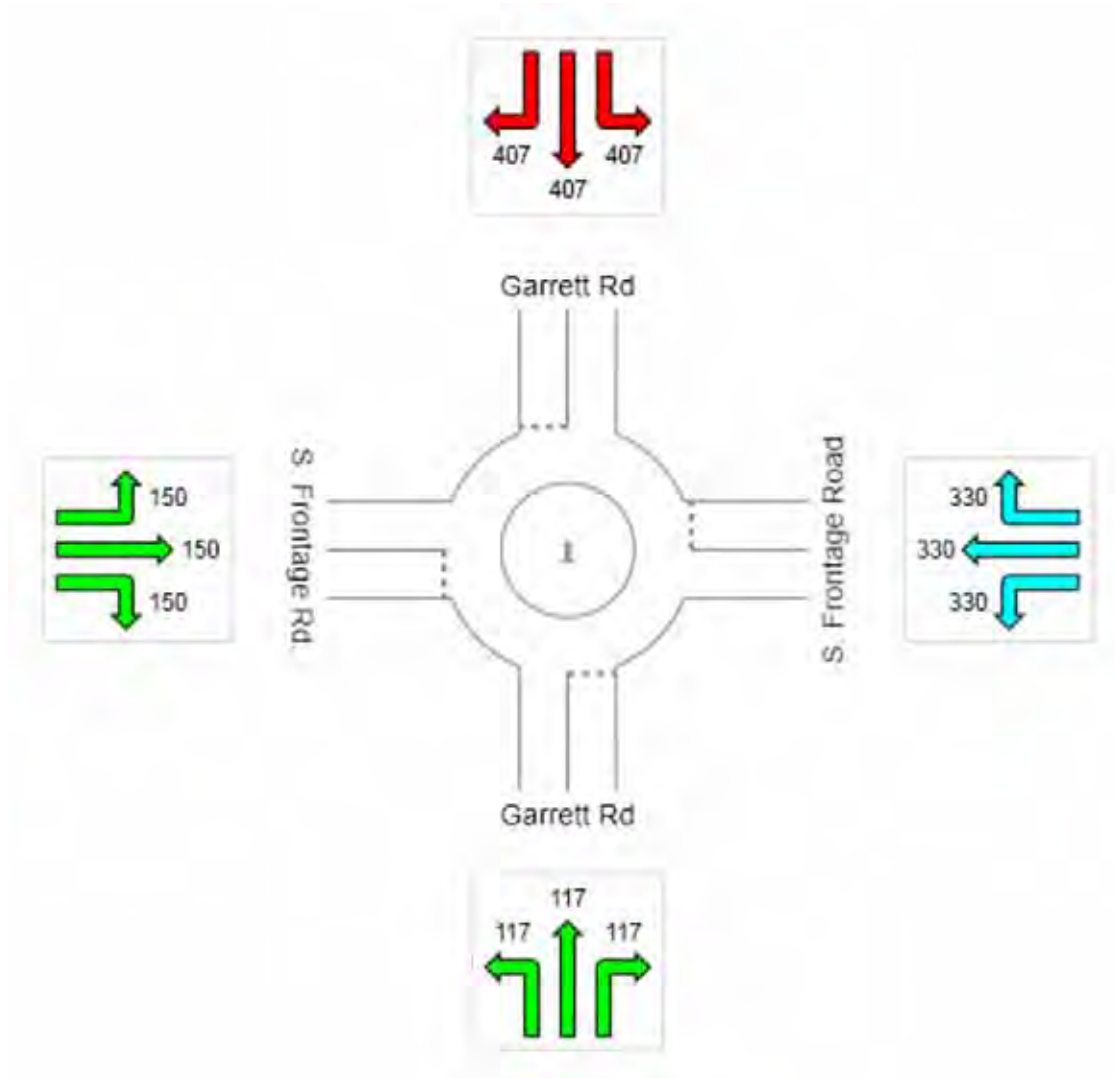
Build Alt 1 Breakdown PM

Roundabout

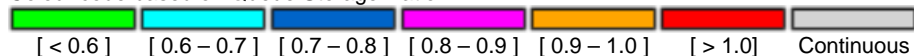
Design Life Analysis (Practical Capacity): Results for 15 years

## All Movement Classes

	South	East	North	West	Intersection
Vehicle Queue (%ile)	117	330	407	150	407



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 Breakdown PM  
Roundabout

Volume Display Method: Total and %

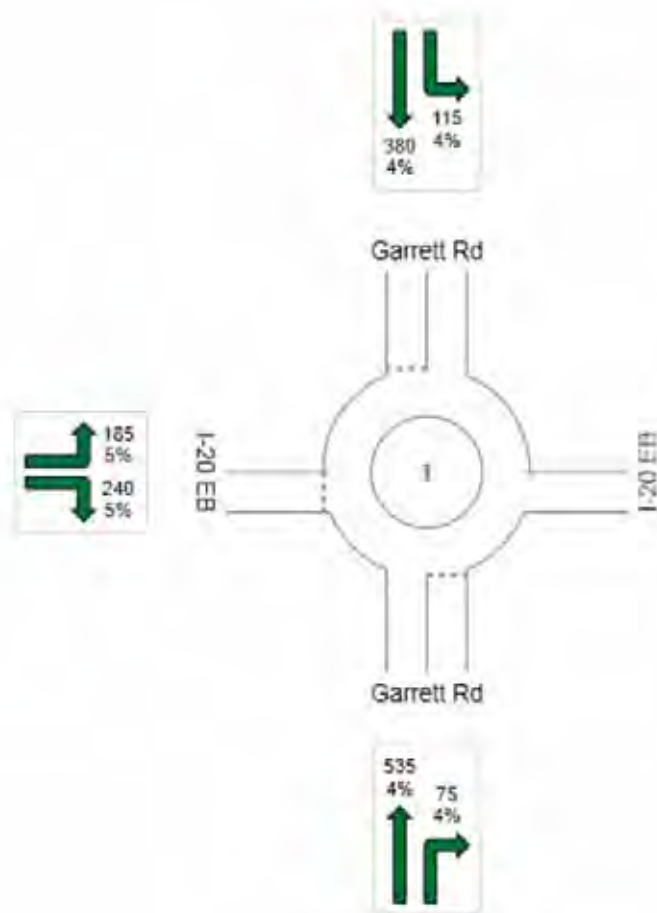
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1530

Light Vehicles (LV): 1465

Heavy Vehicles (HV): 65



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ I-20 EB**

Built Alt 1 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 18 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	28.5 mph	28.5 mph
Travel Distance (Total)	1170.7 veh-mi/h	1404.8 pers-mi/h
Travel Time (Total)	41.1 veh-h/h	49.3 pers-h/h
Demand Flows (Total)	2504 veh/h	3004 pers/h
Percent Heavy Vehicles (Demand)	4.3 %	
Degree of Saturation	0.843	
Practical Spare Capacity	0.8 %	
Effective Intersection Capacity	2969 veh/h	
Control Delay (Total)	3.74 veh-h/h	4.49 pers-h/h
Control Delay (Average)	5.4 sec	5.4 sec
Control Delay (Worst Lane)	11.0 sec	
Control Delay (Worst Movement)	11.0 sec	11.0 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	5.4 sec	
Idling Time (Average)	1.3 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	10.7 veh	
95% Back of Queue - Distance (Worst Lane)	275.3 ft	
Queue Storage Ratio (Worst Lane)	1.25	
Total Effective Stops	1596 veh/h	1915 pers/h
Effective Stop Rate	0.64 per veh	0.64 per pers
Proportion Queued	0.57	0.57
Performance Index	57.0	57.0
Cost (Total)	710.36 \$/h	710.36 \$/h
Fuel Consumption (Total)	60.2 gal/h	
Carbon Dioxide (Total)	540.0 kg/h	
Hydrocarbons (Total)	0.173 kg/h	
Carbon Monoxide (Total)	2.331 kg/h	
NOx (Total)	1.325 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,201,778 veh/y	1,442,134 pers/y
Delay	1,794 veh-h/y	2,153 pers-h/y
Effective Stops	766,072 veh/y	919,286 pers/y
Travel Distance	561,923 veh-mi/y	674,308 pers-mi/y
Travel Time	19,709 veh-h/y	23,651 pers-h/y
Cost	340,972 \$/y	340,972 \$/y
Fuel Consumption	28,875 gal/y	
Carbon Dioxide	259,216 kg/y	
Hydrocarbons	83 kg/y	
Carbon Monoxide	1,119 kg/y	
NOx	636 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 1 Breakdown PM  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 18 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	822	4.0	0.843	7.5	LOS A	10.7	275.3	0.92	1.06	32.8
18	R2	113	4.0	0.200	3.6	LOS A	0.8	21.4	0.59	0.57	30.6
Approach		934	4.0	0.843	7.0	LOS A	10.7	275.3	0.88	1.00	32.6
North: Garrett Rd											
7	L2	211	4.0	0.523	0.0	LOS A	0.0	0.0	0.00	0.00	37.4
4	T1	654	4.0	0.523	0.0	LOS A	0.0	0.0	0.00	0.00	25.0
Approach		864	4.0	0.523	0.0	LOS A	0.0	0.0	0.00	0.00	28.2
West: I-20 EB											
5	L2	311	5.0	0.492	11.0	LOS B	3.9	101.7	0.86	0.96	29.9
12	R2	394	5.0	0.486	8.8	LOS A	4.1	107.6	0.87	0.91	22.2
Approach		705	5.0	0.492	9.8	LOS A	4.1	107.6	0.87	0.93	26.0
All Vehicles		2504	4.3	0.843	5.4	LOS A	10.7	275.3	0.57	0.64	28.5

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

Site: PM: Garrett Rd @ I-20 EB

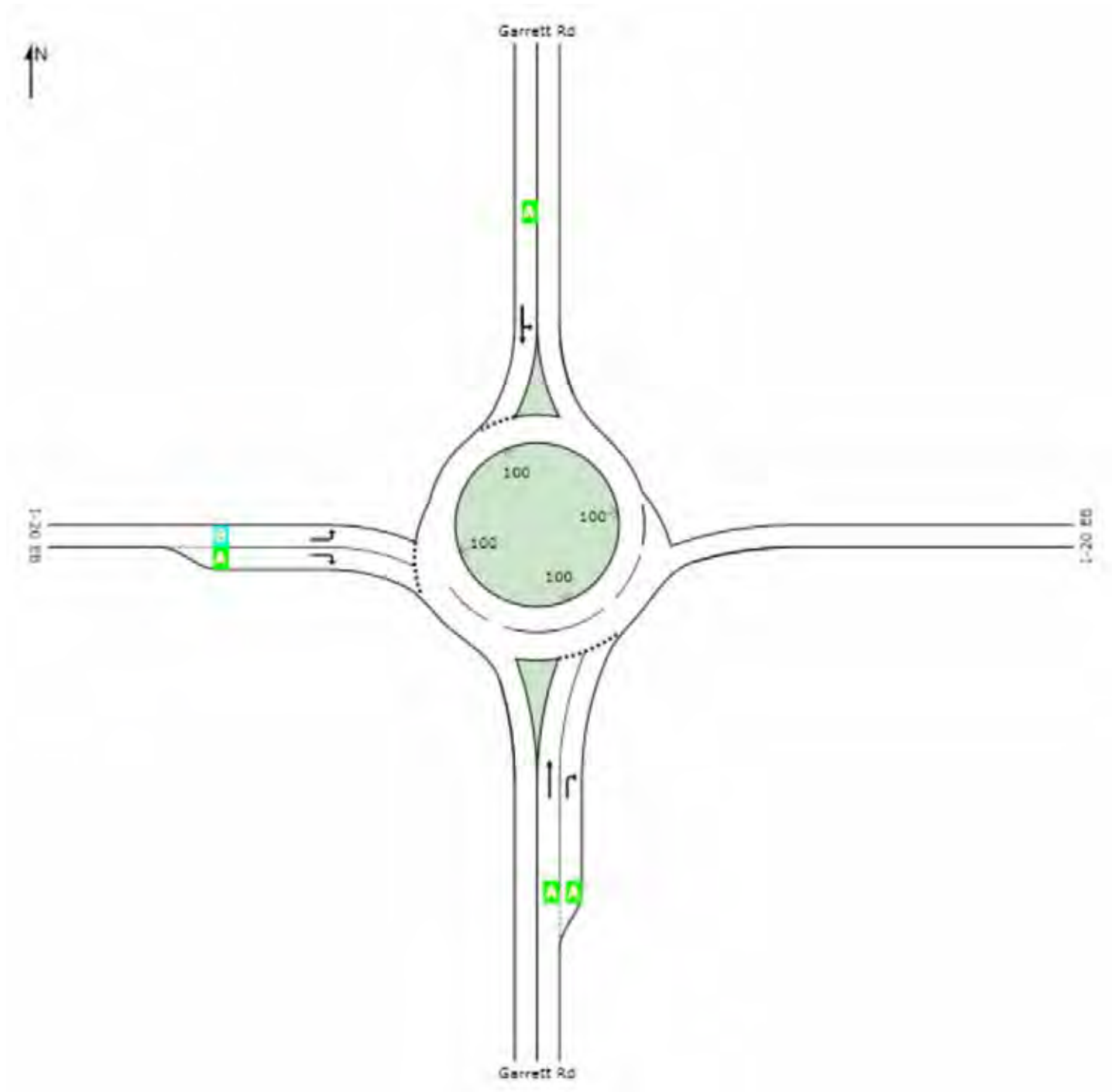
Built Alt 1 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 18 years

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

Site: PM: Garrett Rd @ I-20 EB

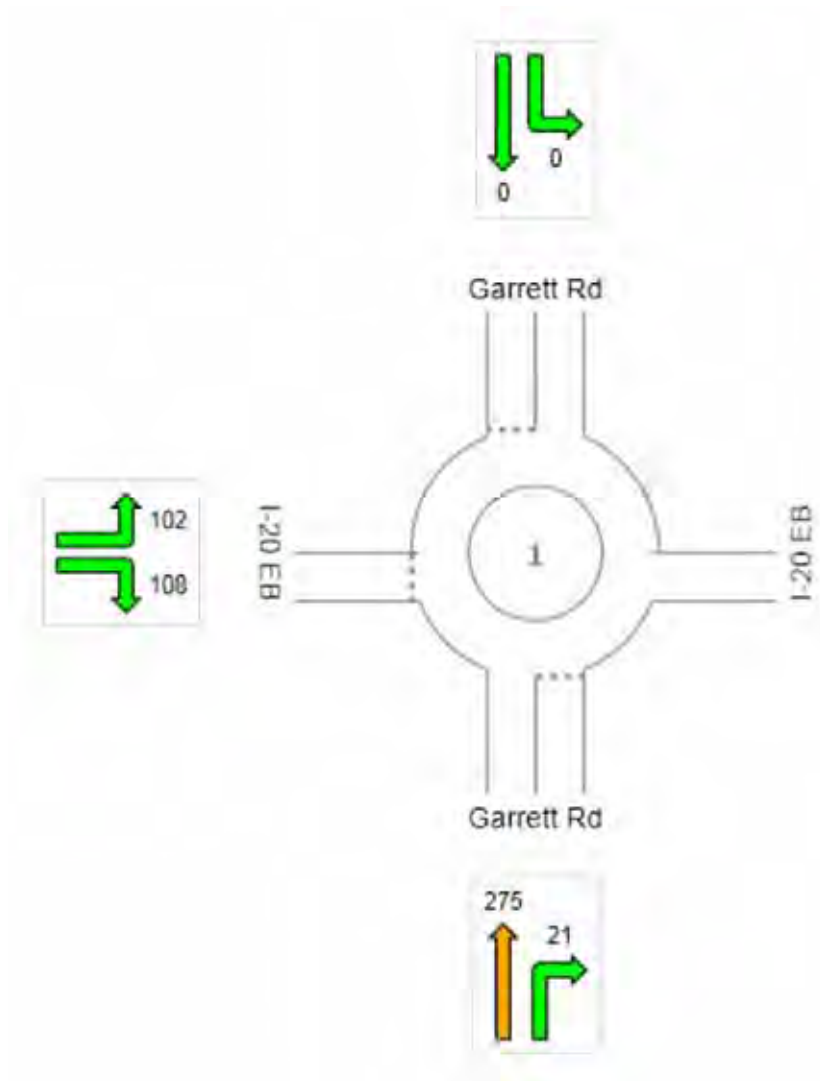
Built Alt 1 Breakdown PM

Roundabout

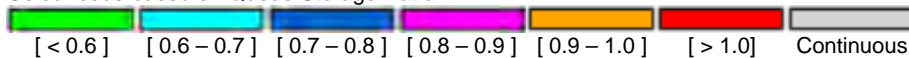
Design Life Analysis (Practical Capacity): Results for 18 years

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	275	0	108	275



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt Breakdown 2 PM  
Roundabout

Volume Display Method: Total and %

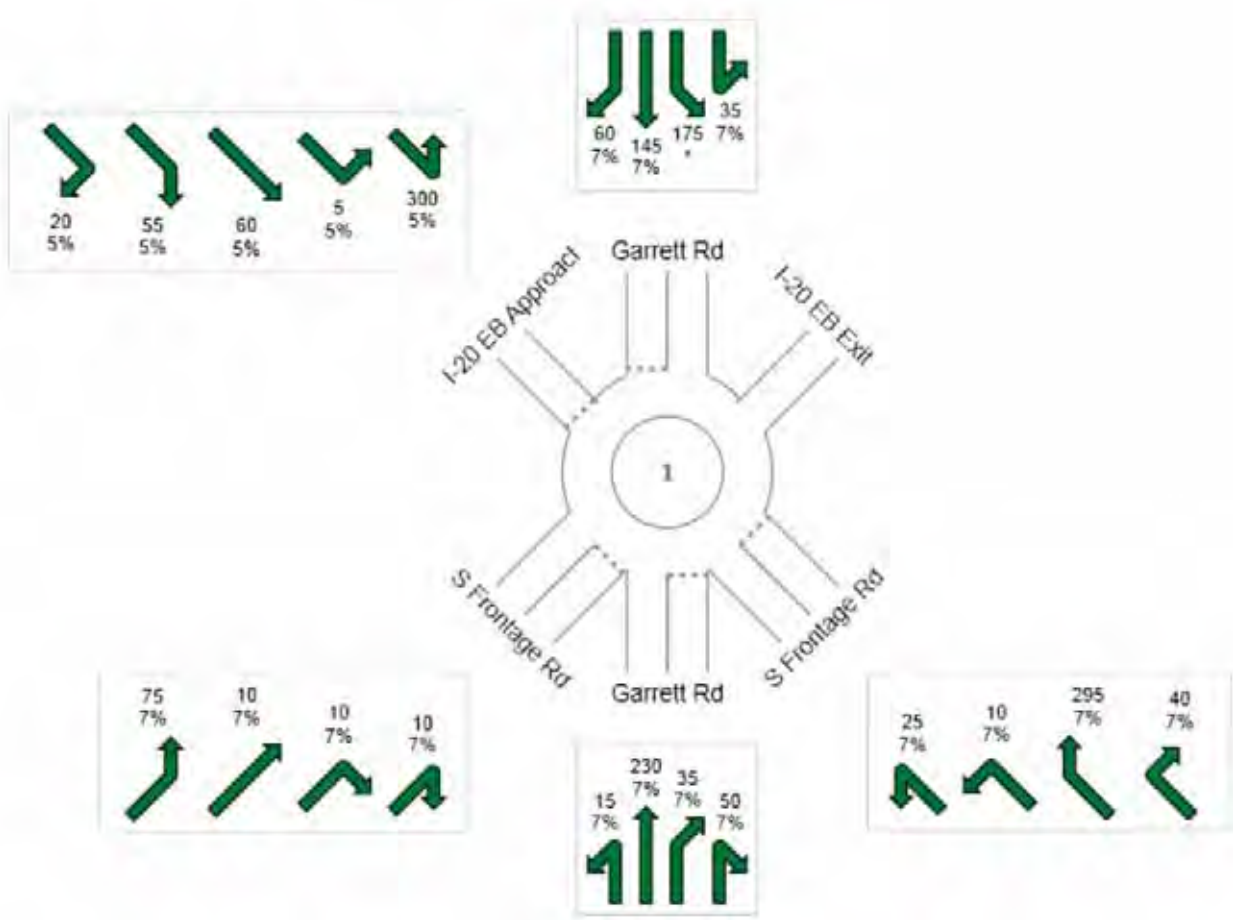
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1660

Light Vehicles (LV): 1565

Heavy Vehicles (HV): 95



\* Class does not run in this movement.



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd**

Built Alt Breakdown 2 PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 4 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	27.9 mph	27.9 mph
Travel Distance (Total)	1221.4 veh-mi/h	1465.6 pers-mi/h
Travel Time (Total)	43.8 veh-h/h	52.6 pers-h/h
Demand Flows (Total)	2191 veh/h	2629 pers/h
Percent Heavy Vehicles (Demand)	5.7 %	
Degree of Saturation	0.828	
Practical Spare Capacity	2.7 %	
Effective Intersection Capacity	2647 veh/h	
Control Delay (Total)	7.27 veh-h/h	8.73 pers-h/h
Control Delay (Average)	12.0 sec	12.0 sec
Control Delay (Worst Lane)	29.4 sec	
Control Delay (Worst Movement)	29.4 sec	29.4 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	12.0 sec	
Idling Time (Average)	6.1 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	11.9 veh	
95% Back of Queue - Distance (Worst Lane)	312.9 ft	
Queue Storage Ratio (Worst Lane)	1.42	
Total Effective Stops	1859 veh/h	2231 pers/h
Effective Stop Rate	0.85 per veh	0.85 per pers
Proportion Queued	0.77	0.77
Performance Index	144.4	144.4
Cost (Total)	785.55 \$/h	785.55 \$/h
Fuel Consumption (Total)	66.6 gal/h	
Carbon Dioxide (Total)	600.3 kg/h	
Hydrocarbons (Total)	0.186 kg/h	
Carbon Monoxide (Total)	2.393 kg/h	
NOx (Total)	1.710 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,051,764 veh/y	1,262,117 pers/y
Delay	3,491 veh-h/y	4,190 pers-h/y
Effective Stops	892,424 veh/y	1,070,909 pers/y
Travel Distance	586,258 veh-mi/y	703,510 pers-mi/y
Travel Time	21,043 veh-h/y	25,252 pers-h/y
Cost	377,066 \$/y	377,066 \$/y
Fuel Consumption	31,990 gal/y	
Carbon Dioxide	288,138 kg/y	
Hydrocarbons	89 kg/y	
Carbon Monoxide	1,148 kg/y	
NOx	821 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt Breakdown 2 PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 4 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3b	L3	28	7.0	0.828	29.4	LOS C	11.9	312.9	1.00	1.35	20.3
8	T1	277	7.0	0.828	29.4	LOS C	11.9	312.9	1.00	1.35	21.1
18a	R1	42	7.0	0.828	29.4	LOS C	11.9	312.9	1.00	1.35	19.7
18b	R3	59	7.0	0.828	29.4	LOS C	11.9	312.9	1.00	1.35	19.1
Approach		406	7.0	0.828	29.4	LOS C	11.9	312.9	1.00	1.35	20.6
SouthEast: S Frontage Rd											
3bx	L3	30	7.0	0.720	19.2	LOS B	9.6	254.1	1.00	1.30	18.1
3x	L2	13	7.0	0.720	19.2	LOS B	9.6	254.1	1.00	1.30	26.8
18ax	R1	415	7.0	0.720	19.2	LOS B	9.6	254.1	1.00	1.30	27.7
18x	R2	56	7.0	0.043	0.5	LOS A	0.2	5.8	0.29	0.13	32.8
Approach		514	7.0	0.720	17.2	LOS B	9.6	254.1	0.92	1.17	27.6
North: Garrett Rd											
7b	L3	49	7.0	0.413	0.5	LOS A	3.3	85.0	0.34	0.16	36.1
7a	L1	228	0.0	0.413	0.5	LOS A	3.3	85.0	0.34	0.16	35.3
4	T1	189	7.0	0.413	0.5	LOS A	3.3	85.0	0.34	0.16	23.5
14a	R1	78	7.0	0.413	0.5	LOS A	3.3	85.0	0.34	0.16	35.0
Approach		544	4.1	0.413	0.5	LOS A	3.3	85.0	0.34	0.16	31.4
NorthWest: I-20 EB Approach											
7bx	L3	382	5.0	0.593	6.7	LOS A	5.9	153.5	0.86	0.89	31.4
7x	L2	22	5.0	0.593	6.7	LOS A	5.9	153.5	0.86	0.89	29.7
4x	T1	75	5.0	0.593	6.7	LOS A	5.9	153.5	0.86	0.89	29.5
14ax	R1	68	5.0	0.593	6.7	LOS A	5.9	153.5	0.86	0.89	19.2
14x	R2	25	5.0	0.018	0.5	LOS A	0.1	2.3	0.27	0.11	32.8
Approach		572	5.0	0.593	6.4	LOS A	5.9	153.5	0.84	0.85	29.7
SouthWest: S Frontage Rd											
5ax	L1	103	7.0	0.255	9.2	LOS A	1.9	50.7	0.95	0.88	30.0
2x	T1	14	7.0	0.255	9.2	LOS A	1.9	50.7	0.95	0.88	29.0
12x	R2	19	7.0	0.255	9.2	LOS A	1.9	50.7	0.95	0.88	28.2
12bx	R3	20	7.0	0.057	11.6	LOS B	0.3	9.0	0.87	0.76	18.9
Approach		155	7.0	0.255	9.5	LOS A	1.9	50.7	0.94	0.86	28.4
All Vehicles		2191	5.7	0.828	12.0	LOS B	11.9	312.9	0.77	0.85	27.9

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

 **Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd**

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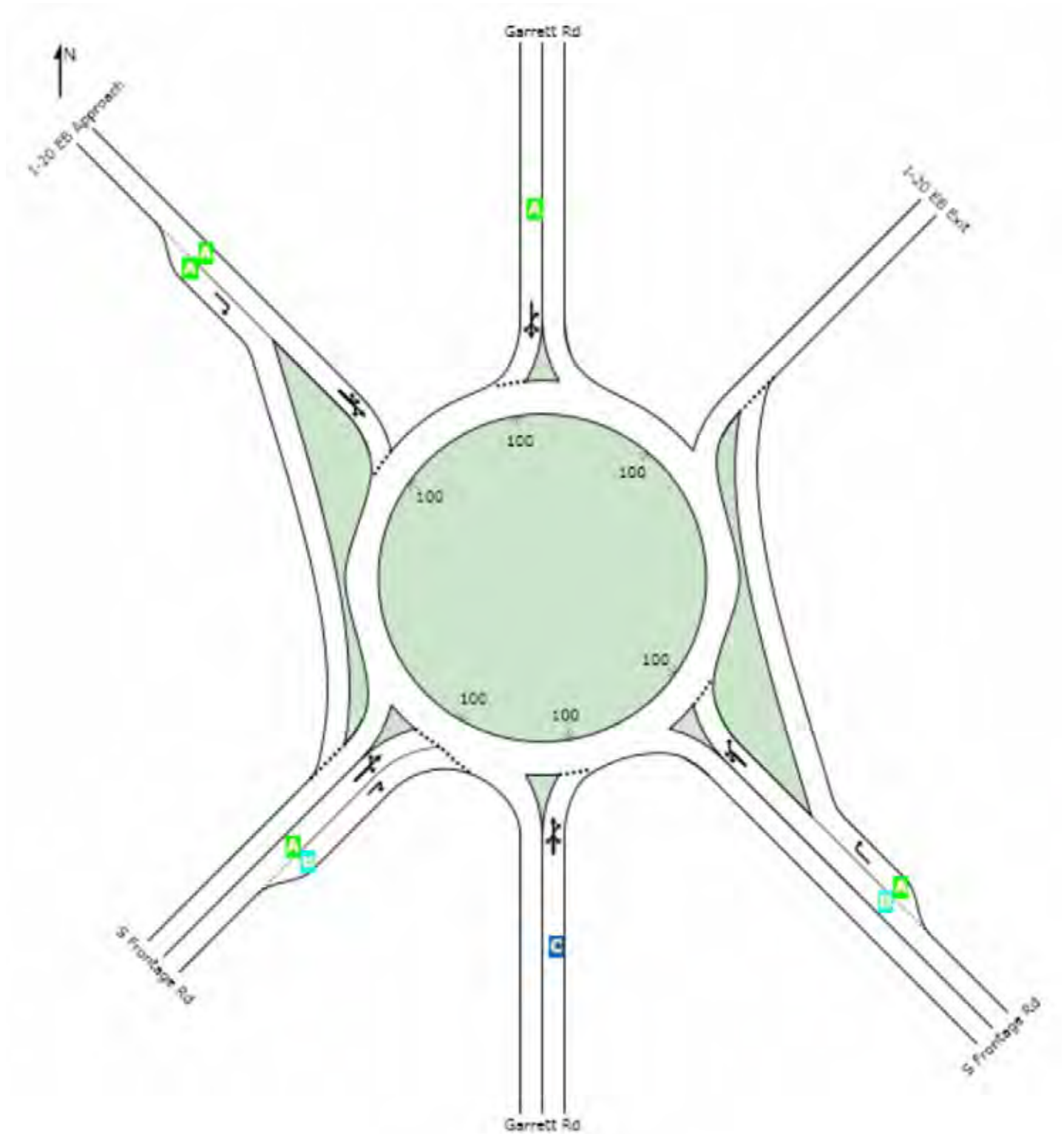
Built Alt Breakdown 2 PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 4 years

## All Movement Classes

	South	Southeast	North	Northwest	Southwest	Intersection
LOS	C	B	A	A	A	B



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

Site: AM: Garrett Rd @ I-20 EB and S Frontage Rd

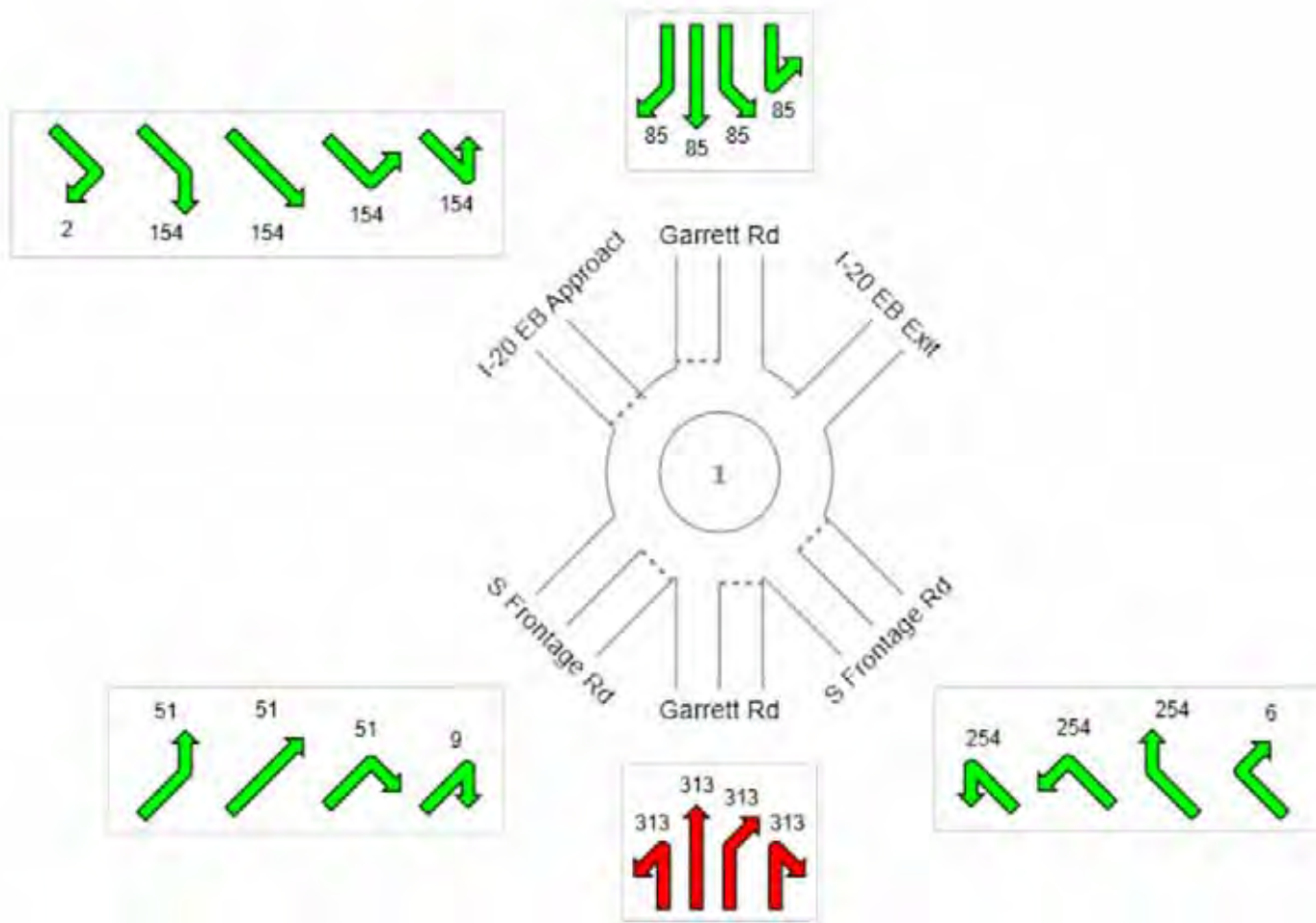
Built Alt Breakdown 2 PM

Roundabout

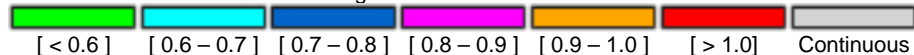
Design Life Analysis (Practical Capacity): Results for 4 years

## All Movement Classes

	South	Southeast	North	Northwest	Southwest	Intersection
Vehicle Queue (%ile)	313	254	85	154	51	313



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt 2 Breakdown PM  
Roundabout

Volume Display Method: Total and %

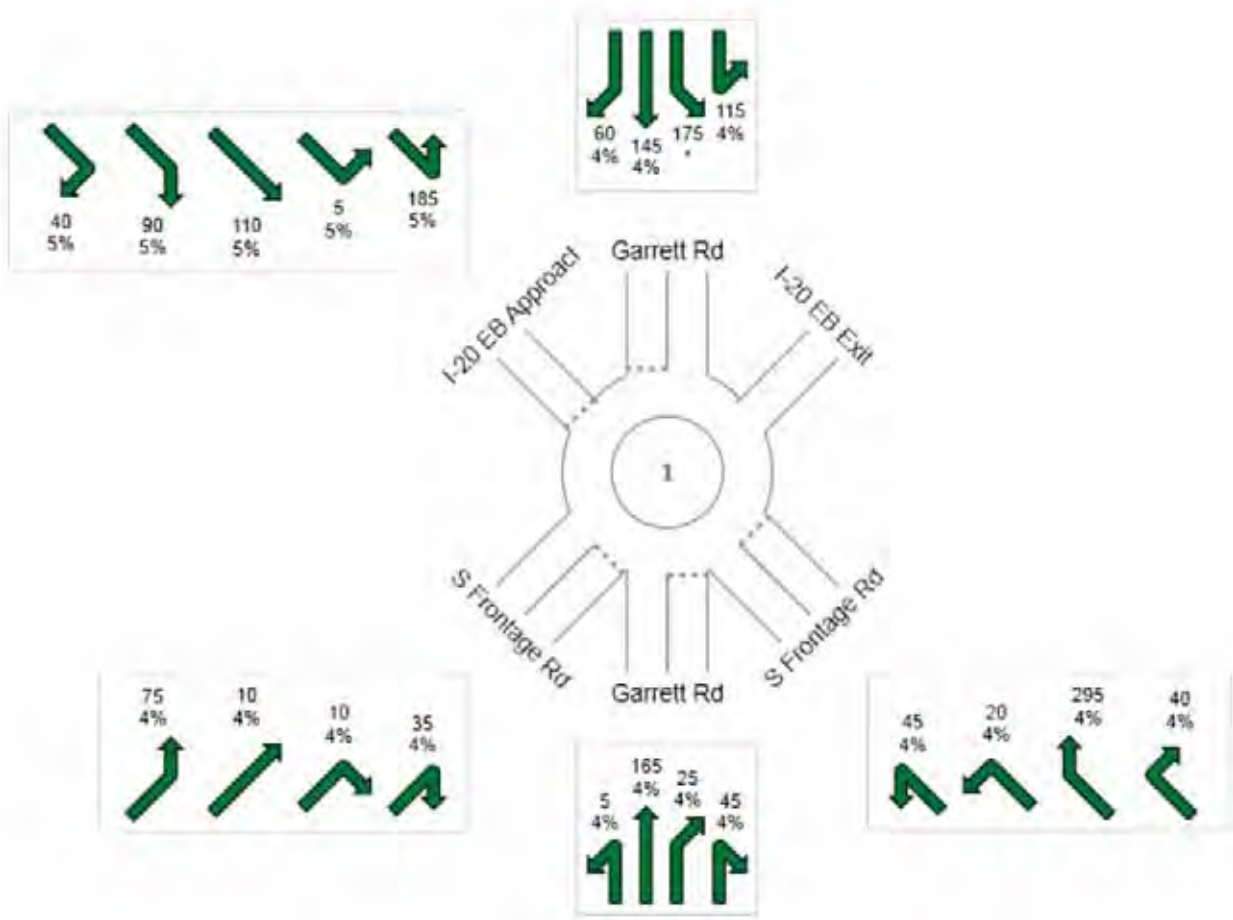
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1695

Light Vehicles (LV): 1630

Heavy Vehicles (HV): 65



\* Class does not run in this movement.

# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd**

Built Alt 2 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 11 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	25.8 mph	25.8 mph
Travel Distance (Total)	1448.2 veh-mi/h	1737.9 pers-mi/h
Travel Time (Total)	56.2 veh-h/h	67.4 pers-h/h
Demand Flows (Total)	2594 veh/h	3113 pers/h
Percent Heavy Vehicles (Demand)	3.8 %	
Degree of Saturation	0.830	
Practical Spare Capacity	2.4 %	
Effective Intersection Capacity	3126 veh/h	
Control Delay (Total)	12.16 veh-h/h	14.59 pers-h/h
Control Delay (Average)	16.9 sec	16.9 sec
Control Delay (Worst Lane)	35.6 sec	
Control Delay (Worst Movement)	35.6 sec	35.6 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	16.9 sec	
Idling Time (Average)	9.7 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	14.4 veh	
95% Back of Queue - Distance (Worst Lane)	374.2 ft	
Queue Storage Ratio (Worst Lane)	1.26	
Total Effective Stops	2575 veh/h	3090 pers/h
Effective Stop Rate	0.99 per veh	0.99 per pers
Proportion Queued	0.83	0.83
Performance Index	206.1	206.1
Cost (Total)	947.24 \$/h	947.24 \$/h
Fuel Consumption (Total)	73.3 gal/h	
Carbon Dioxide (Total)	657.5 kg/h	
Hydrocarbons (Total)	0.227 kg/h	
Carbon Monoxide (Total)	2.831 kg/h	
NOx (Total)	1.493 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,245,104 veh/y	1,494,125 pers/y
Delay	5,835 veh-h/y	7,002 pers-h/y
Effective Stops	1,236,020 veh/y	1,483,224 pers/y
Travel Distance	695,153 veh-mi/y	834,183 pers-mi/y
Travel Time	26,976 veh-h/y	32,371 pers-h/y
Cost	454,676 \$/y	454,676 \$/y
Fuel Consumption	35,173 gal/y	
Carbon Dioxide	315,579 kg/y	
Hydrocarbons	109 kg/y	
Carbon Monoxide	1,359 kg/y	
NOx	716 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd

Built Alt 2 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 11 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3b	L3	11	4.0	0.796	35.6	LOS D	10.7	276.0	1.00	1.34	18.6
8	T1	228	4.0	0.796	35.6	LOS D	10.7	276.0	1.00	1.34	19.5
18a	R1	35	4.0	0.796	35.6	LOS D	10.7	276.0	1.00	1.34	18.1
18b	R3	61	4.0	0.796	35.6	LOS D	10.7	276.0	1.00	1.34	17.6
Approach		334	4.0	0.796	35.6	LOS D	10.7	276.0	1.00	1.34	19.0
SouthEast: S Frontage Rd											
3bx	L3	63	4.0	0.800	22.0	LOS C	13.2	341.5	1.00	1.41	17.4
3x	L2	30	4.0	0.800	22.0	LOS C	13.2	341.5	1.00	1.41	25.8
18ax	R1	476	4.0	0.800	22.0	LOS C	13.2	341.5	1.00	1.41	26.9
18x	R2	65	4.0	0.053	1.0	LOS A	0.3	7.2	0.42	0.24	32.5
Approach		634	4.0	0.800	19.9	LOS B	13.2	341.5	0.94	1.29	26.4
North: Garrett Rd											
7b	L3	183	4.0	0.587	1.0	LOS A	6.2	158.2	0.53	0.29	35.3
7a	L1	262	0.0	0.587	1.0	LOS A	6.2	158.2	0.53	0.29	34.5
4	T1	217	4.0	0.587	1.0	LOS A	6.2	158.2	0.53	0.29	23.0
14a	R1	90	4.0	0.587	1.0	LOS A	6.2	158.2	0.53	0.29	34.3
Approach		753	2.6	0.587	1.0	LOS A	6.2	158.2	0.53	0.29	31.5
NorthWest: I-20 EB Approach											
7bx	L3	271	5.0	0.830	22.8	LOS C	14.4	374.2	1.00	1.44	26.2
7x	L2	25	5.0	0.830	22.8	LOS C	14.4	374.2	1.00	1.44	25.0
4x	T1	157	5.0	0.830	22.8	LOS C	14.4	374.2	1.00	1.44	24.9
14ax	R1	129	5.0	0.830	22.8	LOS C	14.4	374.2	1.00	1.44	16.0
14x	R2	57	5.0	0.043	0.5	LOS A	0.2	5.7	0.29	0.13	32.8
Approach		638	5.0	0.830	20.8	LOS C	14.4	374.2	0.94	1.32	24.2
SouthWest: S Frontage Rd											
5ax	L1	118	4.0	0.431	22.6	LOS C	4.0	101.9	1.00	1.06	25.8
2x	T1	16	4.0	0.431	22.6	LOS C	4.0	101.9	1.00	1.06	24.8
12x	R2	22	4.0	0.431	22.6	LOS C	4.0	101.9	1.00	1.06	24.2
12bx	R3	79	4.0	0.307	21.8	LOS C	2.1	55.4	1.00	1.00	16.5
Approach		235	4.0	0.431	22.3	LOS C	4.0	101.9	1.00	1.04	22.7
All Vehicles		2594	3.8	0.830	16.9	LOS B	14.4	374.2	0.83	0.99	25.8

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



# LEVEL OF SERVICE

 **Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd**

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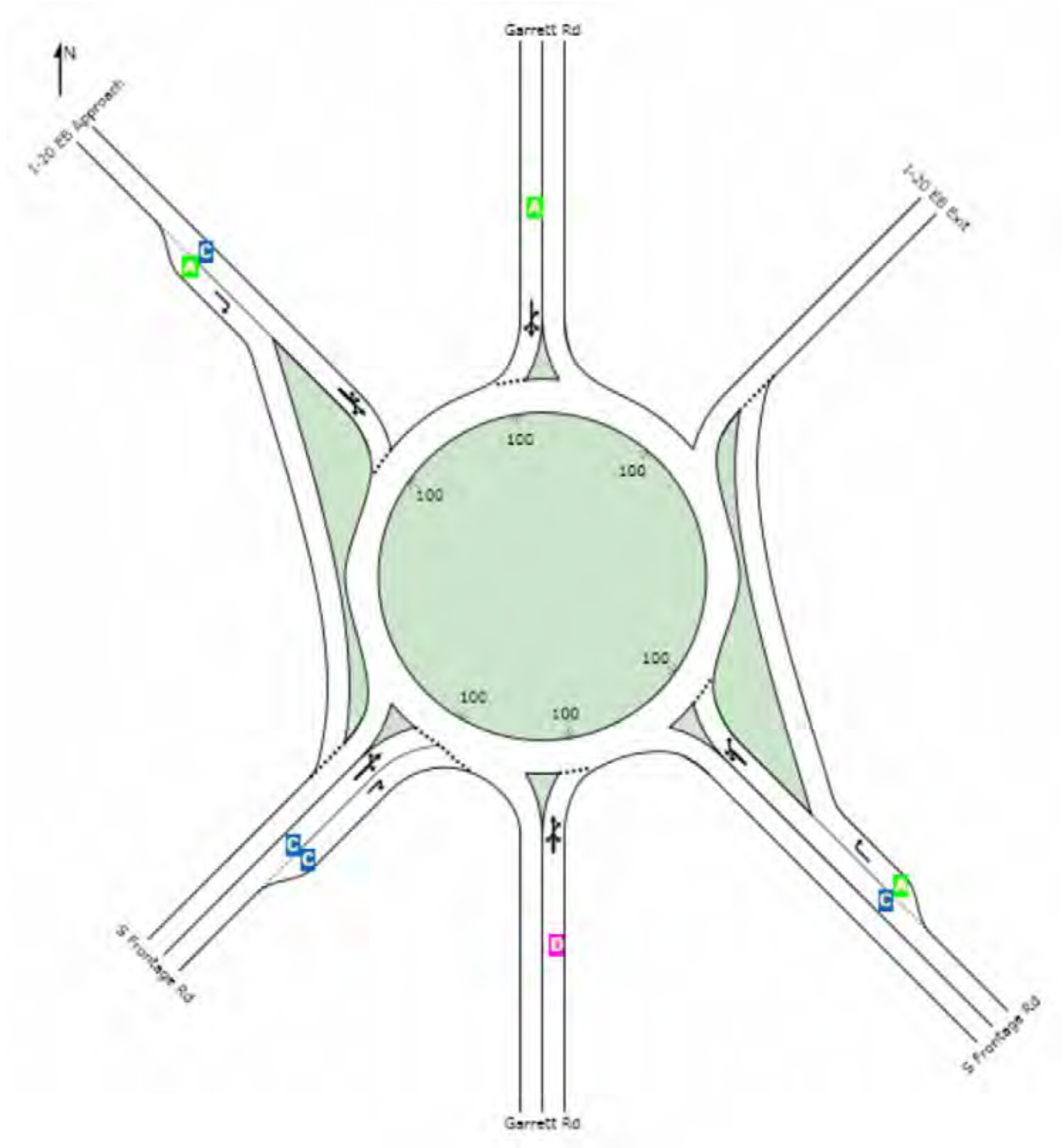
Built Alt 2 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 11 years

## All Movement Classes

	South	Southeast	North	Northwest	Southwest	Intersection
LOS	D	B	A	C	C	B



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

Site: PM: Garrett Rd @ I-20 EB and S Frontage Rd

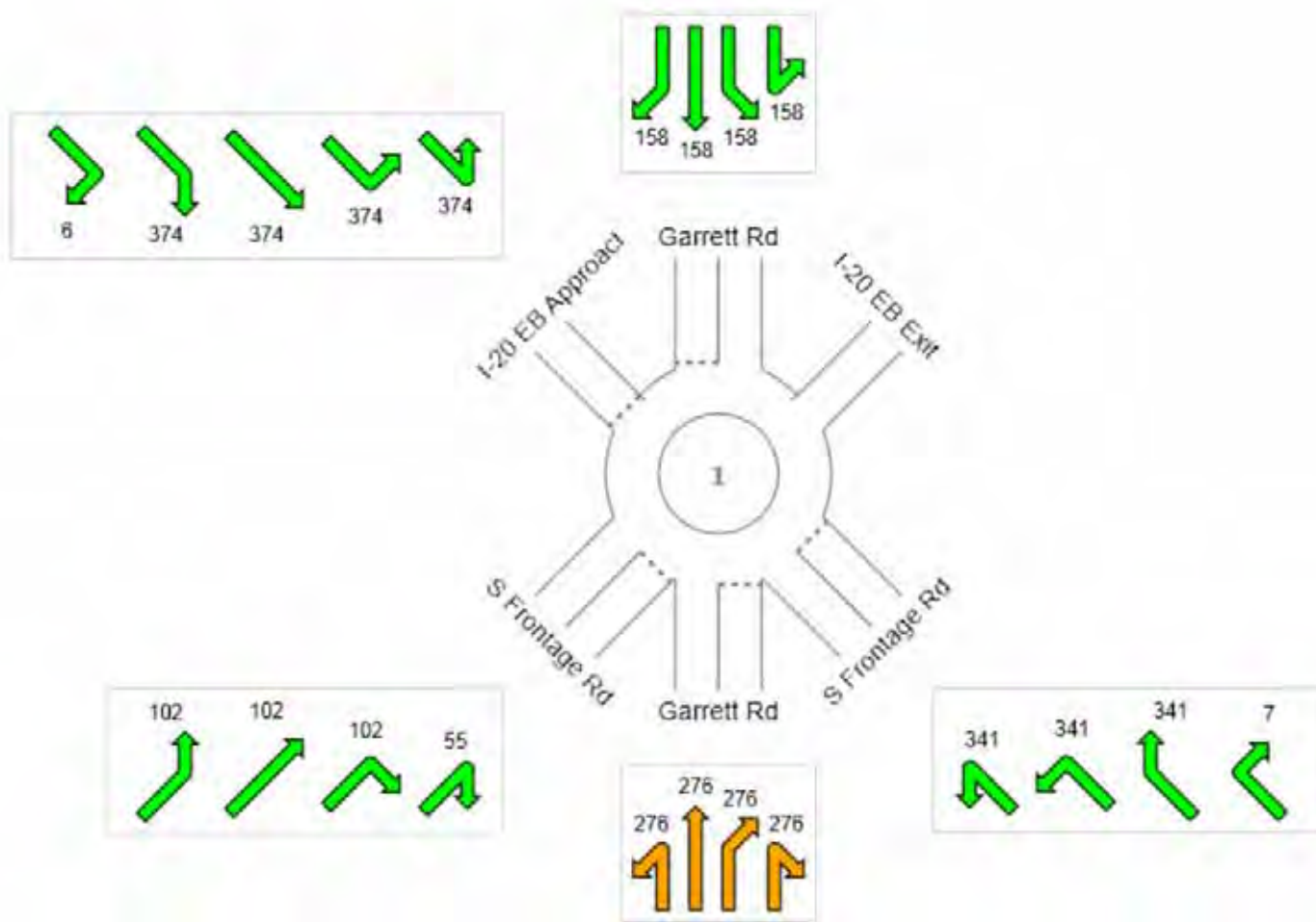
Built Alt 2 Breakdown PM

Roundabout

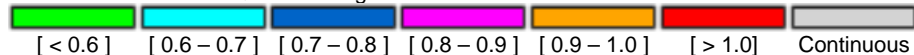
Design Life Analysis (Practical Capacity): Results for 11 years

## All Movement Classes

	South	Southeast	North	Northwest	Southwest	Intersection
Vehicle Queue (%ile)	276	341	158	374	102	374



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd @ I-20 EB**

Built Alt 3 PM  
Roundabout

**Volume Display Method: Total and %**

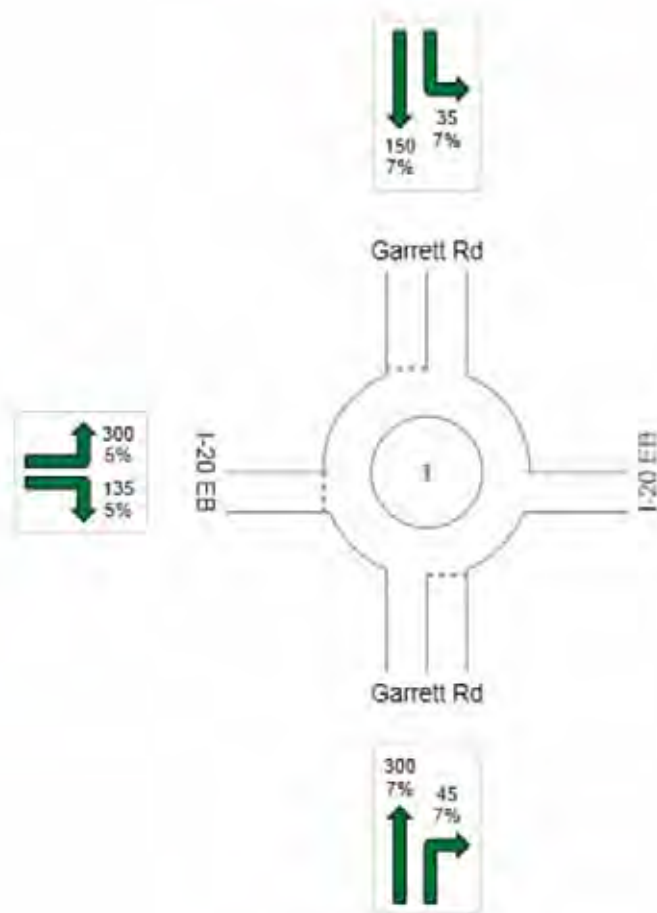
**Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles**

**Total Intersection Volumes (veh)**

**All Movement Classes: 965**

**Light Vehicles (LV): 906**

**Heavy Vehicles (HV): 59**



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 3 PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	29.9 mph	29.9 mph
Travel Distance (Total)	957.8 veh-mi/h	1149.4 pers-mi/h
Travel Time (Total)	32.1 veh-h/h	38.5 pers-h/h
Demand Flows (Total)	1823 veh/h	2188 pers/h
Percent Heavy Vehicles (Demand)	6.1 %	
Degree of Saturation	0.678	
Practical Spare Capacity	25.4 %	
Effective Intersection Capacity	2689 veh/h	
Control Delay (Total)	2.30 veh-h/h	2.76 pers-h/h
Control Delay (Average)	4.5 sec	4.5 sec
Control Delay (Worst Lane)	10.0 sec	
Control Delay (Worst Movement)	10.0 sec	10.0 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	4.5 sec	
Idling Time (Average)	0.9 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	8.1 veh	
95% Back of Queue - Distance (Worst Lane)	213.0 ft	
Queue Storage Ratio (Worst Lane)	0.97	
Total Effective Stops	1070 veh/h	1285 pers/h
Effective Stop Rate	0.59 per veh	0.59 per pers
Proportion Queued	0.61	0.61
Performance Index	44.7	44.7
Cost (Total)	599.69 \$/h	599.69 \$/h
Fuel Consumption (Total)	52.7 gal/h	
Carbon Dioxide (Total)	474.3 kg/h	
Hydrocarbons (Total)	0.141 kg/h	
Carbon Monoxide (Total)	1.899 kg/h	
NOx (Total)	1.383 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	875,132 veh/y	1,050,158 pers/y
Delay	1,105 veh-h/y	1,326 pers-h/y
Effective Stops	513,820 veh/y	616,584 pers/y
Travel Distance	459,742 veh-mi/y	551,691 pers-mi/y
Travel Time	15,387 veh-h/y	18,465 pers-h/y
Cost	287,851 \$/y	287,851 \$/y
Fuel Consumption	25,280 gal/y	
Carbon Dioxide	227,686 kg/y	
Hydrocarbons	67 kg/y	
Carbon Monoxide	912 kg/y	
NOx	664 kg/y	

# MOVEMENT SUMMARY

 Site: AM: Garrett Rd @ I-20 EB

Built Alt 3 PM  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	533	7.0	0.678	10.0	LOS A	8.1	213.0	0.98	1.07	30.4
18	R2	88	7.0	0.180	6.4	LOS A	1.0	27.0	0.77	0.72	28.4
Approach		621	7.0	0.678	9.4	LOS A	8.1	213.0	0.95	1.02	30.1
North: Garrett Rd											
7	L2	74	7.0	0.234	0.0	LOS A	0.0	0.0	0.00	0.00	37.4
4	T1	301	7.0	0.234	0.0	LOS A	0.0	0.0	0.00	0.00	25.1
Approach		375	7.0	0.234	0.0	LOS A	0.0	0.0	0.00	0.00	27.7
West: I-20 EB											
5	L2	602	5.0	0.525	2.8	LOS A	3.9	101.7	0.66	0.54	32.6
12	R2	224	5.0	0.274	3.1	LOS A	1.5	38.8	0.58	0.48	23.9
Approach		827	5.0	0.525	2.9	LOS A	3.9	101.7	0.64	0.53	30.5
All Vehicles		1823	6.1	0.678	4.5	LOS A	8.1	213.0	0.61	0.59	29.9

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

Site: AM: Garrett Rd @ I-20 EB

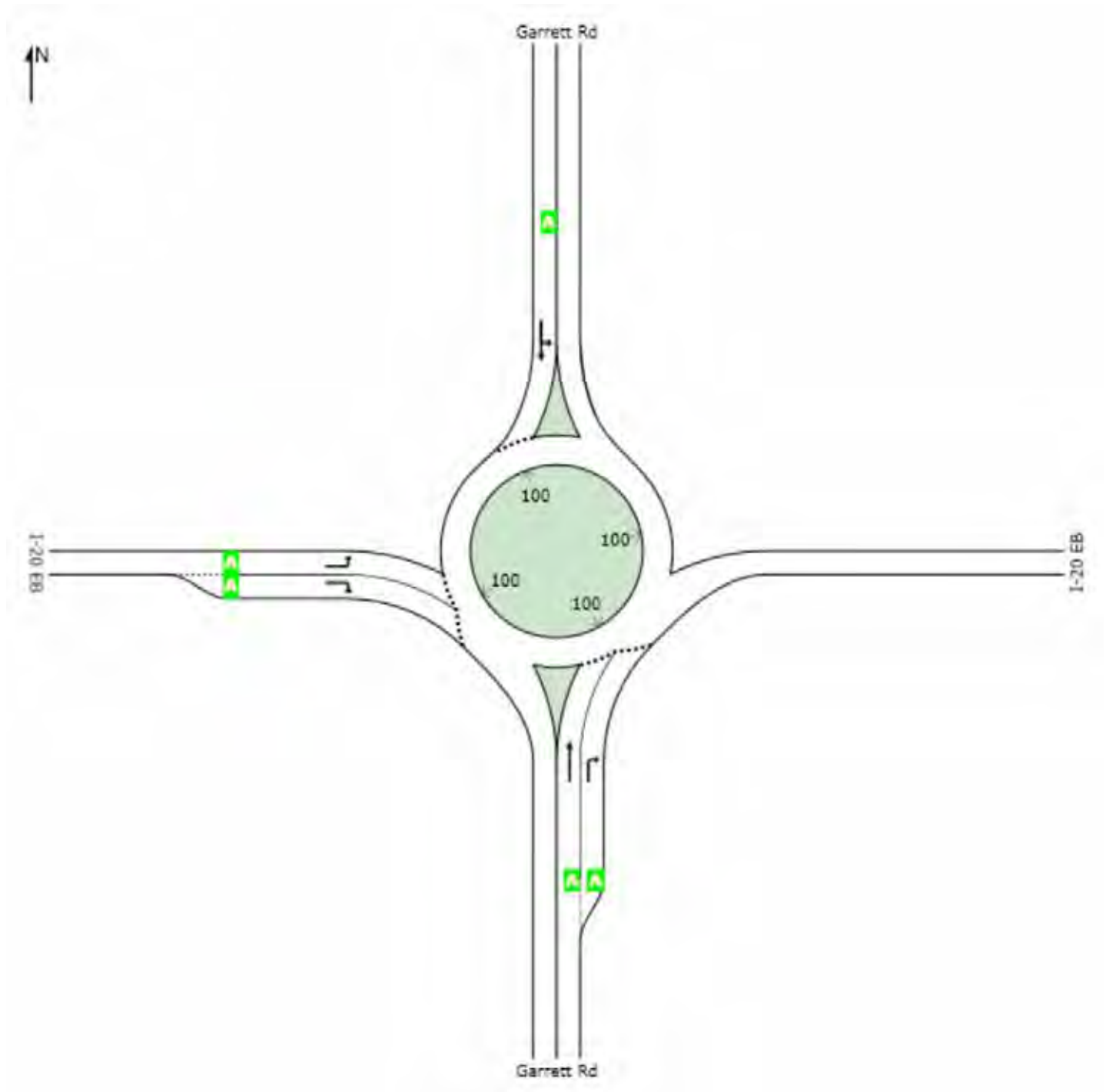
Built Alt 3 PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	North	West	Intersection
LOS	A	A	A	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

# QUEUE DISTANCE (%ILE)

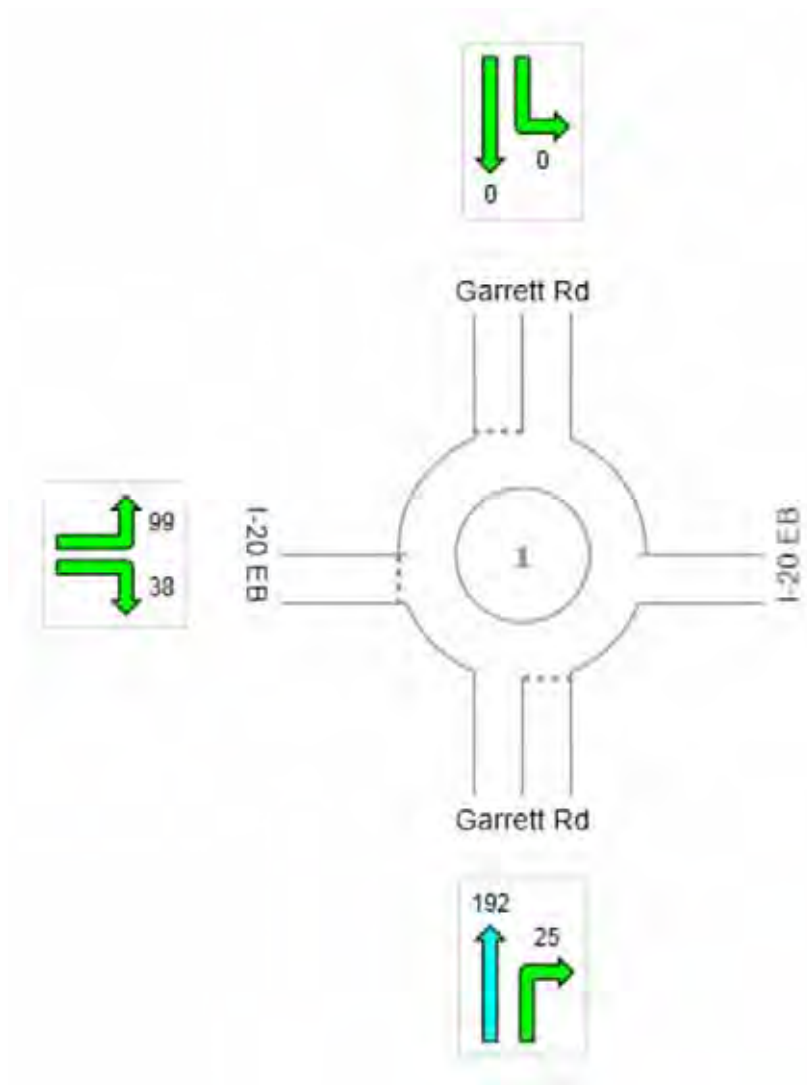
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: AM: Garrett Rd @ I-20 EB**

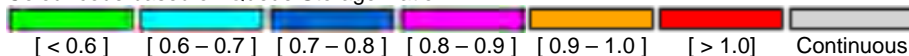
Built Alt 3 PM  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	192	0	99	192



Colour code based on Queue Storage Ratio





# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 Breakdown PM  
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

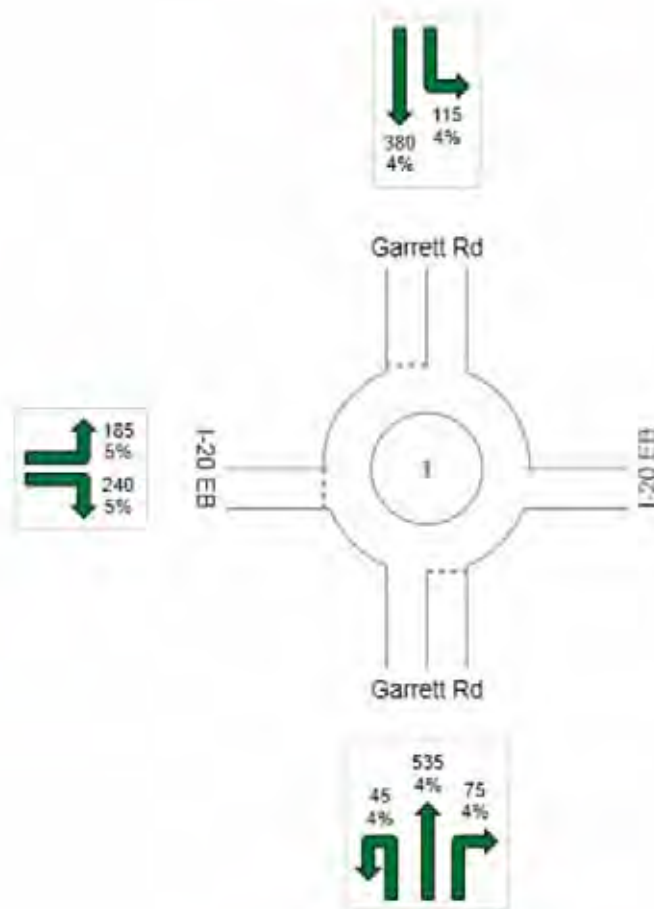
Total Intersection Volumes (veh)

All Movement Classes: 1575

Light Vehicles (LV): 1508

Heavy Vehicles (HV): 67

Buses (B): 0



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ I-20 EB**

Built Alt 3 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 14 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	26.7 mph	26.7 mph
Travel Distance (Total)	1090.3 veh-mi/h	1308.4 pers-mi/h
Travel Time (Total)	40.9 veh-h/h	49.0 pers-h/h
Demand Flows (Total)	2404 veh/h	2885 pers/h
Percent Heavy Vehicles (Demand)	4.3 %	
Degree of Saturation	0.846	
Practical Spare Capacity	0.5 %	
Effective Intersection Capacity	2843 veh/h	
Control Delay (Total)	5.26 veh-h/h	6.31 pers-h/h
Control Delay (Average)	7.9 sec	7.9 sec
Control Delay (Worst Lane)	13.5 sec	
Control Delay (Worst Movement)	13.5 sec	13.5 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	7.9 sec	
Idling Time (Average)	2.5 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	15.6 veh	
95% Back of Queue - Distance (Worst Lane)	402.2 ft	
Queue Storage Ratio (Worst Lane)	1.83	
Total Effective Stops	1955 veh/h	2346 pers/h
Effective Stop Rate	0.81 per veh	0.81 per pers
Proportion Queued	0.83	0.83
Performance Index	88.6	88.6
Cost (Total)	722.30 \$/h	722.30 \$/h
Fuel Consumption (Total)	59.4 gal/h	
Carbon Dioxide (Total)	533.0 kg/h	
Hydrocarbons (Total)	0.176 kg/h	
Carbon Monoxide (Total)	2.265 kg/h	
NOx (Total)	1.316 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,154,104 veh/y	1,384,925 pers/y
Delay	2,524 veh-h/y	3,029 pers-h/y
Effective Stops	938,329 veh/y	1,125,995 pers/y
Travel Distance	523,362 veh-mi/y	628,035 pers-mi/y
Travel Time	19,609 veh-h/y	23,530 pers-h/y
Cost	346,704 \$/y	346,704 \$/y
Fuel Consumption	28,507 gal/y	
Carbon Dioxide	255,854 kg/y	
Hydrocarbons	85 kg/y	
Carbon Monoxide	1,087 kg/y	
NOx	632 kg/y	

# MOVEMENT SUMMARY

 Site: PM: Garrett Rd @ I-20 EB

Built Alt 3 Breakdown PM  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 14 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3u	U	91	4.0	0.846	11.8	LOS B	15.6	402.2	1.00	1.13	16.4
8	T1	759	4.0	0.846	11.8	LOS B	15.6	402.2	1.00	1.13	29.2
18	R2	104	4.0	0.167	4.1	LOS A	0.9	23.7	0.66	0.57	29.9
Approach		955	4.0	0.846	10.9	LOS B	15.6	402.2	0.96	1.07	28.4
North: Garrett Rd											
7	L2	195	4.0	0.618	0.9	LOS A	7.1	184.0	0.54	0.29	35.6
4	T1	604	4.0	0.618	0.9	LOS A	7.1	184.0	0.54	0.29	23.8
Approach		799	4.0	0.618	0.9	LOS A	7.1	184.0	0.54	0.29	26.8
West: I-20 EB											
5	L2	287	5.0	0.560	13.5	LOS B	5.1	131.4	0.96	1.10	29.0
12	R2	364	5.0	0.552	10.7	LOS B	5.5	142.7	0.98	1.07	21.6
Approach		651	5.0	0.560	11.9	LOS B	5.5	142.7	0.98	1.08	25.2
All Vehicles		2404	4.3	0.846	7.9	LOS A	15.6	402.2	0.83	0.81	26.7

Level of Service (LOS) Method: Delay (HCM 2000).  
 Roundabout LOS Method: Same as Signalised Intersections.  
 Vehicle movement LOS values are based on average delay per movement  
 Intersection and Approach LOS values are based on average delay for all vehicle movements.  
 Roundabout Capacity Model: SIDRA Standard.  
 SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



# LEVEL OF SERVICE

**Site: PM: Garrett Rd @ I-20 EB**

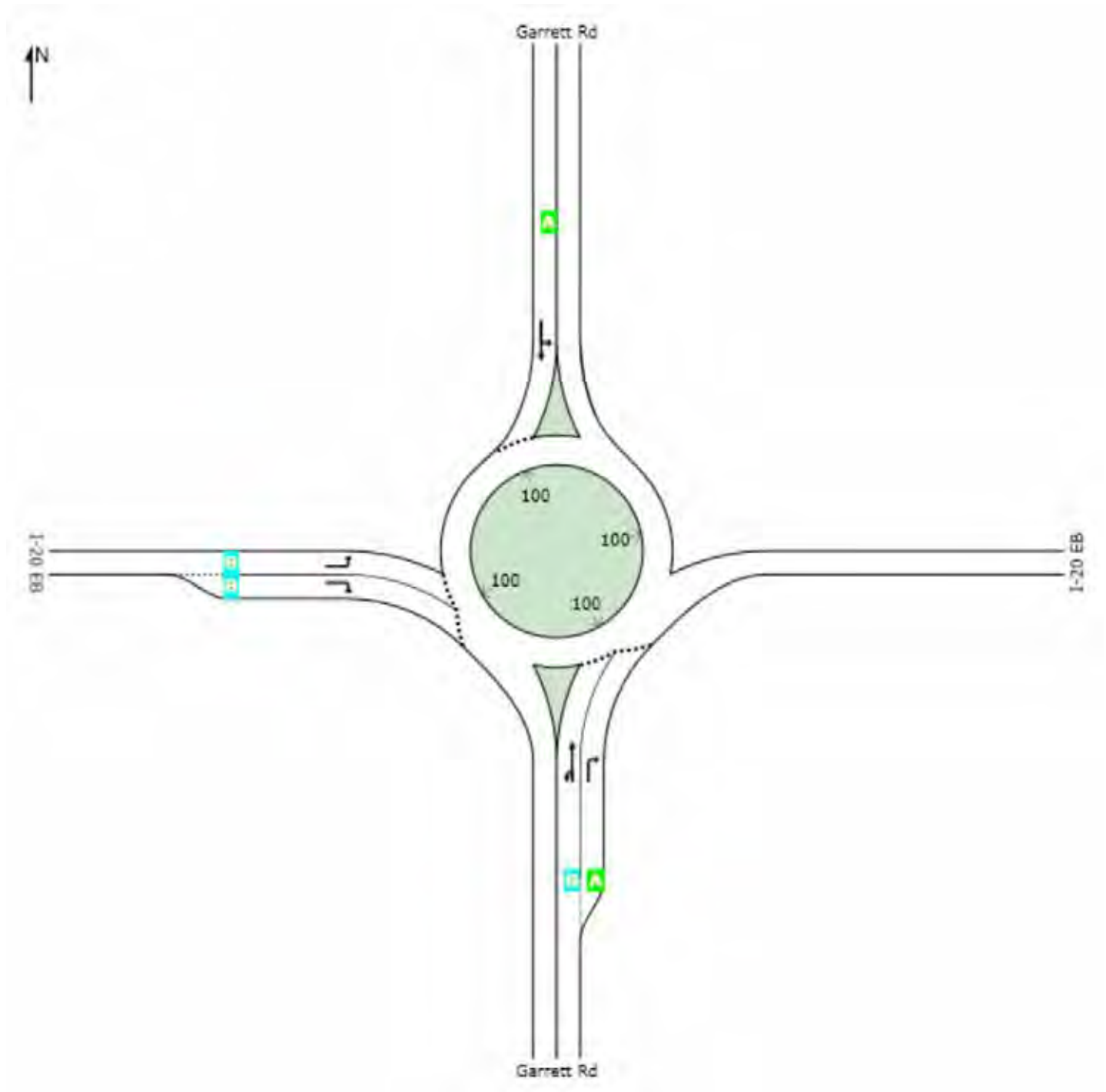
Built Alt 3 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 14 years

## All Movement Classes

	South	North	West	Intersection
LOS	B	A	B	A



Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

Site: PM: Garrett Rd @ I-20 EB

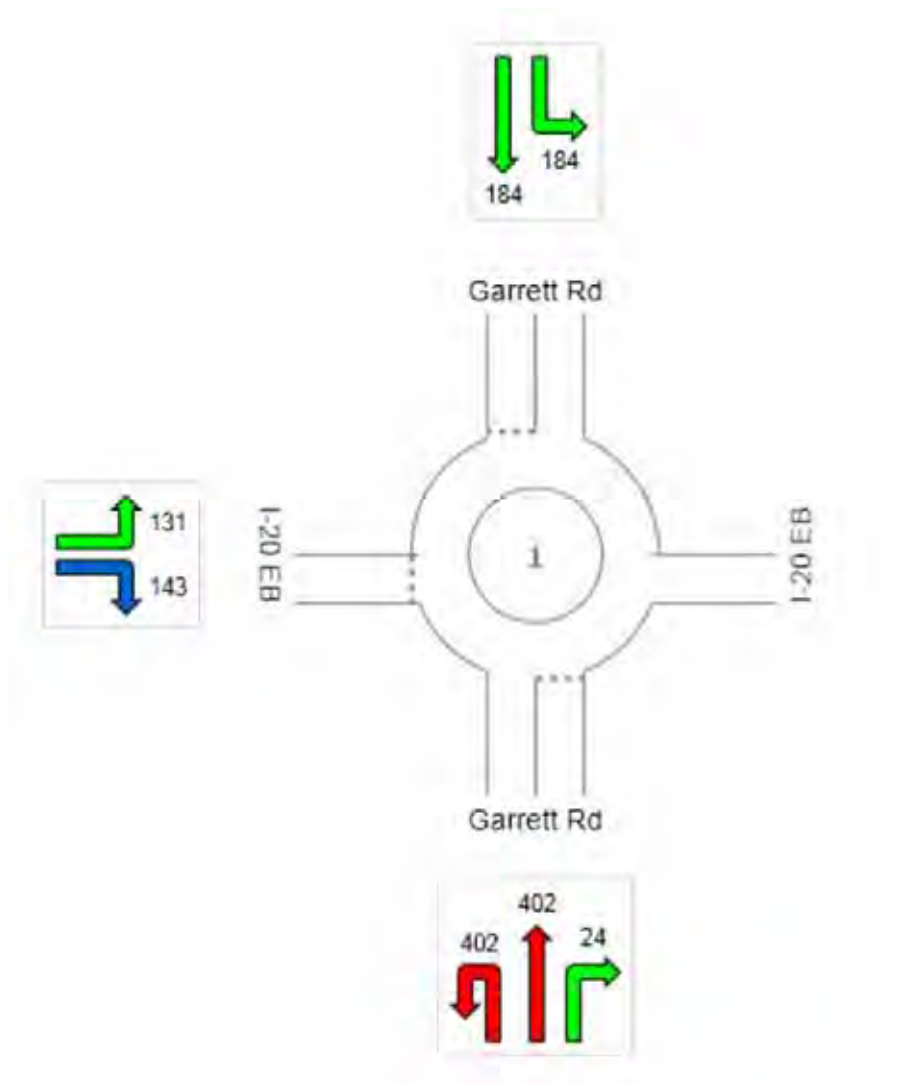
Built Alt 3 Breakdown PM

Roundabout

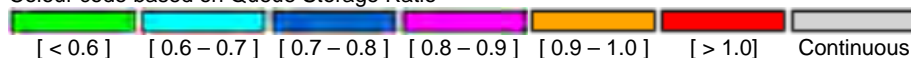
Design Life Analysis (Practical Capacity): Results for 14 years

## All Movement Classes

	South	North	West	Intersection
Vehicle Queue (%ile)	402	184	143	402



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 **Site: AM: Garrett Rd South of S. Frontage Rd**

Build Alt 3 Breakdown AM  
Roundabout

**Volume Display Method: Total and %**

**Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles**

**Total Intersection Volumes (veh)**

**All Movement Classes: 625**

**Light Vehicles (LV): 581**

**Heavy Vehicles (HV): 44**



# INTERSECTION SUMMARY

 **Site: AM: Garrett Rd South of S. Frontage Rd**

Build Alt 3 Breakdown AM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	26.6 mph	26.6 mph
Travel Distance (Total)	240.4 veh-mi/h	288.5 pers-mi/h
Travel Time (Total)	9.0 veh-h/h	10.8 pers-h/h
Demand Flows (Total)	1141 veh/h	1370 pers/h
Percent Heavy Vehicles (Demand)	7.0 %	
Degree of Saturation	0.616	
Practical Spare Capacity	38.0 %	
Effective Intersection Capacity	1853 veh/h	
Control Delay (Total)	0.71 veh-h/h	0.85 pers-h/h
Control Delay (Average)	2.2 sec	2.2 sec
Control Delay (Worst Lane)	4.2 sec	
Control Delay (Worst Movement)	4.2 sec	4.2 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	2.2 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	5.6 veh	
95% Back of Queue - Distance (Worst Lane)	147.7 ft	
Queue Storage Ratio (Worst Lane)	0.26	
Total Effective Stops	376 veh/h	451 pers/h
Effective Stop Rate	0.33 per veh	0.33 per pers
Proportion Queued	0.37	0.37
Performance Index	12.6	12.6
Cost (Total)	215.35 \$/h	215.35 \$/h
Fuel Consumption (Total)	17.6 gal/h	
Carbon Dioxide (Total)	158.2 kg/h	
Hydrocarbons (Total)	0.052 kg/h	
Carbon Monoxide (Total)	0.598 kg/h	
NOx (Total)	0.470 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	547,858 veh/y	657,430 pers/y
Delay	339 veh-h/y	407 pers-h/y
Effective Stops	180,355 veh/y	216,426 pers/y
Travel Distance	115,413 veh-mi/y	138,495 pers-mi/y
Travel Time	4,338 veh-h/y	5,206 pers-h/y
Cost	103,369 \$/y	103,369 \$/y
Fuel Consumption	8,432 gal/y	
Carbon Dioxide	75,918 kg/y	
Hydrocarbons	25 kg/y	
Carbon Monoxide	287 kg/y	
NOx	226 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd South of S. Frontage Rd**

Build Alt 3 Breakdown AM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	600	7.0	0.616	4.2	LOS A	5.6	147.7	0.71	0.63	28.0
Approach		600	7.0	0.616	4.2	LOS A	5.6	147.7	0.71	0.63	28.0
North: Garrett Rd											
7u	U	303	7.0	0.337	0.0	LOS A	0.0	0.0	0.00	0.00	20.4
4	T1	238	7.0	0.337	0.0	LOS A	0.0	0.0	0.00	0.00	31.0
Approach		541	7.0	0.337	0.0	LOS A	0.0	0.0	0.00	0.00	25.1
All Vehicles		1141	7.0	0.616	2.2	LOS A	5.6	147.7	0.37	0.33	26.6

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



# LEVEL OF SERVICE

 **Site: AM: Garrett Rd South of S. Frontage Rd**

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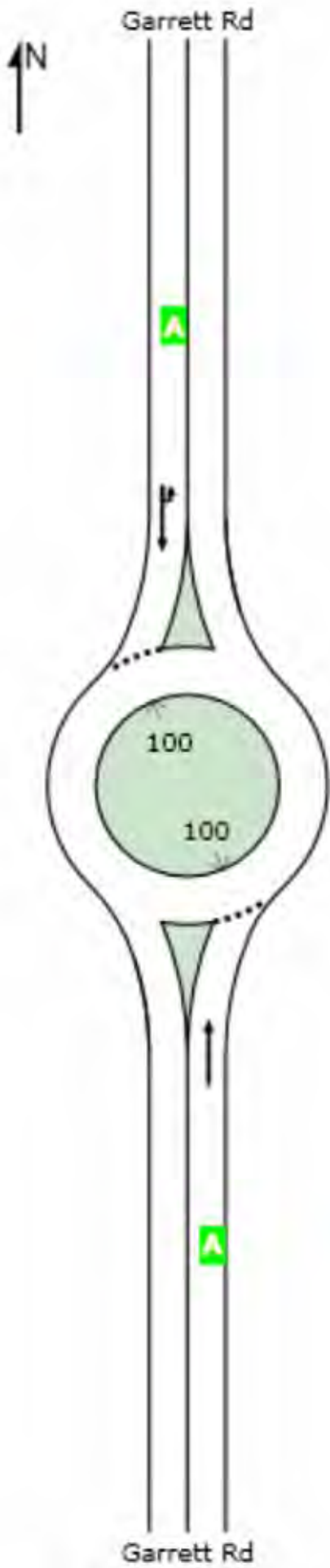
Build Alt 3 Breakdown AM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	North	Intersection
LOS	A	A	A



# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

 **Site: AM: Garrett Rd South of S. Frontage Rd**

Build Alt 3 Breakdown AM

Roundabout

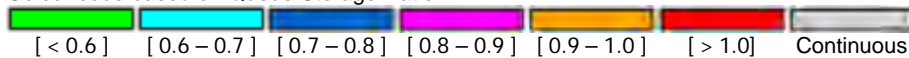
Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	North	Intersection
Vehicle Queue (%ile)	148	0	148



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd South of S. Frontage Rd

Build Alt 3 Breakdown PM  
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 890

Light Vehicles (LV): 854

Heavy Vehicles (HV): 36



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd South of S. Frontage Rd**

Build Alt 3 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	25.5 mph	25.5 mph
Travel Distance (Total)	317.7 veh-mi/h	381.3 pers-mi/h
Travel Time (Total)	12.5 veh-h/h	15.0 pers-h/h
Demand Flows (Total)	1556 veh/h	1867 pers/h
Percent Heavy Vehicles (Demand)	4.0 %	
Degree of Saturation	0.692	
Practical Spare Capacity	22.9 %	
Effective Intersection Capacity	2249 veh/h	
Control Delay (Total)	0.85 veh-h/h	1.02 pers-h/h
Control Delay (Average)	2.0 sec	2.0 sec
Control Delay (Worst Lane)	7.5 sec	
Control Delay (Worst Movement)	7.5 sec	7.5 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	2.0 sec	
Idling Time (Average)	0.3 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	4.3 veh	
95% Back of Queue - Distance (Worst Lane)	112.2 ft	
Queue Storage Ratio (Worst Lane)	0.20	
Total Effective Stops	345 veh/h	415 pers/h
Effective Stop Rate	0.22 per veh	0.22 per pers
Proportion Queued	0.21	0.21
Performance Index	13.3	13.3
Cost (Total)	278.51 \$/h	278.51 \$/h
Fuel Consumption (Total)	22.0 gal/h	
Carbon Dioxide (Total)	197.0 kg/h	
Hydrocarbons (Total)	0.071 kg/h	
Carbon Monoxide (Total)	0.814 kg/h	
NOx (Total)	0.452 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	746,663 veh/y	895,996 pers/y
Delay	410 veh-h/y	492 pers-h/y
Effective Stops	165,823 veh/y	198,988 pers/y
Travel Distance	152,510 veh-mi/y	183,012 pers-mi/y
Travel Time	5,989 veh-h/y	7,187 pers-h/y
Cost	133,686 \$/y	133,686 \$/y
Fuel Consumption	10,553 gal/y	
Carbon Dioxide	94,576 kg/y	
Hydrocarbons	34 kg/y	
Carbon Monoxide	391 kg/y	
NOx	217 kg/y	

# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd South of S. Frontage Rd**

Build Alt 3 Breakdown PM  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
8	T1	412	4.0	0.534	7.5	LOS A	4.3	112.2	0.80	0.84	25.4
Approach		412	4.0	0.534	7.5	LOS A	4.3	112.2	0.80	0.84	25.4
North: Garrett Rd											
7u	U	622	4.0	0.692	0.0	LOS A	0.0	0.0	0.00	0.00	20.5
4	T1	522	4.0	0.692	0.0	LOS A	0.0	0.0	0.00	0.00	31.5
Approach		1143	4.0	0.692	0.0	LOS A	0.0	0.0	0.00	0.00	25.5
All Vehicles		1556	4.0	0.692	2.0	LOS A	4.3	112.2	0.21	0.22	25.5

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LEVEL OF SERVICE

 **Site: PM: Garrett Rd South of S. Frontage Rd**

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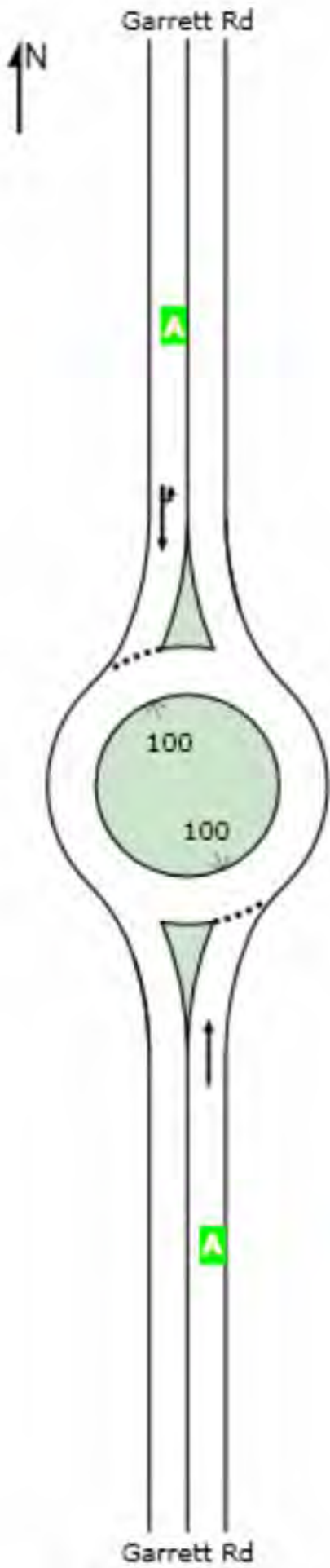
Build Alt 3 Breakdown PM

Roundabout

Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	North	Intersection
LOS	A	A	A





# QUEUE DISTANCE (%ILE)

Largest 95% Back of Queue for any lane used by movement (feet)

 Site: PM: Garrett Rd South of S. Frontage Rd

Build Alt 3 Breakdown PM

Roundabout

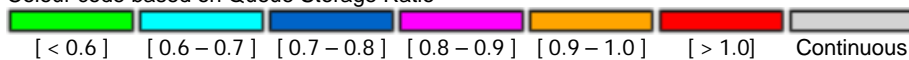
Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	North	Intersection
Vehicle Queue (%ile)	112	0	112



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions Breakdown AM - North of I-20 Roundabout

Volume Display Method: Total and %

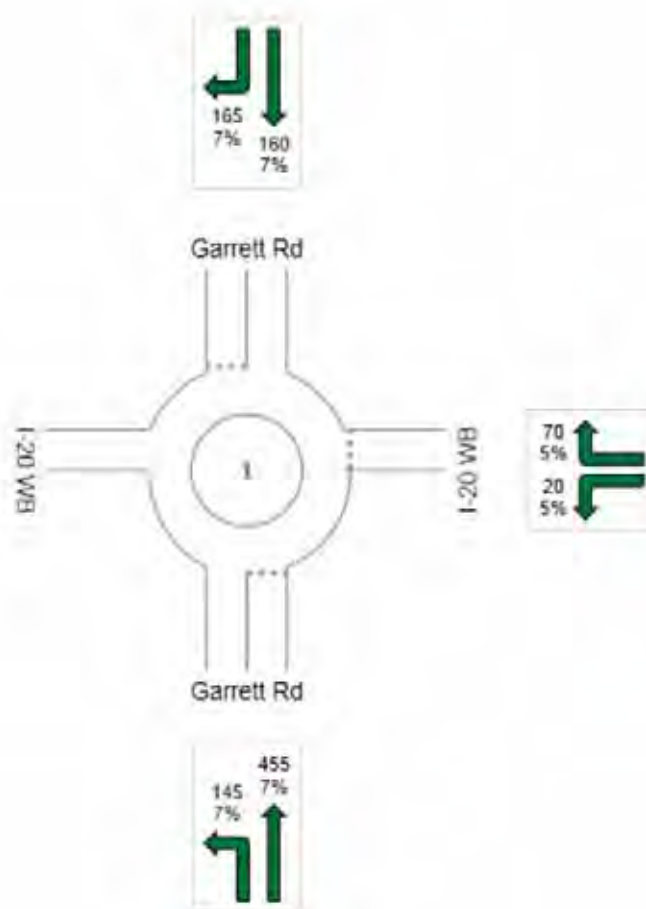
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1015

Light Vehicles (LV): 946

Heavy Vehicles (HV): 69



# INTERSECTION SUMMARY

 Site: AM: Garrett Rd @ I-20 WB

Build Conditions Breakdown AM - North of I-20  
Roundabout  
Design Life Analysis (Practical Capacity): Results for 22 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	34.8 mph	34.8 mph
Travel Distance (Total)	934.3 veh-mi/h	1121.2 pers-mi/h
Travel Time (Total)	26.9 veh-h/h	32.2 pers-h/h
Demand Flows (Total)	1951 veh/h	2341 pers/h
Percent Heavy Vehicles (Demand)	6.8 %	
Degree of Saturation	0.742	
Practical Spare Capacity	14.6 %	
Effective Intersection Capacity	2629 veh/h	
Control Delay (Total)	1.07 veh-h/h	1.29 pers-h/h
Control Delay (Average)	2.0 sec	2.0 sec
Control Delay (Worst Lane)	20.7 sec	
Control Delay (Worst Movement)	20.7 sec	20.7 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	2.0 sec	
Idling Time (Average)	1.2 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	2.8 veh	
95% Back of Queue - Distance (Worst Lane)	73.5 ft	
Queue Storage Ratio (Worst Lane)	0.35	
Total Effective Stops	312 veh/h	374 pers/h
Effective Stop Rate	0.16 per veh	0.16 per pers
Proportion Queued	0.18	0.18
Performance Index	30.8	30.8
Cost (Total)	464.80 \$/h	464.80 \$/h
Fuel Consumption (Total)	44.4 gal/h	
Carbon Dioxide (Total)	401.6 kg/h	
Hydrocarbons (Total)	0.114 kg/h	
Carbon Monoxide (Total)	1.660 kg/h	
NOx (Total)	1.165 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	936,276 veh/y	1,123,532 pers/y
Delay	515 veh-h/y	618 pers-h/y
Effective Stops	149,793 veh/y	179,751 pers/y
Travel Distance	448,463 veh-mi/y	538,156 pers-mi/y
Travel Time	12,895 veh-h/y	15,474 pers-h/y
Cost	223,102 \$/y	223,102 \$/y
Fuel Consumption	21,334 gal/y	
Carbon Dioxide	192,779 kg/y	
Hydrocarbons	55 kg/y	
Carbon Monoxide	797 kg/y	
NOx	559 kg/y	

# MOVEMENT SUMMARY

 **Site: AM: Garrett Rd @ I-20 WB**

Build Conditions Breakdown AM - North of I-20  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		Total veh/h	HV %	v/c	sec		Vehicles veh	Distance ft		per veh	mph	
South: Garrett Rd												
3	L2	267	7.0	0.742	0.0	LOS A	0.0	0.0	0.00	0.00	36.7	
8	T1	926	7.0	0.742	0.0	LOS A	0.0	0.0	0.00	0.00	36.1	
Approach		1192	7.0	0.742	0.0	LOS A	0.0	0.0	0.00	0.00	36.3	
East: I-20 WB												
1	L2	31	5.0	0.387	20.7	LOS C	2.8	73.5	0.96	1.02	27.2	
16	R2	120	5.0	0.387	20.7	LOS C	2.8	73.5	0.96	1.02	16.5	
Approach		151	5.0	0.387	20.7	LOS C	2.8	73.5	0.96	1.02	18.8	
North: Garrett Rd												
4	T1	317	7.0	0.347	1.8	LOS A	2.2	57.4	0.53	0.39	36.7	
14	R2	290	7.0	0.347	0.6	LOS A	2.2	57.4	0.16	0.12	40.0	
Approach		607	7.0	0.347	1.2	LOS A	2.2	57.4	0.35	0.26	38.5	
All Vehicles		1951	6.8	0.742	2.0	LOS A	2.8	73.5	0.18	0.16	34.8	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

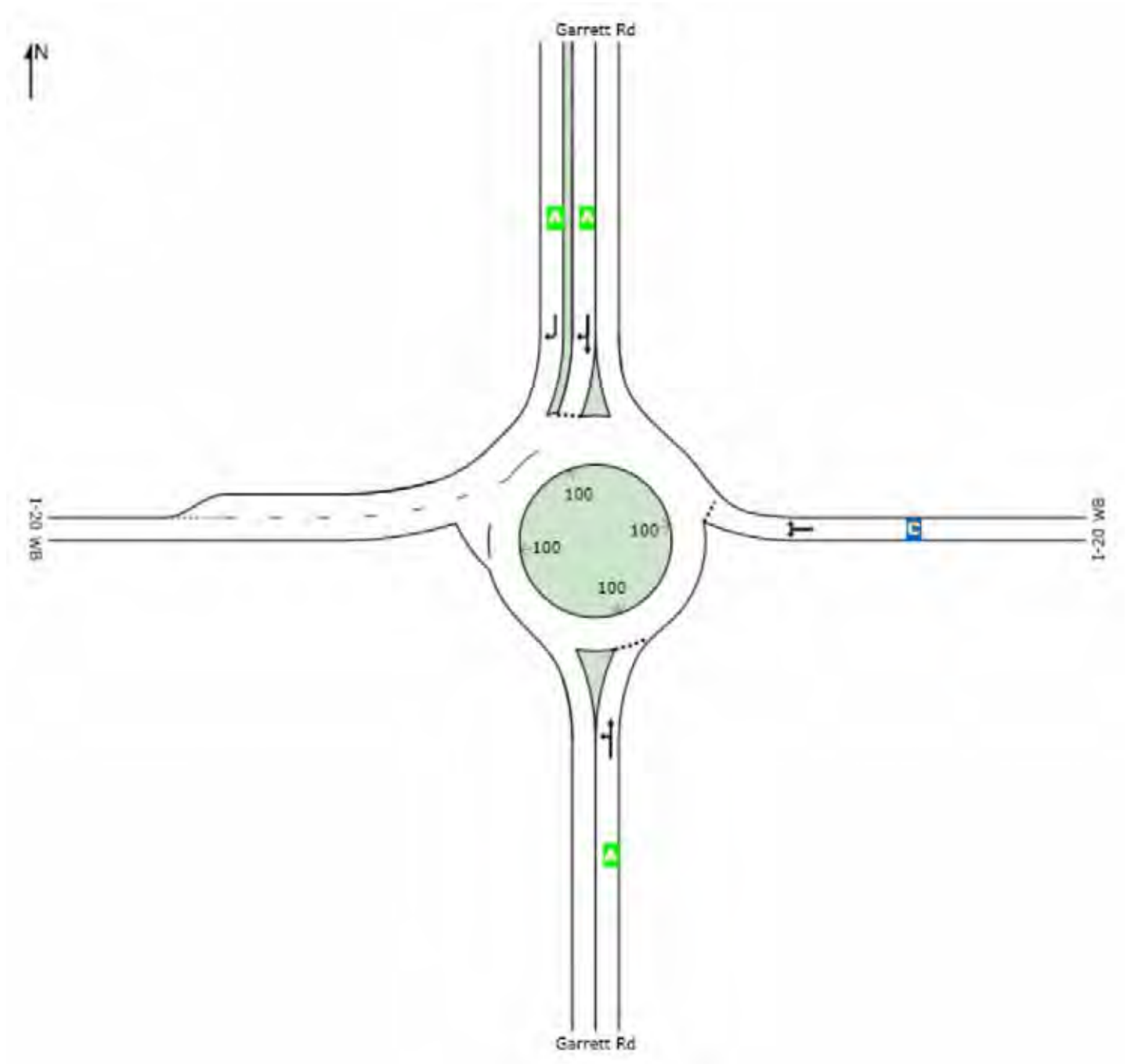
# LEVEL OF SERVICE

**Site: AM: Garrett Rd @ I-20 WB**

Build Conditions Breakdown AM - North of I-20  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	East	North	Intersection
LOS	A	C	A	A



Level of Service (LOS) Method: Delay (HCM 2000).  
 Roundabout LOS Method: Same as Signalised Intersections.  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.

# QUEUE DISTANCE (%ILE)

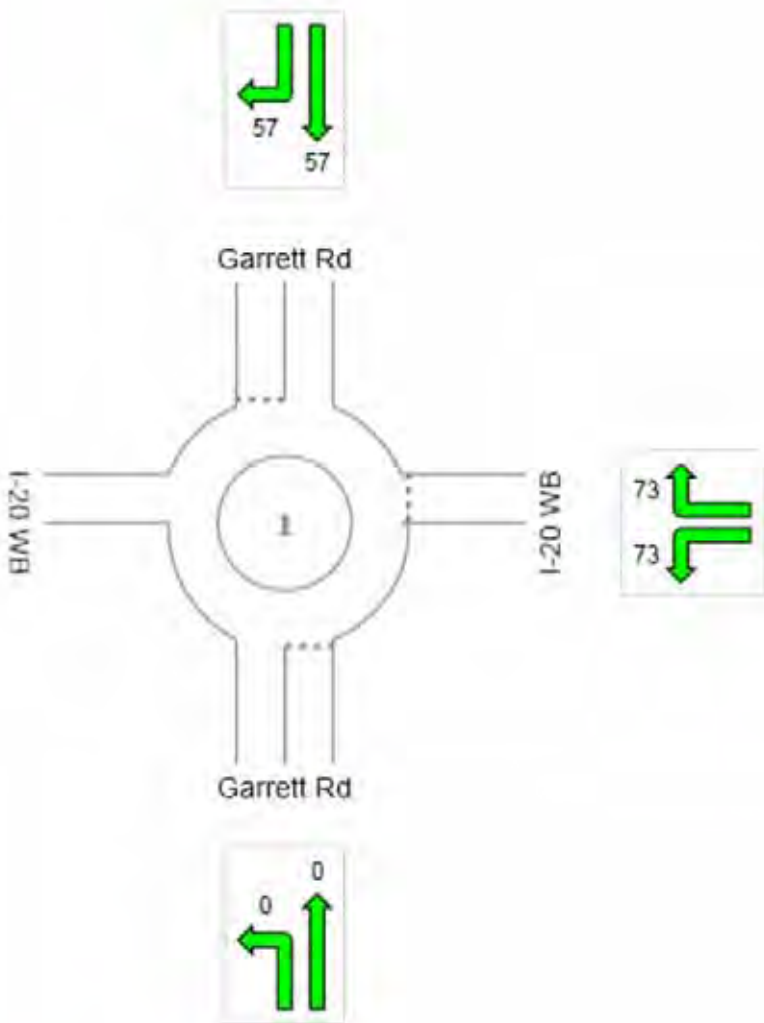
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: AM: Garrett Rd @ I-20 WB**

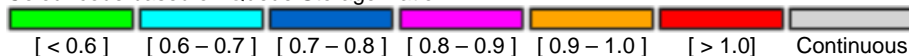
Build Conditions Breakdown AM - North of I-20  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	East	North	Intersection
Vehicle Queue (%ile)	0	73	57	73



Colour code based on Queue Storage Ratio



# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: PM: Garrett Rd @ I-20 WB

Build Conditions Breakdown PM - North of I-20 Roundabout

Volume Display Method: Total and %

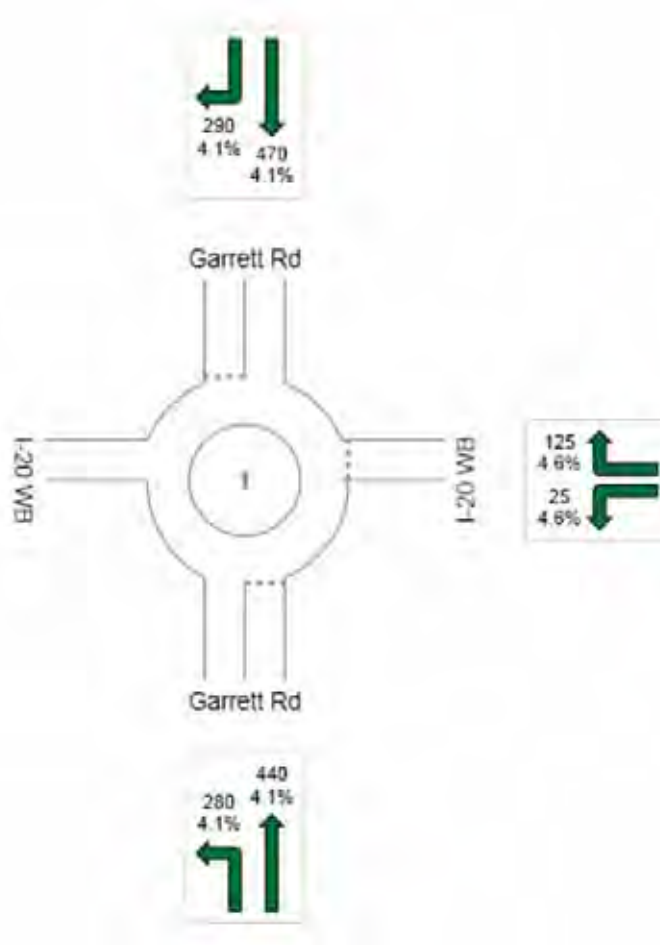
Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

All Movement Classes: 1630

Light Vehicles (LV): 1562

Heavy Vehicles (HV): 68



# INTERSECTION SUMMARY

 **Site: PM: Garrett Rd @ I-20 WB**

Build Conditions Breakdown PM - North of I-20  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	30.0 mph	30.0 mph
Travel Distance (Total)	1487.8 veh-mi/h	1785.4 pers-mi/h
Travel Time (Total)	49.5 veh-h/h	59.4 pers-h/h
Demand Flows (Total)	2891 veh/h	3469 pers/h
Percent Heavy Vehicles (Demand)	4.1 %	
Degree of Saturation	0.839	
Practical Spare Capacity	1.3 %	
Effective Intersection Capacity	3446 veh/h	
Control Delay (Total)	8.63 veh-h/h	10.35 pers-h/h
Control Delay (Average)	10.7 sec	10.7 sec
Control Delay (Worst Lane)	67.4 sec	
Control Delay (Worst Movement)	67.4 sec	67.4 sec
Geometric Delay (Average)	0.0 sec	
Stop-Line Delay (Average)	10.7 sec	
Idling Time (Average)	6.4 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	15.4 veh	
95% Back of Queue - Distance (Worst Lane)	396.7 ft	
Queue Storage Ratio (Worst Lane)	2.44	
Total Effective Stops	1474 veh/h	1769 pers/h
Effective Stop Rate	0.51 per veh	0.51 per pers
Proportion Queued	0.38	0.38
Performance Index	83.8	83.8
Cost (Total)	766.51 \$/h	766.51 \$/h
Fuel Consumption (Total)	71.2 gal/h	
Carbon Dioxide (Total)	640.5 kg/h	
Hydrocarbons (Total)	0.209 kg/h	
Carbon Monoxide (Total)	2.841 kg/h	
NOx (Total)	1.516 kg/h	

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,387,539 veh/y	1,665,047 pers/y
Delay	4,140 veh-h/y	4,968 pers-h/y
Effective Stops	707,629 veh/y	849,155 pers/y
Travel Distance	714,148 veh-mi/y	856,977 pers-mi/y
Travel Time	23,766 veh-h/y	28,519 pers-h/y
Cost	367,925 \$/y	367,925 \$/y
Fuel Consumption	34,196 gal/y	
Carbon Dioxide	307,438 kg/y	
Hydrocarbons	100 kg/y	
Carbon Monoxide	1,364 kg/y	
NOx	728 kg/y	



# MOVEMENT SUMMARY

 **Site: PM: Garrett Rd @ I-20 WB**

Build Conditions Breakdown PM - North of I-20  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Garrett Rd											
3	L2	548	4.1	0.784	0.0	LOS A	0.0	0.0	0.00	0.00	36.2
8	T1	748	4.1	0.784	0.0	LOS A	0.0	0.0	0.00	0.00	35.1
Approach		1295	4.1	0.784	0.0	LOS A	0.0	0.0	0.00	0.00	35.8
East: I-20 WB											
1	L2	66	4.6	0.813	67.4	LOS E	12.5	322.9	1.00	1.63	17.4
16	R2	215	4.6	0.813	67.4	LOS E	12.5	322.9	1.00	1.63	10.3
Approach		280	4.6	0.813	67.4	LOS E	12.5	322.9	1.00	1.63	12.0
North: Garrett Rd											
4	T1	781	4.1	0.839	14.9	LOS B	15.4	396.7	1.00	1.25	27.9
14	R2	534	4.1	0.839	1.0	LOS A	15.4	396.7	0.06	0.08	40.0
Approach		1315	4.1	0.839	9.3	LOS A	15.4	396.7	0.62	0.77	33.0
All Vehicles		2891	4.1	0.839	10.7	LOS B	15.4	396.7	0.38	0.51	30.0

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option is selected.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

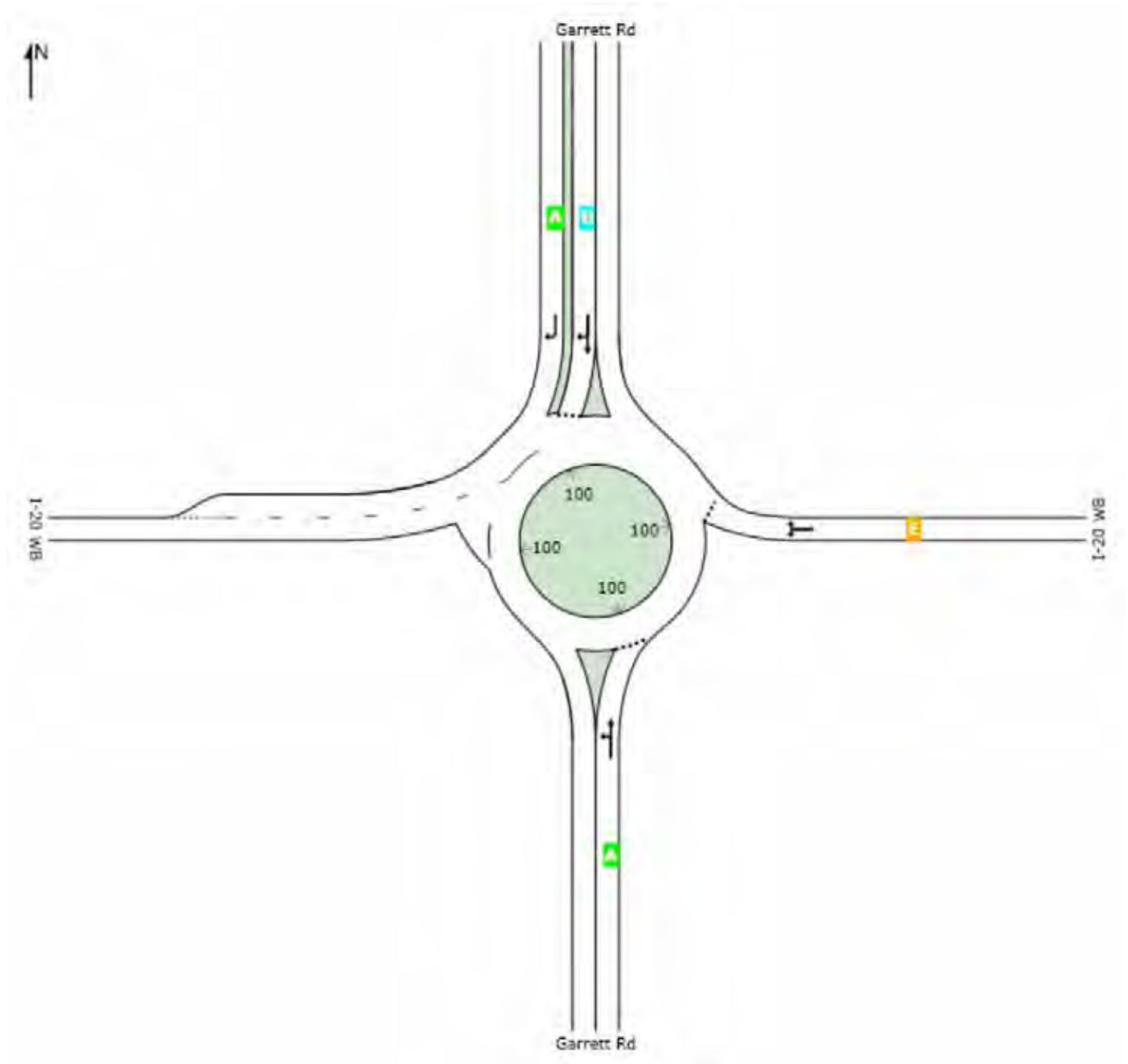
# LEVEL OF SERVICE

**Site: PM: Garrett Rd @ I-20 WB**

Build Conditions Breakdown PM - North of I-20  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	East	North	Intersection
LOS	A	E	A	B



Level of Service (LOS) Method: Delay (HCM 2000).  
 Roundabout LOS Method: Same as Signalised Intersections.  
 Lane LOS values are based on average delay per lane.  
 Intersection and Approach LOS values are based on average delay for all lanes.

# QUEUE DISTANCE (%ILE)

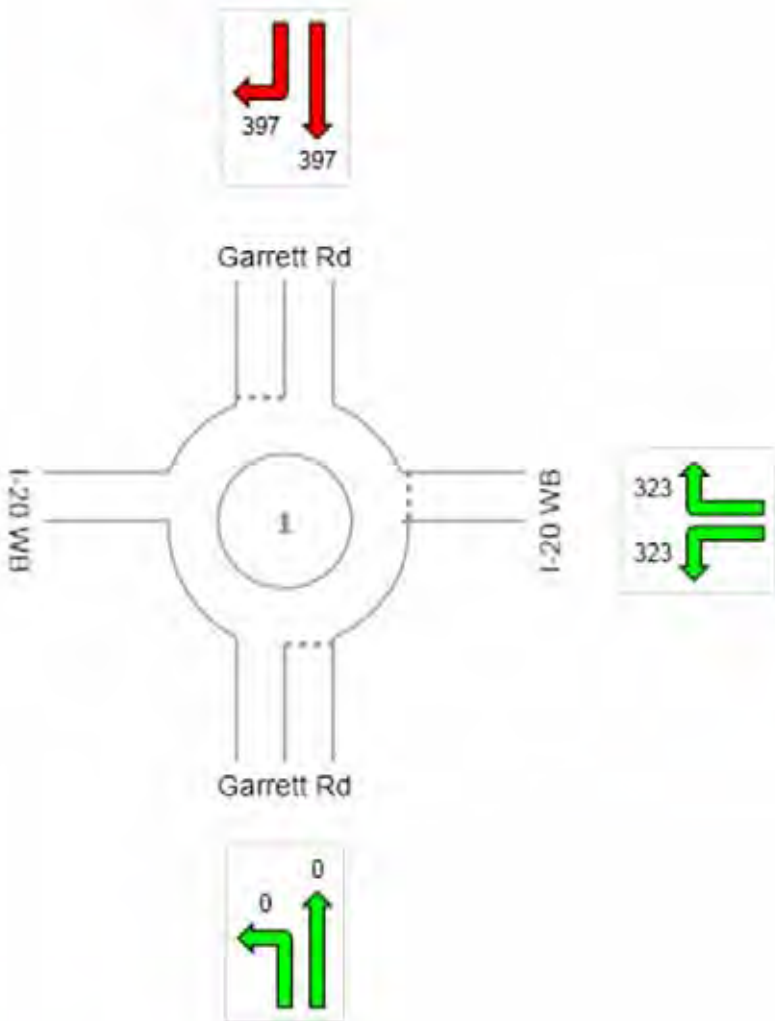
Largest 95% Back of Queue for any lane used by movement (feet)

**Site: PM: Garrett Rd @ I-20 WB**

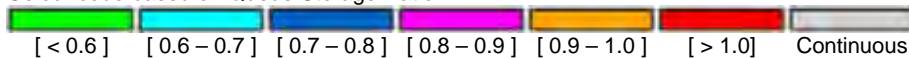
Build Conditions Breakdown PM - North of I-20  
 Roundabout  
 Design Life Analysis (Practical Capacity): Results for 22 years

## All Movement Classes

	South	East	North	Intersection
Vehicle Queue (%ile)	0	323	397	397



Colour code based on Queue Storage Ratio




















## **Appendix F**

SYNCHRO 8 Output





















HCM 2010 Signalized Intersection Summary  
 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	300	5	135	0	0	0	0	300	45	35	150	0
Number	7	4	14				1	6	16	5	2	12
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
Adj Sat Flow, veh/h/ln	190.0	181.0	190.0				0.0	177.6	190.0	190.0	177.6	0.0
Adj Flow Rate, veh/h	390	10	0				0	345	0	48	195	0
Adj No. of Lanes	0	1	0				0	1	0	0	1	0
Peak Hour Factor	0.77	0.50	0.93				0.93	0.87	0.79	0.73	0.77	0.25
Percent Heavy Veh, %	0	5	0				0	7	7	7	7	0
Cap, veh/h	736	19	0				0	777	0	54	178	0
Arrive On Green	0.44	0.44	0.00				0.00	0.14	0.00	0.44	0.44	0.00
Sat Flow, veh/h	1682	43	0				0	1776	0	1	407	0
Grp Volume(v), veh/h	400	0	0				0	345	0	243	0	0
Grp Sat Flow(s),veh/h/ln	1725	0	0				0	1776	0	408	0	0
Q Serve(g_s), s	13.6	0.0	0.0				0.0	14.2	0.0	8.5	0.0	0.0
Cycle Q Clear(g_c), s	13.6	0.0	0.0				0.0	14.2	0.0	8.5	0.0	0.0
Prop In Lane	0.97		0.00				0.00		0.00	0.20		0.00
Lane Grp Cap(c), veh/h	755	0	0				0	777	0	0	0	0
V/C Ratio(X)	0.53	0.00	0.00				0.00	0.44	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	755	0	0				0	777	0	0	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.95	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	0.0				0.0	25.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.0				0.0	1.7	0.0	0.0	0.0	0.0
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	7.0	0.0	0.0				0.0	7.4	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	19.1	0.0	0.0				0.0	27.1	0.0	0.0	0.0	0.0
LnGrp LOS	B							C				
Approach Vol, veh/h		400						345			243	
Approach Delay, s/veh		19.1						27.1			0.0	
Approach LOS		B						C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		40.0		40.0		40.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		35.0		35.0		26.0						
Max Q Clear Time (g_c+I1), s		10.5		15.6		16.2						
Green Ext Time (p_c), s		0.4		0.0		0.4						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									


















HCM 2010 Signalized Intersection Summary  
 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	265	130	15	5	105	300	5	145	5	305	30	490
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	177.6	177.6	190.0	177.6	177.6	177.6	190.0	177.6	190.0	177.6	177.6	190.0
Adj Flow Rate, veh/h	305	149	17	8	125	326	6	201	12	363	36	551
Adj No. of Lanes	1	2	0	1	2	1	0	2	0	1	2	0
Peak Hour Factor	0.87	0.87	0.87	0.63	0.84	0.92	0.83	0.72	0.42	0.84	0.83	0.89
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	462	1312	148	314	764	342	55	1216	71	511	722	646
Arrive On Green	0.13	0.43	0.43	0.23	0.23	0.23	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1691	3058	344	1158	3374	1509	22	2844	166	1109	1687	1509
Grp Volume(v), veh/h	305	81	85	8	125	326	105	0	114	363	36	551
Grp Sat Flow(s),veh/h/ln	1691	1687	1715	1158	1687	1509	1446	0	1587	1109	1687	1509
Q Serve(g_s), s	1.5	2.4	2.5	0.5	2.5	17.9	0.4	0.0	3.7	25.2	1.0	27.6
Cycle Q Clear(g_c), s	1.5	2.4	2.5	3.0	2.5	17.9	28.0	0.0	3.7	28.9	1.0	27.6
Prop In Lane	1.00		0.20	1.00		1.00	0.06		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	462	724	736	314	764	342	664	0	679	511	722	646
V/C Ratio(X)	0.66	0.11	0.12	0.03	0.16	0.95	0.16	0.00	0.17	0.71	0.05	0.85
Avail Cap(c_a), veh/h	462	724	736	314	764	342	785	0	794	592	845	756
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	14.4	14.4	27.2	26.1	32.0	14.8	0.0	14.8	23.7	14.0	21.6
Incr Delay (d2), s/veh	3.5	0.3	0.3	0.2	0.5	38.2	0.1	0.0	0.1	3.3	0.0	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	1.2	1.2	0.2	1.2	11.1	1.5	0.0	1.6	8.1	0.5	13.0
LnGrp Delay(d),s/veh	31.5	14.7	14.7	27.4	26.5	70.2	14.9	0.0	14.9	27.0	14.1	29.9
LnGrp LOS	C	B	B	C	C	E	B		B	C	B	C
Approach Vol, veh/h		471			459			219			950	
Approach Delay, s/veh		25.6			57.6			14.9			28.2	
Approach LOS		C			E			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	17.0	25.0		41.9		42.0		41.9				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	11.0	19.0		42.0		36.0		42.0				
Max Q Clear Time (g_c+I1), s	3.5	19.9		30.0		4.5		30.9				
Green Ext Time (p_c), s	0.7	0.0		5.2		0.9		5.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				32.7								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
 42: Garrett Rd & S. Frontage Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	0	10	25	10	50	15	265	50	125	115	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	177.6	177.6	190.0	190.0	177.6	177.6	190.0	177.6	190.0	190.0	177.6	190.0
Adj Flow Rate, veh/h	48	0	18	25	10	68	22	312	78	158	126	51
Adj No. of Lanes	1	1	0	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.63	0.50	0.56	1.00	1.00	0.73	0.67	0.85	0.64	0.79	0.91	0.89
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	212	0	254	142	42	101	81	927	223	152	109	34
Arrive On Green	0.03	0.00	0.17	0.07	0.07	0.07	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	1691	0	1509	862	620	1509	43	1332	321	115	156	49
Grp Volume(v), veh/h	48	0	18	35	0	68	412	0	0	335	0	0
Grp Sat Flow(s),veh/h/ln	1691	0	1509	1482	0	1509	1696	0	0	320	0	0
Q Serve(g_s), s	1.9	0.0	0.7	0.8	0.0	3.2	0.0	0.0	0.0	10.8	0.0	0.0
Cycle Q Clear(g_c), s	1.9	0.0	0.7	1.5	0.0	3.2	7.0	0.0	0.0	10.8	0.0	0.0
Prop In Lane	1.00		1.00	0.71		1.00	0.05		0.19	0.47		0.15
Lane Grp Cap(c), veh/h	212	0	254	183	0	101	1231	0	0	0	0	0
V/C Ratio(X)	0.23	0.00	0.07	0.19	0.00	0.67	0.33	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	248	0	391	282	0	206	1231	0	0	0	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.94	0.00	0.00
Uniform Delay (d), s/veh	28.8	0.0	25.7	32.6	0.0	33.4	4.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.5	0.0	7.5	0.7	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.3	0.7	0.0	1.6	3.6	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	29.4	0.0	25.8	33.1	0.0	40.9	5.2	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	C		C	C		D	A					
Approach Vol, veh/h		66			103			412			335	
Approach Delay, s/veh		28.4			38.3			5.2			0.0	
Approach LOS		C			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		62.7		17.3		62.7	7.4	9.9				
Change Period (Y+Rc), s		5.0		5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		41.0		19.0		51.0	4.0	10.0				
Max Q Clear Time (g_c+I1), s		9.0		2.7		12.8	3.9	5.2				
Green Ext Time (p_c), s		0.7		0.3		0.7	0.0	0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									

# Timings

## 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

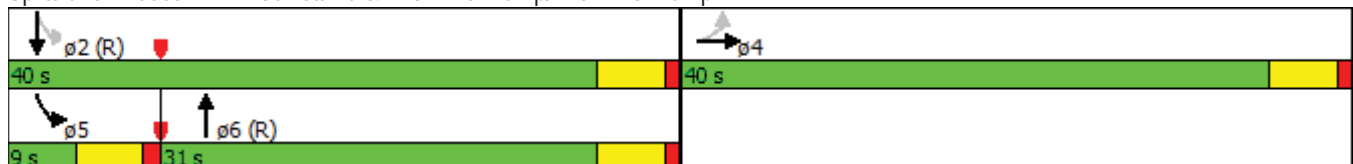


Lane Group	EBT	NBT	SBL	SBT
Lane Configurations	↔	↑		↔
Volume (vph)	5	300	35	150
Turn Type	NA	NA	pm+pt	NA
Protected Phases	4	6	5	2
Permitted Phases			2	
Detector Phase	4	6	5	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	9.0	20.0
Total Split (s)	40.0	31.0	9.0	40.0
Total Split (%)	50.0%	38.8%	11.3%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	Max	C-Max	None	C-Max
Act Effect Green (s)	35.0	35.0		35.0
Actuated g/C Ratio	0.44	0.44		0.44
v/c Ratio	0.72	0.52		0.36
Control Delay	24.2	15.3		17.0
Queue Delay	0.0	0.8		0.0
Total Delay	24.2	16.1		17.0
LOS	C	B		B
Approach Delay	24.3	16.1		17.0
Approach LOS	C	B		B

### Intersection Summary

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 17 (21%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.72  
 Intersection Signal Delay: 20.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 66.0%  
 ICU Level of Service C  
 Analysis Period (min) 15

### Splits and Phases: 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp





# Timings

## 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd

3/18/2014

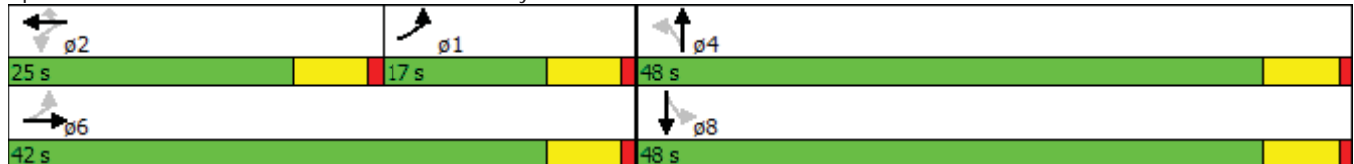


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	265	130	5	105	300	5	145	305	30
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		2			4		8
Permitted Phases	6		2		2	4		8	
Detector Phase	1	6	2	2	2	4	4	8	8
Switch Phase									
Minimum Initial (s)	3.0	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.0
Minimum Split (s)	9.0	11.0	11.0	11.0	11.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	42.0	25.0	25.0	25.0	48.0	48.0	48.0	48.0
Total Split (%)	18.9%	46.7%	27.8%	27.8%	27.8%	53.3%	53.3%	53.3%	53.3%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lag		Lead	Lead	Lead				
Lead-Lag Optimize?									
Recall Mode	None	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)	36.5	36.5	19.2	19.2	19.2		32.0	32.0	32.0
Actuated g/C Ratio	0.45	0.45	0.24	0.24	0.24		0.40	0.40	0.40
v/c Ratio	0.50	0.11	0.03	0.16	0.54		0.17	0.84	0.40
Control Delay	22.5	13.8	28.2	27.6	7.4		14.6	39.5	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	22.5	13.8	28.2	27.6	7.4		14.6	39.5	2.6
LOS	C	B	C	C	A		B	D	A
Approach Delay		19.5		13.2			14.6		16.7
Approach LOS		B		B			B		B

### Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 80.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 57.6%	ICU Level of Service B
Analysis Period (min) 15	

### Splits and Phases: 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd



# Timings

## 42: Garrett Rd & S. Frontage Rd

3/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	30	0	25	10	50	15	265	125	115
Turn Type	pm+pt	NA	Perm	NA	pm+ov	Perm	NA	pm+pt	NA
Protected Phases	7	4		8	1		2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	7	4	8	8	1	2	2	1	6
Switch Phase									
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0
Minimum Split (s)	8.0	8.0	8.0	8.0	8.0	10.0	10.0	8.0	10.0
Total Split (s)	9.0	24.0	15.0	15.0	10.0	46.0	46.0	10.0	56.0
Total Split (%)	11.3%	30.0%	18.8%	18.8%	12.5%	57.5%	57.5%	12.5%	70.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0		5.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	12.2	12.8		7.5	13.6		54.1		62.4
Actuated g/C Ratio	0.15	0.16		0.09	0.17		0.68		0.78
v/c Ratio	0.31	0.02		0.27	0.20		0.36		0.36
Control Delay	31.5	0.0		38.3	4.5		10.0		3.8
Queue Delay	0.0	0.0		0.0	0.0		0.0		0.3
Total Delay	31.5	0.0		38.3	4.5		10.0		4.0
LOS	C	A		D	A		B		A
Approach Delay		22.9		16.0			10.0		4.0
Approach LOS		C		B			B		A

### Intersection Summary
















Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.36  
 Intersection Signal Delay: 9.4  
 Intersection LOS: A  
 Intersection Capacity Utilization 54.6%  
 ICU Level of Service A  
 Analysis Period (min) 15

### Splits and Phases: 42: Garrett Rd & S. Frontage Rd























HCM 2010 Signalized Intersection Summary  
 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	185	0	240	0	0	0	0	535	75	115	380	0
Number	7	4	14				1	6	16	5	2	12
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
Adj Sat Flow, veh/h/ln	190.0	181.0	190.0				0.0	182.7	190.0	190.0	182.7	0.0
Adj Flow Rate, veh/h	218	0	0				0	575	0	147	458	0
Adj No. of Lanes	0	1	0				0	1	0	0	1	0
Peak Hour Factor	0.85	0.25	0.87				0.91	0.93	0.95	0.78	0.83	0.91
Percent Heavy Veh, %	0	5	0				0	4	4	4	4	0
Cap, veh/h	474	0	0				0	1096	0	56	135	0
Arrive On Green	0.28	0.00	0.00				0.00	0.20	0.00	0.60	0.60	0.00
Sat Flow, veh/h	1723	0	0				0	1827	0	1	225	0
Grp Volume(v), veh/h	218	0	0				0	575	0	605	0	0
Grp Sat Flow(s),veh/h/ln	1723	0	0				0	1827	0	226	0	0
Q Serve(g_s), s	8.4	0.0	0.0				0.0	22.5	0.0	24.2	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	0.0				0.0	22.5	0.0	24.2	0.0	0.0
Prop In Lane	1.00		0.00				0.00		0.00	0.24		0.00
Lane Grp Cap(c), veh/h	474	0	0				0	1096	0	0	0	0
V/C Ratio(X)	0.46	0.00	0.00				0.00	0.52	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	474	0	0				0	1096	0	0	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.87	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	0.0	0.0				0.0	21.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.0				0.0	1.6	0.0	0.0	0.0	0.0
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	4.4	0.0	0.0				0.0	11.9	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	27.3	0.0	0.0				0.0	23.4	0.0	0.0	0.0	0.0
LnGrp LOS	C							C				
Approach Vol, veh/h		218						575			605	
Approach Delay, s/veh		27.3						23.4			0.0	
Approach LOS		C						C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		53.0		27.0		53.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		48.0		22.0		39.0						
Max Q Clear Time (g_c+I1), s		26.2		10.4		24.5						
Green Ext Time (p_c), s		1.1		0.0		1.1						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			13.9									
HCM 2010 LOS			B									


















HCM 2010 Signalized Intersection Summary  
 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	340	325	70	15	250	295	15	195	25	305	165	460
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	182.7	182.7	190.0	182.7	182.7	182.7	190.0	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	391	422	103	25	269	328	22	250	38	381	223	605
Adj No. of Lanes	1	2	0	1	2	1	0	2	0	1	2	0
Peak Hour Factor	0.87	0.77	0.68	0.60	0.93	0.90	0.68	0.78	0.66	0.80	0.74	0.76
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	411	1114	270	262	736	329	87	867	131	486	806	721
Arrive On Green	0.12	0.40	0.40	0.21	0.21	0.21	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1740	2773	671	857	3471	1553	80	1868	282	1066	1736	1553
Grp Volume(v), veh/h	391	263	262	25	269	328	93	0	217	381	223	605
Grp Sat Flow(s),veh/h/ln	1740	1736	1709	857	1736	1553	617	0	1613	1066	1736	1553
Q Serve(g_s), s	11.0	9.6	9.7	2.1	5.9	18.9	1.9	0.0	7.5	30.9	7.1	30.6
Cycle Q Clear(g_c), s	11.0	9.6	9.7	2.1	5.9	18.9	32.5	0.0	7.5	38.3	7.1	30.6
Prop In Lane	1.00		0.39	1.00		1.00	0.24		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	411	697	686	262	736	329	336	0	749	486	806	721
V/C Ratio(X)	0.95	0.38	0.38	0.10	0.37	1.00	0.28	0.00	0.29	0.78	0.28	0.84
Avail Cap(c_a), veh/h	411	697	686	262	736	329	342	0	756	491	814	728
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	18.9	18.9	28.7	30.2	35.3	17.1	0.0	14.9	26.7	14.8	21.1
Incr Delay (d2), s/veh	32.1	1.6	1.6	0.7	1.4	48.6	0.4	0.0	0.2	8.0	0.2	8.6
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	8.1	4.9	4.9	0.6	3.0	12.5	1.3	0.0	3.4	10.1	3.4	14.7
LnGrp Delay(d),s/veh	60.5	20.4	20.6	29.4	31.6	83.9	17.5	0.0	15.1	34.8	14.9	29.6
LnGrp LOS	E	C	C	C	C	F	B		B	C	B	C
Approach Vol, veh/h		916			622			310			1209	
Approach Delay, s/veh		37.6			59.1			15.8			28.5	
Approach LOS		D			E			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	17.0	25.0		47.6		42.0		47.6				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	11.0	19.0		42.0		36.0		42.0				
Max Q Clear Time (g_c+I1), s	13.0	20.9		34.5		11.7		40.3				
Green Ext Time (p_c), s	0.0	0.0		4.8		0.6		1.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			36.2									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary  
 42: Garrett Rd & S. Frontage Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	85	10	35	45	20	335	5	190	45	285	235	100
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	182.7	182.7	190.0	190.0	182.7	182.7	190.0	182.7	190.0	190.0	182.7	190.0
Adj Flow Rate, veh/h	110	18	64	69	43	394	9	211	49	320	283	130
Adj No. of Lanes	1	1	0	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.77	0.56	0.55	0.65	0.46	0.85	0.58	0.90	0.92	0.89	0.83	0.77
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	187	73	259	162	68	1201	60	943	213	130	72	29
Arrive On Green	0.04	0.21	0.21	0.11	0.11	0.11	0.67	0.67	0.67	1.00	1.00	1.00
Sat Flow, veh/h	1740	352	1253	836	640	1553	20	1413	319	97	108	44
Grp Volume(v), veh/h	110	0	82	112	0	394	269	0	0	733	0	0
Grp Sat Flow(s),veh/h/ln	1740	0	1606	1475	0	1553	1752	0	0	248	0	0
Q Serve(g_s), s	3.0	0.0	3.4	5.2	0.0	6.1	0.0	0.0	0.0	30.6	0.0	0.0
Cycle Q Clear(g_c), s	3.0	0.0	3.4	5.8	0.0	6.1	4.7	0.0	0.0	30.6	0.0	0.0
Prop In Lane	1.00		0.78	0.62		1.00	0.03		0.18	0.44		0.18
Lane Grp Cap(c), veh/h	187	0	331	229	0	1201	1217	0	0	0	0	0
V/C Ratio(X)	0.59	0.00	0.25	0.49	0.00	0.33	0.22	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	187	0	344	240	0	1213	1217	0	0	0	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.18	0.00	0.00
Uniform Delay (d), s/veh	32.2	0.0	26.3	34.3	0.0	2.7	5.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.4	1.6	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.5	2.5	0.0	8.6	2.4	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	37.0	0.0	26.7	35.9	0.0	2.9	5.6	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	D		C	D		A	A					
Approach Vol, veh/h		192			506			269			733	
Approach Delay, s/veh		32.6			10.2			5.6			0.0	
Approach LOS		C			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		58.6		21.4		58.6	8.0	13.4				
Change Period (Y+Rc), s		5.0		5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		53.0		17.0		34.0	3.0	9.0				
Max Q Clear Time (g_c+I1), s		32.6		5.4		6.7	5.0	8.1				
Green Ext Time (p_c), s		1.1		1.9		1.1	0.0	0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			7.6									
HCM 2010 LOS			A									

# Timings

## 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014



Lane Group	EBT	NBT	SBL	SBT
Lane Configurations	↔	↑		↔
Volume (vph)	0	535	115	380
Turn Type	NA	NA	pm+pt	NA
Protected Phases	4	6	5	2
Permitted Phases			2	
Detector Phase	4	6	5	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0
Total Split (s)	27.0	44.0	9.0	53.0
Total Split (%)	33.8%	55.0%	11.3%	66.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	Max	C-Max	None	C-Max
Act Effect Green (s)	22.0	48.0		48.0
Actuated g/C Ratio	0.28	0.60		0.60
v/c Ratio	0.95	0.60		0.96
Control Delay	54.5	13.4		45.8
Queue Delay	44.0	3.2		0.0
Total Delay	98.6	16.5		45.8
LOS	F	B		D
Approach Delay	98.6	16.5		45.8
Approach LOS	F	B		D

### Intersection Summary

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 10 (13%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 49.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 96.5%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp



# Timings

## 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd

3/18/2014

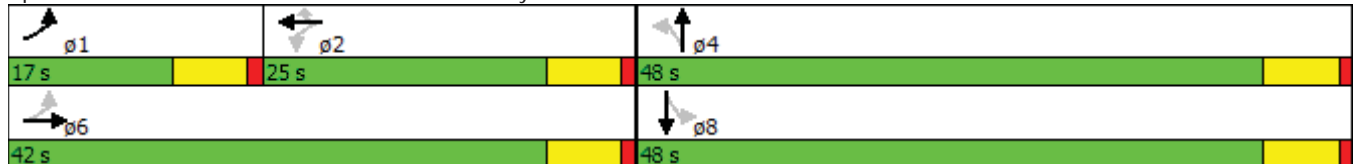


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	340	325	15	250	295	15	195	305	165
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		2			4		8
Permitted Phases	6		2		2	4		8	
Detector Phase	1	6	2	2	2	4	4	8	8
Switch Phase									
Minimum Initial (s)	3.0	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.0
Minimum Split (s)	9.0	11.0	11.0	11.0	11.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	42.0	25.0	25.0	25.0	48.0	48.0	48.0	48.0
Total Split (%)	18.9%	46.7%	27.8%	27.8%	27.8%	53.3%	53.3%	53.3%	53.3%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lag				
Lead-Lag Optimize?									
Recall Mode	None	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)	36.3	36.3	19.2	19.2	19.2		36.0	36.0	36.0
Actuated g/C Ratio	0.43	0.43	0.23	0.23	0.23		0.43	0.43	0.43
v/c Ratio	0.83	0.36	0.13	0.34	0.54		0.24	0.87	0.51
Control Delay	38.3	16.9	30.9	30.3	7.4		14.3	43.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.3	16.9	30.9	30.3	7.4		14.3	43.4	6.6
LOS	D	B	C	C	A		B	D	A
Approach Delay		26.0		18.2			14.3		18.2
Approach LOS		C		B			B		B

### Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 84.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 71.8%	ICU Level of Service C
Analysis Period (min) 15	

### Splits and Phases: 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd



# Timings

## 42: Garrett Rd & S. Frontage Rd

3/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	85	10	45	20	335	5	190	285	235
Turn Type	pm+pt	NA	Perm	NA	pm+ov	Perm	NA	pm+pt	NA
Protected Phases	7	4		8	5		6	5	2
Permitted Phases	4		8		8	6		2	
Detector Phase	7	4	8	8	5	6	6	5	2
Switch Phase									
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0
Minimum Split (s)	8.0	8.0	8.0	8.0	8.0	10.0	10.0	8.0	10.0
Total Split (s)	8.0	22.0	14.0	14.0	19.0	39.0	39.0	19.0	58.0
Total Split (%)	10.0%	27.5%	17.5%	17.5%	23.8%	48.8%	48.8%	23.8%	72.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0		5.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	15.1	15.1		8.7	19.7		43.9		54.9
Actuated g/C Ratio	0.19	0.19		0.11	0.25		0.55		0.69
v/c Ratio	0.59	0.23		0.74	0.58		0.28		0.83
Control Delay	41.8	11.9		64.5	6.6		10.8		12.6
Queue Delay	0.0	0.0		0.0	0.1		0.1		49.8
Total Delay	41.8	11.9		64.5	6.7		10.9		62.4
LOS	D	B		E	A		B		E
Approach Delay		29.0		19.5			10.9		62.4
Approach LOS		C		B			B		E

### Intersection Summary

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 37.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 71.1%  
 ICU Level of Service C  
 Analysis Period (min) 15
















### Splits and Phases: 42: Garrett Rd & S. Frontage Rd

























HCM 2010 Signalized Intersection Summary  
 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	865	5	210	0	0	0	0	420	70	55	250	0
Number	7	4	14				1	6	16	5	2	12
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
Adj Sat Flow, veh/h/ln	190.0	181.0	190.0				0.0	177.6	190.0	190.0	177.6	0.0
Adj Flow Rate, veh/h	1123	10	0				0	483	0	75	325	0
Adj No. of Lanes	0	1	0				0	1	0	0	1	0
Peak Hour Factor	0.77	0.50	0.93				0.93	0.87	0.79	0.73	0.77	0.25
Percent Heavy Veh, %	0	5	0				0	7	7	7	7	0
Cap, veh/h	837	7	0				0	728	0	43	152	0
Arrive On Green	0.49	0.49	0.00				0.00	0.14	0.00	0.41	0.41	0.00
Sat Flow, veh/h	1709	15	0				0	1776	0	1	371	0
Grp Volume(v), veh/h	1133	0	0				0	483	0	400	0	0
Grp Sat Flow(s),veh/h/ln	1724	0	0				0	1776	0	371	0	0
Q Serve(g_s), s	49.0	0.0	0.0				0.0	25.8	0.0	21.8	0.0	0.0
Cycle Q Clear(g_c), s	49.0	0.0	0.0				0.0	25.8	0.0	21.8	0.0	0.0
Prop In Lane	0.99		0.00				0.00		0.00	0.19		0.00
Lane Grp Cap(c), veh/h	845	0	0				0	728	0	0	0	0
V/C Ratio(X)	1.34	0.00	0.00				0.00	0.66	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	845	0	0				0	728	0	0	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.85	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.5	0.0	0.0				0.0	36.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	161.5	0.0	0.0				0.0	4.0	0.0	0.0	0.0	0.0
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	61.1	0.0	0.0				0.0	13.5	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	187.0	0.0	0.0				0.0	40.7	0.0	0.0	0.0	0.0
LnGrp LOS	F							D				
Approach Vol, veh/h		1133						483			400	
Approach Delay, s/veh		187.0						40.7			0.0	
Approach LOS		F						D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		46.0		54.0		46.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		41.0		49.0		31.0						
Max Q Clear Time (g_c+I1), s		23.8		51.0		27.8						
Green Ext Time (p_c), s		5.0		0.0		1.6						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			114.8									
HCM 2010 LOS			F									




















HCM 2010 Signalized Intersection Summary  
 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	415	230	20	5	230	380	10	220	5	520	50	760
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	177.6	177.6	190.0	177.6	177.6	177.6	190.0	177.6	190.0	177.6	177.6	190.0
Adj Flow Rate, veh/h	532	280	25	8	277	413	20	306	7	619	68	874
Adj No. of Lanes	1	2	0	1	2	1	0	2	0	1	2	0
Peak Hour Factor	0.78	0.82	0.81	0.63	0.83	0.92	0.50	0.72	0.75	0.84	0.73	0.87
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	384	1045	93	86	309	138	60	892	20	528	956	855
Arrive On Green	0.19	0.33	0.33	0.09	0.09	0.09	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1691	3136	278	1020	3374	1509	0	1574	36	1013	1687	1509
Grp Volume(v), veh/h	532	150	155	8	277	413	20	0	313	619	68	874
Grp Sat Flow(s),veh/h/ln	1691	1687	1727	1020	1687	1509	0	0	1610	1013	1687	1509
Q Serve(g_s), s	23.0	7.8	7.9	0.9	9.7	11.0	0.0	0.0	12.6	55.4	2.2	68.0
Cycle Q Clear(g_c), s	23.0	7.8	7.9	8.8	9.7	11.0	68.0	0.0	12.6	68.0	2.2	68.0
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	384	562	576	86	309	138	60	0	912	528	956	855
V/C Ratio(X)	1.38	0.27	0.27	0.09	0.90	2.99	0.33	0.00	0.34	1.17	0.07	1.02
Avail Cap(c_a), veh/h	384	562	576	86	309	138	60	0	912	528	956	855
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	29.3	29.3	57.4	53.9	54.5	60.0	0.0	14.0	35.4	11.7	26.0
Incr Delay (d2), s/veh	188.7	1.2	1.2	2.1	30.3	912.4	3.2	0.0	0.2	96.4	0.0	36.4
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	32.8	3.8	3.9	0.3	5.8	39.6	0.7	0.0	5.6	31.6	1.0	36.7
LnGrp Delay(d),s/veh	235.4	30.4	30.5	59.5	84.3	966.9	63.2	0.0	14.2	131.8	11.8	62.4
LnGrp LOS	F	C	C	E	F	F	E		B	F	B	F
Approach Vol, veh/h		837			698			333			1561	
Approach Delay, s/veh		160.7			606.2			17.2			87.7	
Approach LOS		F			F			B			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	29.0	17.0		74.0		46.0		74.0				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	23.0	11.0		68.0		40.0		68.0				
Max Q Clear Time (g_c+I1), s	25.0	13.0		70.0		9.9		70.0				
Green Ext Time (p_c), s	0.0	0.0		0.0		1.8		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			204.2									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary  
42: Garrett Rd & S. Frontage Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	10	15	55	15	75	25	375	95	200	190	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	177.6	177.6	190.0	190.0	177.6	177.6	190.0	177.6	190.0	190.0	177.6	190.0
Adj Flow Rate, veh/h	63	20	27	55	15	103	37	441	148	253	209	79
Adj No. of Lanes	1	1	0	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.63	0.50	0.56	1.00	1.00	0.73	0.67	0.85	0.64	0.79	0.91	0.89
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	161	110	148	146	30	121	82	896	291	133	95	30
Arrive On Green	0.03	0.16	0.16	0.08	0.08	0.08	0.74	0.74	0.74	1.00	1.00	1.00
Sat Flow, veh/h	1691	686	926	1020	372	1509	60	1211	393	108	128	40
Grp Volume(v), veh/h	63	0	47	70	0	103	626	0	0	541	0	0
Grp Sat Flow(s),veh/h/ln	1691	0	1612	1392	0	1509	1664	0	0	276	0	0
Q Serve(g_s), s	3.0	0.0	2.5	4.4	0.0	6.7	0.0	0.0	0.0	25.2	0.0	0.0
Cycle Q Clear(g_c), s	3.0	0.0	2.5	4.8	0.0	6.7	15.1	0.0	0.0	25.2	0.0	0.0
Prop In Lane	1.00		0.57	0.79		1.00	0.06		0.24	0.47		0.15
Lane Grp Cap(c), veh/h	161	0	258	176	0	121	1269	0	0	0	0	0
V/C Ratio(X)	0.39	0.00	0.18	0.40	0.00	0.85	0.49	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	161	0	258	176	0	121	1269	0	0	0	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.00	0.00
Uniform Delay (d), s/veh	40.2	0.0	36.3	44.5	0.0	45.4	5.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.3	1.5	0.0	41.1	1.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.1	1.9	0.0	4.2	7.4	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	41.8	0.0	36.7	45.9	0.0	86.5	6.7	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	D		D	D		F	A					
Approach Vol, veh/h		110			173			626			541	
Approach Delay, s/veh		39.6			70.1			6.7			0.0	
Approach LOS		D			E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		79.0		21.0		79.0	8.0	13.0				
Change Period (Y+Rc), s		5.0		5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		63.0		16.0		74.0	3.0	8.0				
Max Q Clear Time (g_c+I1), s		17.1		4.5		27.2	5.0	8.7				
Green Ext Time (p_c), s		1.6		0.7		1.6	0.0	0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			14.3									
HCM 2010 LOS			B									

# Timings

## 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

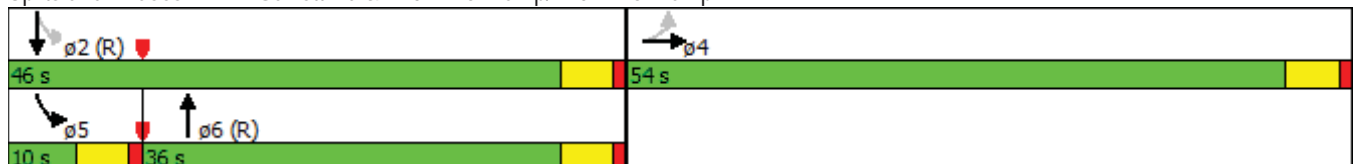


Lane Group	EBT	NBT	SBL	SBT
Lane Configurations	↔	↑		↔
Volume (vph)	5	420	55	250
Turn Type	NA	NA	pm+pt	NA
Protected Phases	4	6	5	2
Permitted Phases			2	
Detector Phase	4	6	5	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	9.0	20.0
Total Split (s)	54.0	36.0	10.0	46.0
Total Split (%)	54.0%	36.0%	10.0%	46.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	Max	C-Max	None	C-Max
Act Effect Green (s)	49.0	41.0		41.0
Actuated g/C Ratio	0.49	0.41		0.41
v/c Ratio	1.62	0.80		1.13
Control Delay	308.1	29.7		116.9
Queue Delay	0.0	17.8		0.0
Total Delay	308.1	47.4		116.9
LOS	F	D		F
Approach Delay	308.1	47.4		116.9
Approach LOS	F	D		F

### Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 11 (11%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.62  
 Intersection Signal Delay: 211.3  
 Intersection LOS: F  
 Intersection Capacity Utilization 116.0%  
 ICU Level of Service H  
 Analysis Period (min) 15

### Splits and Phases: 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp



# Timings

## 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd

3/18/2014

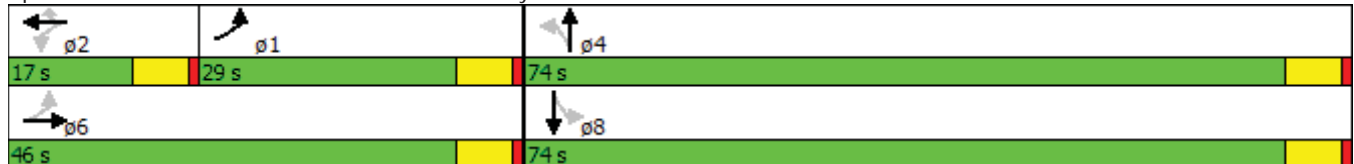


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶		↷	↶	↷
Volume (vph)	415	230	5	230	380	10	220	520	50
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		2			4		8
Permitted Phases	6		2		2	4		8	
Detector Phase	1	6	2	2	2	4	4	8	8
Switch Phase									
Minimum Initial (s)	3.0	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.0
Minimum Split (s)	9.0	11.0	11.0	11.0	11.0	9.0	9.0	9.0	9.0
Total Split (s)	29.0	46.0	17.0	17.0	17.0	74.0	74.0	74.0	74.0
Total Split (%)	24.2%	38.3%	14.2%	14.2%	14.2%	61.7%	61.7%	61.7%	61.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lag		Lead	Lead	Lead				
Lead-Lag Optimize?									
Recall Mode	None	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)	40.0	40.0	11.0	11.0	11.0		68.0	68.0	68.0
Actuated g/C Ratio	0.33	0.33	0.09	0.09	0.09		0.57	0.57	0.57
v/c Ratio	1.21	0.27	0.11	0.90	0.81		0.20	1.12	0.48
Control Delay	154.0	29.4	53.6	84.7	18.0		13.0	101.5	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	154.0	29.4	53.6	84.7	18.0		13.0	101.5	3.6
LOS	F	C	D	F	B		B	F	A
Approach Delay		108.6		44.9			13.0		42.5
Approach LOS		F		D			B		D

### Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.21	
Intersection Signal Delay: 56.2	Intersection LOS: E
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

### Splits and Phases: 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd



# Timings

## 42: Garrett Rd & S. Frontage Rd

3/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	40	10	55	15	75	25	375	200	190
Turn Type	pm+pt	NA	Perm	NA	pm+ov	Perm	NA	pm+pt	NA
Protected Phases	7	4		8	1		2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	7	4	8	8	1	2	2	1	6
Switch Phase									
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0
Minimum Split (s)	8.0	8.0	8.0	8.0	8.0	10.0	10.0	8.0	10.0
Total Split (s)	8.0	21.0	13.0	13.0	11.0	68.0	68.0	11.0	79.0
Total Split (%)	8.0%	21.0%	13.0%	13.0%	11.0%	68.0%	68.0%	11.0%	79.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0		5.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	13.4	13.9		7.7	16.0		70.7		79.2
Actuated g/C Ratio	0.13	0.14		0.08	0.16		0.71		0.79
v/c Ratio	0.51	0.19		0.69	0.31		0.54		0.71
Control Delay	52.2	22.2		79.2	9.9		11.3		5.0
Queue Delay	1.0	0.0		0.0	0.7		0.4		15.0
Total Delay	53.2	22.2		79.2	10.6		11.6		20.0
LOS	D	C		E	B		B		B
Approach Delay		40.0		38.4			11.6		20.0
Approach LOS		D		D			B		B

### Intersection Summary
















Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 20.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 75.2%  
 ICU Level of Service D  
 Analysis Period (min) 15

### Splits and Phases: 42: Garrett Rd & S. Frontage Rd























HCM 2010 Signalized Intersection Summary  
 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	460	0	360	0	0	0	0	830	115	175	595	0
Number	7	4	14				5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	190.0	181.0	190.0				0.0	182.7	190.0	190.0	182.7	0.0
Adj Flow Rate, veh/h	541	0	0				0	892	0	224	717	0
Adj No. of Lanes	0	1	0				0	1	0	0	1	0
Peak Hour Factor	0.85	0.25	0.87				0.91	0.93	0.95	0.78	0.83	0.91
Percent Heavy Veh, %	0	5	0				0	4	4	4	4	0
Cap, veh/h	548	0	0				0	1080	0	41	28	0
Arrive On Green	0.32	0.00	0.00				0.00	0.79	0.00	0.59	0.59	0.00
Sat Flow, veh/h	1723	0	0				0	1827	0	1	48	0
Grp Volume(v), veh/h	541	0	0				0	892	0	941	0	0
Grp Sat Flow(s),veh/h/ln	1723	0	0				0	1827	0	49	0	0
Q Serve(g_s), s	34.3	0.0	0.0				0.0	32.8	0.0	100.0	0.0	0.0
Cycle Q Clear(g_c), s	34.3	0.0	0.0				0.0	32.8	0.0	100.0	0.0	0.0
Prop In Lane	1.00		0.00				0.00		0.00	0.24		0.00
Lane Grp Cap(c), veh/h	548	0	0				0	1080	0	0	0	0
V/C Ratio(X)	0.99	0.00	0.00				0.00	0.83	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	548	0	0				0	1080	0	0	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.50	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.3	0.0	0.0				0.0	8.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	35.3	0.0	0.0				0.0	3.8	0.0	0.0	0.0	0.0
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	21.6	0.0	0.0				0.0	16.9	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	72.5	0.0	0.0				0.0	12.1	0.0	0.0	0.0	0.0
LnGrp LOS	E							B				
Approach Vol, veh/h		541						892			941	
Approach Delay, s/veh		72.5						12.1			0.0	
Approach LOS		E						B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		70.0		40.0		70.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		55.0		35.0		65.0						
Max Q Clear Time (g_c+I1), s		34.8		36.3		102.0						
Green Ext Time (p_c), s		2.7		0.0		0.0						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary  
 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd


















3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	520	530	105	20	415	485	25	305	40	490	260	710
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	182.7	182.7	190.0	182.7	182.7	182.7	190.0	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	598	688	154	33	446	539	37	391	61	612	351	934
Adj No. of Lanes	1	2	0	1	2	1	0	2	0	1	2	0
Peak Hour Factor	0.87	0.77	0.68	0.60	0.93	0.90	0.68	0.78	0.66	0.80	0.74	0.76
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	405	1063	238	139	454	203	55	746	116	376	921	824
Arrive On Green	0.20	0.38	0.38	0.13	0.13	0.13	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1740	2820	631	638	3471	1553	0	1405	219	917	1736	1553
Grp Volume(v), veh/h	598	423	419	33	446	539	37	0	452	612	351	934
Grp Sat Flow(s),veh/h/ln	1740	1736	1716	638	1736	1553	0	0	1624	917	1736	1553
Q Serve(g_s), s	26.0	26.1	26.2	6.2	16.7	17.0	0.0	0.0	23.5	45.5	15.5	69.0
Cycle Q Clear(g_c), s	26.0	26.1	26.2	6.2	16.7	17.0	69.0	0.0	23.5	69.0	15.5	69.0
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	405	654	647	139	454	203	55	0	862	376	921	824
V/C Ratio(X)	1.48	0.65	0.65	0.24	0.98	2.65	0.67	0.00	0.52	1.63	0.38	1.13
Avail Cap(c_a), veh/h	405	654	647	139	454	203	55	0	862	376	921	824
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	33.4	33.4	51.8	56.4	56.5	65.0	0.0	19.8	45.6	17.9	30.5
Incr Delay (d2), s/veh	227.7	4.9	5.0	4.0	38.1	758.4	26.6	0.0	0.6	294.2	0.3	74.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.1	13.3	13.2	1.2	10.4	50.1	1.7	0.0	10.7	44.2	7.5	46.4
LnGrp Delay(d),s/veh	265.9	38.3	38.3	55.8	94.5	814.9	91.6	0.0	20.4	339.8	18.2	105.3
LnGrp LOS	F	D	D	E	F	F	F		C	F	B	F
Approach Vol, veh/h		1440			1018			489			1897	
Approach Delay, s/veh		132.8			474.7			25.8			164.8	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.0		75.0	32.0	23.0		75.0				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		49.0		69.0	26.0	17.0		69.0				
Max Q Clear Time (g_c+I1), s		28.2		71.0	28.0	19.0		71.0				
Green Ext Time (p_c), s		1.1		0.0	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			206.4									
HCM 2010 LOS			F									



HCM 2010 Signalized Intersection Summary  
 42: Garrett Rd & S. Frontage Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	15	50	75	35	515	10	300	70	435	365	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	182.7	182.7	190.0	190.0	182.7	182.7	190.0	182.7	190.0	190.0	182.7	190.0
Adj Flow Rate, veh/h	169	27	91	115	76	606	17	333	76	489	440	201
Adj No. of Lanes	1	1	0	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.77	0.56	0.55	0.65	0.46	0.85	0.58	0.90	0.92	0.89	0.83	0.77
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	113	64	214	138	57	155	61	1034	230	110	57	26
Arrive On Green	0.03	0.17	0.17	0.10	0.10	0.10	0.74	0.74	0.74	0.49	0.49	0.49
Sat Flow, veh/h	1740	368	1240	858	567	1553	36	1404	313	86	77	35
Grp Volume(v), veh/h	169	0	118	191	0	606	426	0	0	1130	0	0
Grp Sat Flow(s),veh/h/ln	1740	0	1608	1425	0	1553	1753	0	0	198	0	0
Q Serve(g_s), s	3.0	0.0	7.2	11.0	0.0	11.0	0.0	0.0	0.0	110.0	0.0	0.0
Cycle Q Clear(g_c), s	3.0	0.0	7.2	11.0	0.0	11.0	9.2	0.0	0.0	110.0	0.0	0.0
Prop In Lane	1.00		0.77	0.60		1.00	0.04		0.18	0.43		0.18
Lane Grp Cap(c), veh/h	113	0	278	195	0	155	1325	0	0	0	0	0
V/C Ratio(X)	1.50	0.00	0.42	0.98	0.00	3.90	0.32	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	113	0	278	195	0	155	1325	0	0	0	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.00	0.00
Uniform Delay (d), s/veh	48.9	0.0	40.6	50.9	0.0	49.5	5.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	264.2	0.0	1.0	58.4	0.0	1321.5	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	0.0	3.3	8.9	0.0	61.7	4.6	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	313.1	0.0	41.7	109.3	0.0	1371.0	5.7	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	F		D	F		F	A					
Approach Vol, veh/h		287			797			426			1130	
Approach Delay, s/veh		201.5			1068.6			5.7			0.0	
Approach LOS		F			F			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0	8.0	16.0				
Change Period (Y+Rc), s		5.0		5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		46.0		19.0		81.0	3.0	11.0				
Max Q Clear Time (g_c+I1), s		11.2		9.2		112.0	5.0	13.0				
Green Ext Time (p_c), s		2.5		3.1		0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			345.4									
HCM 2010 LOS			F									

# Timings

## 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014



Lane Group	EBT	NBT	SBL	SBT
Lane Configurations	↔	↑		↕
Volume (vph)	0	830	175	595
Turn Type	NA	NA	pm+pt	NA
Protected Phases	4	2	1	6
Permitted Phases			6	
Detector Phase	4	2	1	6
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0
Total Split (s)	40.0	60.0	10.0	70.0
Total Split (%)	36.4%	54.5%	9.1%	63.6%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	Max	C-Max	None	C-Max
Act Effect Green (s)	35.0	65.0		65.0
Actuated g/C Ratio	0.32	0.59		0.59
v/c Ratio	1.67	0.95		7.78
Control Delay	333.9	31.1		3073.7
Queue Delay	0.2	43.8		7.7
Total Delay	334.1	74.8		3081.4
LOS	F	E		F
Approach Delay	334.1	74.8		3081.4
Approach LOS	F	E		F

### Intersection Summary

Cycle Length: 110  
 Actuated Cycle Length: 110  
 Offset: 27 (25%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 7.78  
 Intersection Signal Delay: 1132.5  
 Intersection LOS: F  
 Intersection Capacity Utilization 151.7%  
 ICU Level of Service H  
 Analysis Period (min) 15

### Splits and Phases: 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp



# Timings

## 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd

3/18/2014

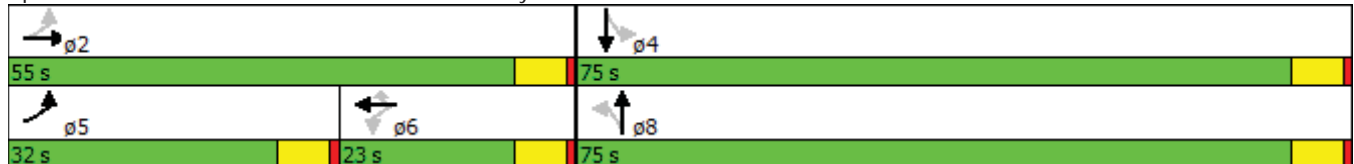


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↗	↕	↖	↕	↗		↕	↖	↕
Volume (vph)	520	530	20	415	485	25	305	490	260
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2		6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	6	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	3.0	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.0
Minimum Split (s)	9.0	11.0	11.0	11.0	11.0	9.0	9.0	9.0	9.0
Total Split (s)	32.0	55.0	23.0	23.0	23.0	75.0	75.0	75.0	75.0
Total Split (%)	24.6%	42.3%	17.7%	17.7%	17.7%	57.7%	57.7%	57.7%	57.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lag				
Lead-Lag Optimize?									
Recall Mode	None	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)	49.0	49.0	17.0	17.0	17.0		69.0	69.0	69.0
Actuated g/C Ratio	0.38	0.38	0.13	0.13	0.13		0.53	0.53	0.53
v/c Ratio	1.48	0.65	0.41	0.98	1.13		0.38	1.42	0.66
Control Delay	260.8	35.4	68.7	94.8	103.0		18.2	229.8	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	260.8	35.4	68.7	94.8	103.0		18.2	229.8	11.3
LOS	F	D	E	F	F		B	F	B
Approach Delay		129.0		98.3			18.2		81.8
Approach LOS		F		F			B		F

### Intersection Summary

Cycle Length: 130	
Actuated Cycle Length: 130	
Natural Cycle: 130	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.48	
Intersection Signal Delay: 92.9	Intersection LOS: F
Intersection Capacity Utilization 100.8%	ICU Level of Service G
Analysis Period (min) 15	

### Splits and Phases: 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd



# Timings

## 42: Garrett Rd & S. Frontage Rd

3/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	130	15	75	35	515	10	300	435	365
Turn Type	pm+pt	NA	Perm	NA	pm+ov	Perm	NA	pm+pt	NA
Protected Phases	7	4		8	1		2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	7	4	8	8	1	2	2	1	6
Switch Phase									
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0
Minimum Split (s)	8.0	8.0	8.0	8.0	8.0	10.0	10.0	8.0	10.0
Total Split (s)	8.0	24.0	16.0	16.0	35.0	51.0	51.0	35.0	86.0
Total Split (%)	7.3%	21.8%	14.5%	14.5%	31.8%	46.4%	46.4%	31.8%	78.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0		5.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	19.0	19.0		11.0	33.2		58.8		81.0
Actuated g/C Ratio	0.17	0.17		0.10	0.30		0.53		0.74
v/c Ratio	1.50	0.33		1.40	0.84		0.47		1.29
Control Delay	296.5	15.6		257.6	23.6		19.9		148.7
Queue Delay	0.0	0.0		0.0	1.4		11.2		3.6
Total Delay	296.5	15.6		257.6	24.9		31.1		152.3
LOS	F	B		F	C		C		F
Approach Delay		181.0		80.7			31.1		152.3
Approach LOS		F		F			C		F

### Intersection Summary

Cycle Length: 110  
 Actuated Cycle Length: 110  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.50  
 Intersection Signal Delay: 114.2  
 Intersection LOS: F  
 Intersection Capacity Utilization 99.7%  
 ICU Level of Service F  
 Analysis Period (min) 15

### Splits and Phases: 42: Garrett Rd & S. Frontage Rd



# HCM 2010 Signalized Intersection Summary

## 5: Connector & Kansas Ln




















3/20/2014



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Volume (veh/h)	750	0	0	470	520	1095		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1776	0	0	1776	1776	1776		
Adj Flow Rate, veh/h	833	0	0	522	578	0		
Adj No. of Lanes	2	0	0	1	1	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	7	0	0	7	7	7		
Cap, veh/h	0	0	0	1459	1459	2182		
Arrive On Green	0.00	0.00	0.00	0.82	0.82	0.00		
Sat Flow, veh/h	0	0	0	1776	1776	2656		
Grp Volume(v), veh/h	0	0	0	522	578	0		
Grp Sat Flow(s),veh/h/ln	0	0	0	1776	1776	1328		
Q Serve(g_s), s	0.0	0.0	0.0	2.1	2.4	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.1	2.4	0.0		
Prop In Lane	0.00	0.00	0.00			1.00		
Lane Grp Cap(c), veh/h	0	0	0	1459	1459	2182		
V/C Ratio(X)	0.00	0.00	0.00	0.36	0.40	0.00		
Avail Cap(c_a), veh/h	0	0	0	1459	1459	2182		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.6	0.7	0.0		
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.1	1.0	0.0		
LnGrp Delay(d),s/veh	0.0	0.0	0.0	1.3	0.8	0.0		
LnGrp LOS				A	A			
Approach Vol, veh/h	0			522	578			
Approach Delay, s/veh	0.0			1.3	0.8			
Approach LOS				A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		28.0		0.0		28.0		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		23.0		17.0		23.0		
Max Q Clear Time (g_c+I1), s		4.1		0.0		4.4		
Green Ext Time (p_c), s		7.3		0.0		7.3		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			1.1					
HCM 2010 LOS			A					








HCM 2010 Signalized Intersection Summary  
 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	990	0	240	0	0	0	0	505	80	75	330	0
Number	7	4	14				5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	181.0	181.0	181.0				0.0	177.6	177.6	177.6	177.6	0.0
Adj Flow Rate, veh/h	1286	0	0				0	567	0	96	418	0
Adj No. of Lanes	2	1	1				0	2	1	1	2	0
Peak Hour Factor	0.77	0.33	0.73				0.93	0.89	0.79	0.78	0.79	0.25
Percent Heavy Veh, %	5	5	5				0	7	7	7	7	0
Cap, veh/h	1478	776	659				0	1162	494	324	1499	0
Arrive On Green	0.43	0.00	0.00				0.00	0.11	0.00	0.02	0.15	0.00
Sat Flow, veh/h	3447	1810	1538				0	3551	1509	1691	3463	0
Grp Volume(v), veh/h	1286	0	0				0	567	0	96	418	0
Grp Sat Flow(s),veh/h/ln	1723	1810	1538				0	1776	1509	1691	1687	0
Q Serve(g_s), s	26.8	0.0	0.0				0.0	11.8	0.0	2.8	8.7	0.0
Cycle Q Clear(g_c), s	26.8	0.0	0.0				0.0	11.8	0.0	2.8	8.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1478	776	659				0	1162	494	324	1499	0
V/C Ratio(X)	0.87	0.00	0.00				0.00	0.49	0.00	0.30	0.28	0.00
Avail Cap(c_a), veh/h	1969	1034	879				0	1162	494	362	1499	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.75	0.00	0.96	0.96	0.00
Uniform Delay (d), s/veh	20.5	0.0	0.0				0.0	28.9	0.0	16.7	22.4	0.0
Incr Delay (d2), s/veh	3.5	0.0	0.0				0.0	1.1	0.0	0.5	0.4	0.0
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	13.4	0.0	0.0				0.0	6.0	0.0	1.4	4.2	0.0
LnGrp Delay(d),s/veh	24.0	0.0	0.0				0.0	30.0	0.0	17.2	22.8	0.0
LnGrp LOS	C							C		B	C	
Approach Vol, veh/h		1286						567			514	
Approach Delay, s/veh		24.0						30.0			21.8	
Approach LOS		C						C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.2	42.0		38.8		51.2						
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0						
Max Green Setting (Gmax), s	6.0	24.0		45.0		35.0						
Max Q Clear Time (g_c+I1), s	4.8	13.8		28.8		10.7						
Green Ext Time (p_c), s	0.0	1.0		5.0		1.0						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												























HCM 2010 Signalized Intersection Summary  
 34: Garrett Rd & Millhaven Rd

3/18/2014

								
Movement	EBT	EBR	WBL	WBT	NBU	NBL	NBR	
Lane Configurations	↑↑	↑	↙↘	↑↑		↘	↙↘	
Volume (veh/h)	410	115	160	305	70	45	760	
Number	6	16	5	2		7	14	
Initial Q (Qb), veh	0	0	0	0		0	0	
Ped-Bike Adj(A_pbT)		1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00	
Adj Sat Flow, veh/h/ln	177.6	177.6	177.6	177.6		177.6	177.6	
Adj Flow Rate, veh/h	547	144	205	377		56	1070	
Adj No. of Lanes	2	1	2	2		1	2	
Peak Hour Factor	0.75	0.80	0.78	0.81		0.81	0.71	
Percent Heavy Veh, %	7	7	7	7		7	7	
Cap, veh/h	945	423	525	1653		693	1089	
Arrive On Green	0.56	0.56	0.16	0.49		0.41	0.41	
Sat Flow, veh/h	3463	1509	3281	3463		1691	2656	
Grp Volume(v), veh/h	547	144	205	377		56	1070	
Grp Sat Flow(s),veh/h/ln	1687	1509	1640	1687		1691	1328	
Q Serve(g_s), s	10.6	5.2	5.6	6.4		2.0	39.8	
Cycle Q Clear(g_c), s	10.6	5.2	5.6	6.4		2.0	39.8	
Prop In Lane		1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	945	423	525	1653		693	1089	
V/C Ratio(X)	0.58	0.34	0.39	0.23		0.08	0.98	
Avail Cap(c_a), veh/h	945	423	525	1653		693	1089	
HCM Platoon Ratio	2.00	2.00	1.00	1.00		1.00	1.00	
Upstream Filter(I)	0.86	0.86	1.00	1.00		1.00	1.00	
Uniform Delay (d), s/veh	18.2	17.0	37.6	14.6		18.0	29.1	
Incr Delay (d2), s/veh	2.2	1.9	0.2	0.3		0.0	22.9	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		0.0	0.0	
%ile BackOfQ(50%),veh/ln	5.2	2.3	2.5	3.1		0.9	26.9	
LnGrp Delay(d),s/veh	20.4	18.9	37.8	15.0		18.0	52.1	
LnGrp LOS	C	B	D	B		B	D	
Approach Vol, veh/h	691			582		1126		
Approach Delay, s/veh	20.1			23.0		50.4		
Approach LOS	C			C		D		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		54.0		46.0	21.0	33.0		
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		
Max Green Setting (Gmax), s		49.0		41.0	16.0	28.0		
Max Q Clear Time (g_c+I1), s		8.4		41.8	7.6	12.6		
Green Ext Time (p_c), s		1.8		0.0	1.3	3.4		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			35.0					
HCM 2010 LOS			D					
<b>Notes</b>								
User approved pedestrian interval to be less than phase max green.								

HCM 2010 Signalized Intersection Summary  
 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd























3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	415	230	20	5	230	115	10	220	10	285	50	760
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	177.6	177.6	177.6	177.6	177.6	177.6	190.0	177.6	190.0	177.6	177.6	177.6
Adj Flow Rate, veh/h	532	280	25	8	277	125	20	306	13	339	68	874
Adj No. of Lanes	2	2	1	1	2	1	0	2	0	1	2	1
Peak Hour Factor	0.78	0.82	0.81	0.63	0.83	0.92	0.50	0.72	0.75	0.84	0.73	0.87
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	791	1553	695	186	518	514	58	458	19	453	1377	980
Arrive On Green	0.24	0.46	0.46	0.31	0.31	0.31	0.15	0.15	0.15	0.19	0.41	0.41
Sat Flow, veh/h	3281	3374	1509	1020	3374	1509	92	2956	125	1691	3374	1509
Grp Volume(v), veh/h	532	280	25	8	277	125	174	0	165	339	68	874
Grp Sat Flow(s),veh/h/ln	1640	1687	1509	1020	1687	1509	1579	0	1594	1691	1687	1509
Q Serve(g_s), s	13.4	4.5	0.8	0.6	6.2	1.6	2.7	0.0	8.9	14.5	1.1	22.0
Cycle Q Clear(g_c), s	13.4	4.5	0.8	5.0	6.2	1.6	9.0	0.0	8.9	14.5	1.1	22.0
Prop In Lane	1.00		1.00	1.00		1.00	0.12		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	791	1553	695	186	518	514	289	0	247	453	1377	980
V/C Ratio(X)	0.67	0.18	0.04	0.04	0.54	0.24	0.60	0.00	0.67	0.75	0.05	0.89
Avail Cap(c_a), veh/h	791	1553	695	186	518	514	333	0	297	563	1701	1125
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	0.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	31.4	14.5	13.5	30.3	28.9	5.7	36.2	0.0	36.3	24.0	16.3	13.3
Incr Delay (d2), s/veh	2.2	0.3	0.1	0.4	3.9	1.1	2.3	0.0	4.4	3.8	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	2.1	0.4	0.2	3.2	1.0	4.3	0.0	4.2	7.2	0.5	14.7
LnGrp Delay(d),s/veh	33.6	14.7	13.6	30.7	32.8	6.8	38.5	0.0	40.7	27.8	16.3	20.9
LnGrp LOS	C	B	B	C	C	A	D		D	C	B	C
Approach Vol, veh/h		837			410			339			1281	
Approach Delay, s/veh		26.7			24.8			39.6			22.5	
Approach LOS		C			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	36.8	20.0	23.1	20.1		56.8		43.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0		6.0				
Max Green Setting (Gmax), s	22.0	14.0	23.0	17.0		42.0		46.0				
Max Q Clear Time (g_c+I1), s	15.4	8.2	16.5	11.0		6.5		24.0				
Green Ext Time (p_c), s	1.4	0.2	0.6	3.2		2.1		6.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			26.1									
HCM 2010 LOS			C									





















HCM 2010 Signalized Intersection Summary  
 42: Garrett Rd & S. Frontage Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	10	15	55	15	80	25	460	95	200	300	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	177.6	177.6	190.0	177.6	177.6	177.6	177.6	177.6	190.0	177.6	177.6	177.6
Adj Flow Rate, veh/h	71	20	27	55	15	0	37	541	148	253	330	79
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.63	0.50	0.56	1.00	1.00	0.73	0.67	0.85	0.64	0.79	0.91	0.89
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	216	107	145	165	111	242	613	766	209	321	1290	1096
Arrive On Green	0.04	0.16	0.16	0.06	0.06	0.00	0.57	0.57	0.57	0.16	1.00	1.00
Sat Flow, veh/h	1691	686	926	1290	1776	1509	927	1343	367	3281	1776	1509
Grp Volume(v), veh/h	71	0	47	55	15	0	37	0	689	253	330	79
Grp Sat Flow(s),veh/h/ln	1691	0	1612	1290	1776	1509	927	0	1711	1640	1776	1509
Q Serve(g_s), s	3.0	0.0	2.2	3.6	0.7	0.0	1.5	0.0	24.8	6.3	0.0	0.0
Cycle Q Clear(g_c), s	3.0	0.0	2.2	3.6	0.7	0.0	1.5	0.0	24.8	6.3	0.0	0.0
Prop In Lane	1.00		0.57	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	216	0	252	165	111	242	613	0	975	321	1290	1096
V/C Ratio(X)	0.33	0.00	0.19	0.33	0.13	0.00	0.06	0.00	0.71	0.79	0.26	0.07
Avail Cap(c_a), veh/h	216	0	340	235	208	325	613	0	975	346	1290	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	34.7	0.0	31.3	39.2	37.8	0.0	8.2	0.0	13.2	34.8	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.4	1.2	0.5	0.0	0.2	0.0	4.3	10.5	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.0	1.3	0.4	0.0	0.4	0.0	12.6	3.3	0.2	0.0
LnGrp Delay(d),s/veh	35.5	0.0	31.6	40.3	38.4	0.0	8.4	0.0	17.5	45.3	0.5	0.1
LnGrp LOS	D		C	D	D		A		B	D	A	A
Approach Vol, veh/h		118			70			726			662	
Approach Delay, s/veh		34.0			39.9			17.1			17.6	
Approach LOS		C			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	13.4	58.3		18.3		71.7	8.0	10.3				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s	9.0	48.0		18.0		62.0	3.0	10.0				
Max Q Clear Time (g_c+I1), s	8.3	26.8		4.2		2.0	5.0	5.6				
Green Ext Time (p_c), s	0.1	0.8		0.3		0.8	0.0	0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.6									
HCM 2010 LOS			B									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary  
 46: Garrett Rd & I-20 WB on-ramp/I-20 WB off-ramp

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	65	0	110	260	1235	0	0	340	325
Number				3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln				188.2	188.2	197.6	184.7	184.7	0.0	0.0	184.7	184.7
Adj Flow Rate, veh/h				65	0	0	310	1625	0	0	436	0
Adj No. of Lanes				1	1	0	2	2	0	0	2	1
Peak Hour Factor				1.00	0.86	0.90	0.84	0.76	0.25	0.50	0.78	0.88
Percent Heavy Veh, %				5	5	5	7	7	0	0	7	7
Cap, veh/h				339	355	0	385	2456	0	0	1963	834
Arrive On Green				0.19	0.00	0.00	0.23	1.00	0.00	0.00	0.53	0.00
Sat Flow, veh/h				1792	1882	0	3412	3601	0	0	3693	1570
Grp Volume(v), veh/h				65	0	0	310	1625	0	0	436	0
Grp Sat Flow(s),veh/h/ln				1792	1882	0	1706	1754	0	0	1847	1570
Q Serve(g_s), s				2.7	0.0	0.0	7.7	0.0	0.0	0.0	5.6	0.0
Cycle Q Clear(g_c), s				2.7	0.0	0.0	7.7	0.0	0.0	0.0	5.6	0.0
Prop In Lane				1.00		0.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				339	355	0	385	2456	0	0	1963	834
V/C Ratio(X)				0.19	0.00	0.00	0.81	0.66	0.00	0.00	0.22	0.00
Avail Cap(c_a), veh/h				339	355	0	531	2456	0	0	1963	834
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.62	0.62	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				30.7	0.0	0.0	33.9	0.0	0.0	0.0	11.2	0.0
Incr Delay (d2), s/veh				1.3	0.0	0.0	4.0	0.9	0.0	0.0	0.3	0.0
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				1.5	0.0	0.0	3.8	0.3	0.0	0.0	2.9	0.0
LnGrp Delay(d),s/veh				32.0	0.0	0.0	37.9	0.9	0.0	0.0	11.5	0.0
LnGrp LOS				C			D	A			B	
Approach Vol, veh/h					65			1935			436	
Approach Delay, s/veh					32.0			6.8			11.5	
Approach LOS					C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.0			15.2	52.8		22.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		63.0			14.0	44.0		17.0				
Max Q Clear Time (g_c+I1), s		2.0			9.7	7.6		4.7				
Green Ext Time (p_c), s		2.8			0.4	2.8		0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

# Timings

## 5: Connector & Kansas Ln

3/20/2014



Lane Group	EBL	NBT	SBT	SBR
Lane Configurations	↖↗	↑	↑	↖↗
Volume (vph)	750	470	520	1095
Turn Type	Prot	NA	NA	Free
Protected Phases	7	2	6	
Permitted Phases				Free
Detector Phase	7	2	6	
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	
Minimum Split (s)	9.0	20.0	20.0	
Total Split (s)	22.0	28.0	28.0	
Total Split (%)	44.0%	56.0%	56.0%	
Yellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Max	None	
Act Effect Green (s)	14.1	23.1	23.1	47.2
Actuated g/C Ratio	0.30	0.49	0.49	1.00
v/c Ratio	0.86	0.60	0.67	0.46
Control Delay	25.5	13.1	14.9	0.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.5	13.1	14.9	0.6
LOS	C	B	B	A
Approach Delay	25.5	13.1	5.2	
Approach LOS	C	B	A	

### Intersection Summary

Cycle Length: 50  
 Actuated Cycle Length: 47.2  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 11.9  
 Intersection Capacity Utilization 57.1%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 5: Connector & Kansas Ln



# Timings

## 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

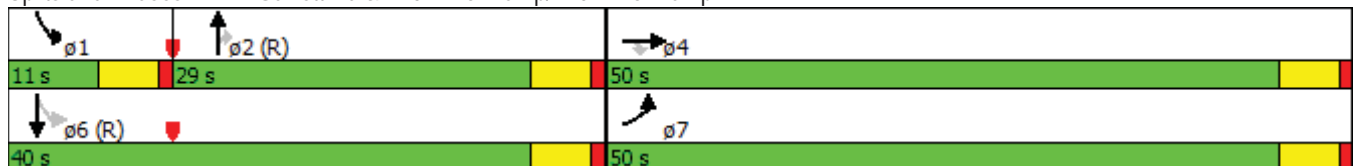


Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↘	↘	↗	↑↘	↗	↘	↑↑
Volume (vph)	990	0	240	505	80	75	330
Turn Type	Prot	NA	Perm	NA	Perm	pm+pt	NA
Protected Phases	7	4		2		1	6
Permitted Phases			4		2	6	
Detector Phase	7	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	20.0	20.0	9.0	20.0
Total Split (s)	50.0	50.0	50.0	29.0	29.0	11.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	32.2%	32.2%	12.2%	44.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	Max	Max	C-Max	C-Max	None	C-Max
Act Effect Green (s)	45.0	45.0	45.0	26.2	26.2	35.0	35.0
Actuated g/C Ratio	0.50	0.50	0.50	0.29	0.29	0.39	0.39
v/c Ratio	0.77	0.19	0.19	0.61	0.20	0.40	0.32
Control Delay	22.3	0.5	0.5	24.6	4.6	16.1	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	0.5	0.5	24.6	4.6	16.1	13.7
LOS	C	A	A	C	A	B	B
Approach Delay		17.8		21.8			14.2
Approach LOS		B		C			B

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 28 (31%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 18.1  
 Intersection LOS: B  
 Intersection Capacity Utilization 59.7%  
 ICU Level of Service B  
 Analysis Period (min) 15

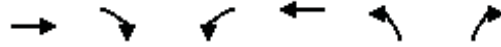
### Splits and Phases: 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp



# Timings

## 34: Garrett Rd & Millhaven Rd

3/18/2014

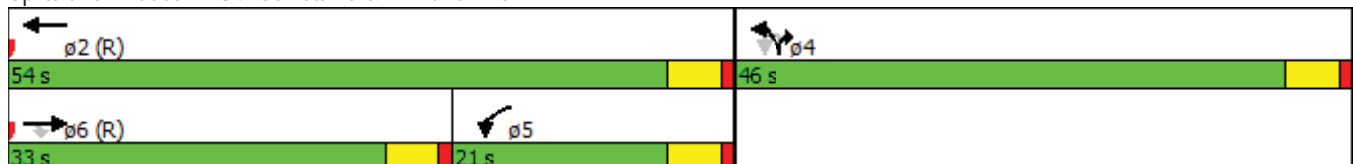


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↔	↑↑	↔	↔
Volume (vph)	410	115	160	305	45	760
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	6		5	2	4	4
Permitted Phases		6				
Detector Phase	6	6	5	2	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	33.0	33.0	21.0	54.0	46.0	46.0
Total Split (%)	33.0%	33.0%	21.0%	54.0%	46.0%	46.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effect Green (s)	50.3	50.3	16.0	71.3	18.7	18.7
Actuated g/C Ratio	0.50	0.50	0.16	0.71	0.19	0.19
v/c Ratio	0.32	0.17	0.39	0.16	0.43	0.94
Control Delay	10.9	2.4	40.2	6.3	37.2	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	2.4	40.2	6.3	37.2	25.3
LOS	B	A	D	A	D	C
Approach Delay	9.1			18.2	26.6	
Approach LOS	A			B	C	

### Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 93 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 19.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 46.3%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 34: Garrett Rd & Millhaven Rd





# Timings

## 42: Garrett Rd & S. Frontage Rd

3/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	45	10	55	15	80	25	460	200	300	70
Turn Type	pm+pt	NA	Perm	NA	pt+ov	Perm	NA	Prot	NA	Perm
Protected Phases	7	4		8	8 1		2	1	6	
Permitted Phases	4		8			2				6
Detector Phase	7	4	8	8	8 1	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	3.0	3.0	3.0	3.0		5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	8.0	8.0	8.0	8.0		10.0	10.0	8.0	10.0	10.0
Total Split (s)	8.0	23.0	15.0	15.0		53.0	53.0	14.0	67.0	67.0
Total Split (%)	8.9%	25.6%	16.7%	16.7%		58.9%	58.9%	15.6%	74.4%	74.4%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		
Recall Mode	None	None	None	None		C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	14.3	14.8	8.4	8.4	20.9	52.7	52.7	9.6	68.3	68.3
Actuated g/C Ratio	0.16	0.16	0.09	0.09	0.23	0.59	0.59	0.11	0.76	0.76
v/c Ratio	0.47	0.16	0.46	0.34	0.16	0.06	0.68	0.72	0.24	0.07
Control Delay	41.9	18.3	50.4	21.0	4.3	10.6	18.6	54.5	3.7	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	41.9	18.3	50.4	21.0	4.3	10.6	18.6	54.5	3.9	0.5
LOS	D	B	D	C	A	B	B	D	A	A
Approach Delay		32.5		24.2			18.2		22.8	
Approach LOS		C		C			B		C	

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 89 (99%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 21.7

Intersection LOS: C

Intersection Capacity Utilization 57.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 42: Garrett Rd & S. Frontage Rd



# Timings

## 46: Garrett Rd & I-20 WB on-ramp/I-20 WB off-ramp

3/18/2014



Lane Group	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	65	0	260	1235	340	325
Turn Type	Perm	NA	Prot	NA	NA	Perm
Protected Phases		8	5	2	6	
Permitted Phases	8					6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	9.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0	19.0	68.0	49.0	49.0
Total Split (%)	24.4%	24.4%	21.1%	75.6%	54.4%	54.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	Max	Max	None	C-Max	C-Max	C-Max
Act Effect Green (s)	17.0	17.0	12.6	63.0	45.4	45.4
Actuated g/C Ratio	0.19	0.19	0.14	0.70	0.50	0.50
v/c Ratio	0.19	0.33	0.65	0.67	0.34	0.30
Control Delay	32.6	14.7	46.0	6.3	12.9	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	14.7	46.0	6.3	12.9	2.8
LOS	C	B	D	A	B	A
Approach Delay		20.9		12.7	9.8	
Approach LOS		C		B	A	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 64 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 12.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 59.7%  
 ICU Level of Service B  
 Analysis Period (min) 15

### Splits and Phases: 46: Garrett Rd & I-20 WB on-ramp/I-20 WB off-ramp





# HCM 2010 Signalized Intersection Summary

## 5: Connector & Kansas Ln




















3/20/2014



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Volume (veh/h)	970	0	0	515	1095	1095		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	0	0	1827	1827	1827		
Adj Flow Rate, veh/h	1078	0	0	572	1217	0		
Adj No. of Lanes	2	0	0	1	1	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	4	0	0	4	4	4		
Cap, veh/h	0	0	0	1675	1675	2505		
Arrive On Green	0.00	0.00	0.00	0.92	0.92	0.00		
Sat Flow, veh/h	0	0	0	1827	1827	2733		
Grp Volume(v), veh/h	0	0	0	572	1217	0		
Grp Sat Flow(s),veh/h/ln	0	0	0	1827	1827	1367		
Q Serve(g_s), s	0.0	0.0	0.0	2.3	10.0	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.3	10.0	0.0		
Prop In Lane	0.00	0.00	0.00			1.00		
Lane Grp Cap(c), veh/h	0	0	0	1675	1675	2505		
V/C Ratio(X)	0.00	0.00	0.00	0.34	0.73	0.00		
Avail Cap(c_a), veh/h	0	0	0	1675	1675	2505		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.3	0.6	0.0		
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	1.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.2	4.8	0.0		
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.9	2.2	0.0		
LnGrp LOS				A	A			
Approach Vol, veh/h	0			572	1217			
Approach Delay, s/veh	0.0			0.9	2.2			
Approach LOS				A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		60.0		0.0		60.0		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		55.0		15.0		55.0		
Max Q Clear Time (g_c+I1), s		4.3		0.0		12.0		
Green Ext Time (p_c), s		26.8		0.0		24.5		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			1.8					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary  
 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp








3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	525	0	410	0	0	0	0	975	130	235	790	0
Number	7	4	14				5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	181.0	181.0	181.0				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	618	0	0				0	1048	0	301	952	0
Adj No. of Lanes	2	1	1				0	2	1	1	2	0
Peak Hour Factor	0.85	0.25	0.87				0.91	0.93	0.95	0.78	0.83	0.91
Percent Heavy Veh, %	5	5	5				0	4	4	4	4	0
Cap, veh/h	714	375	318				0	1860	790	406	2354	0
Arrive On Green	0.21	0.00	0.00				0.00	0.17	0.00	0.22	1.00	0.00
Sat Flow, veh/h	3447	1810	1538				0	3654	1553	1740	3563	0
Grp Volume(v), veh/h	618	0	0				0	1048	0	301	952	0
Grp Sat Flow(s),veh/h/ln	1723	1810	1538				0	1827	1553	1740	1736	0
Q Serve(g_s), s	15.1	0.0	0.0				0.0	22.9	0.0	7.2	0.0	0.0
Cycle Q Clear(g_c), s	15.1	0.0	0.0				0.0	22.9	0.0	7.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	714	375	318				0	1860	790	406	2354	0
V/C Ratio(X)	0.87	0.00	0.00				0.00	0.56	0.00	0.74	0.40	0.00
Avail Cap(c_a), veh/h	832	437	371				0	1860	790	552	2354	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.67	0.00	0.44	0.44	0.00
Uniform Delay (d), s/veh	33.3	0.0	0.0				0.0	27.3	0.0	12.1	0.0	0.0
Incr Delay (d2), s/veh	8.5	0.0	0.0				0.0	0.8	0.0	1.6	0.2	0.0
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	8.0	0.0	0.0				0.0	11.8	0.0	3.5	0.1	0.0
LnGrp Delay(d),s/veh	41.9	0.0	0.0				0.0	28.1	0.0	13.7	0.2	0.0
LnGrp LOS	D							C		B	A	
Approach Vol, veh/h		618						1048			1253	
Approach Delay, s/veh		41.9						28.1			3.5	
Approach LOS		D						C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	14.7	52.3		23.0		67.0						
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0						
Max Green Setting (Gmax), s	17.0	37.0		21.0		59.0						
Max Q Clear Time (g_c+I1), s	9.2	24.9		17.1		2.0						
Green Ext Time (p_c), s	0.5	2.3		0.9		2.4						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			20.5									
HCM 2010 LOS			C									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

# HCM 2010 Signalized Intersection Summary























## 34: Garrett Rd & Millhaven Rd

3/18/2014

								
Movement	EBT	EBR	WBL	WBT	NBU	NBL	NBR	
Lane Configurations	↑↑	↑	↔	↑↑		↔	↔	
Volume (veh/h)	265	445	410	325	150	225	290	
Number	6	16	5	2		7	14	
Initial Q (Qb), veh	0	0	0	0		0	0	
Ped-Bike Adj(A_pbT)		1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00	
Adj Sat Flow, veh/h/ln	182.7	182.7	182.7	182.7		182.7	182.7	
Adj Flow Rate, veh/h	301	517	631	451		265	367	
Adj No. of Lanes	2	1	2	2		1	2	
Peak Hour Factor	0.88	0.86	0.65	0.72		0.85	0.79	
Percent Heavy Veh, %	4	4	4	4		4	4	
Cap, veh/h	1338	599	716	2333		311	488	
Arrive On Green	0.64	0.64	0.21	0.67		0.18	0.18	
Sat Flow, veh/h	3563	1553	3375	3563		1740	2733	
Grp Volume(v), veh/h	301	517	631	451		265	367	
Grp Sat Flow(s),veh/h/ln	1736	1553	1688	1736		1740	1367	
Q Serve(g_s), s	2.4	17.9	12.1	3.3		9.9	8.5	
Cycle Q Clear(g_c), s	2.4	17.9	12.1	3.3		9.9	8.5	
Prop In Lane		1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	1338	599	716	2333		311	488	
V/C Ratio(X)	0.22	0.86	0.88	0.19		0.85	0.75	
Avail Cap(c_a), veh/h	1338	599	907	2333		650	1020	
HCM Platoon Ratio	1.67	1.67	1.00	1.00		1.00	1.00	
Upstream Filter(I)	0.89	0.89	1.00	1.00		1.00	1.00	
Uniform Delay (d), s/veh	7.8	10.5	25.6	4.1		26.6	26.1	
Incr Delay (d2), s/veh	0.3	13.9	7.3	0.2		2.6	0.9	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.2	9.5	6.3	1.6		4.9	6.2	
LnGrp Delay(d),s/veh	8.1	24.4	32.8	4.3		29.2	27.0	
LnGrp LOS	A	C	C	A		C	C	
Approach Vol, veh/h	818			1082		632		
Approach Delay, s/veh	18.4			20.9		27.9		
Approach LOS	B			C		C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		63.0		17.0	19.2	43.9		
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		
Max Green Setting (Gmax), s		45.0		25.0	18.0	22.0		
Max Q Clear Time (g_c+I1), s		5.3		11.9	14.1	19.9		
Green Ext Time (p_c), s		7.7		0.1	0.1	1.3		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			21.9					
HCM 2010 LOS			C					
<b>Notes</b>								
User approved ignoring U-Turning movement.								

HCM 2010 Signalized Intersection Summary  
 39: N. Pecanland Mall Driveway/Kansas Ln & Millhaven Rd























3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	520	530	105	20	415	145	25	305	55	125	260	710
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	182.7	182.7	182.7	182.7	182.7	182.7	190.0	182.7	190.0	182.7	182.7	182.7
Adj Flow Rate, veh/h	598	688	154	33	446	161	37	391	83	156	351	934
Adj No. of Lanes	2	2	1	1	2	1	0	2	0	1	2	1
Peak Hour Factor	0.87	0.77	0.68	0.60	0.93	0.90	0.68	0.78	0.66	0.80	0.74	0.76
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	718	1563	699	107	564	369	80	599	125	311	1388	951
Arrive On Green	0.21	0.45	0.45	0.05	0.05	0.05	0.25	0.25	0.25	0.08	0.40	0.40
Sat Flow, veh/h	3375	3471	1553	638	3471	1553	115	2400	502	1740	3471	1553
Grp Volume(v), veh/h	598	688	154	33	446	161	251	0	260	156	351	934
Grp Sat Flow(s),veh/h/ln	1688	1736	1553	638	1736	1553	1443	0	1574	1740	1736	1553
Q Serve(g_s), s	13.6	10.9	4.8	2.1	10.2	3.1	3.7	0.0	11.9	5.1	5.4	29.8
Cycle Q Clear(g_c), s	13.6	10.9	4.8	13.0	10.2	3.1	11.0	0.0	11.9	5.1	5.4	29.8
Prop In Lane	1.00		1.00	1.00		1.00	0.15		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	718	1563	699	107	564	369	412	0	393	311	1388	951
V/C Ratio(X)	0.83	0.44	0.22	0.31	0.79	0.44	0.61	0.00	0.66	0.50	0.25	0.98
Avail Cap(c_a), veh/h	718	1563	699	107	564	369	412	0	394	311	1389	952
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	30.1	15.1	13.4	43.8	36.5	9.6	26.2	0.0	27.0	20.0	16.0	15.1
Incr Delay (d2), s/veh	8.3	0.9	0.7	5.9	8.8	3.0	2.6	0.0	4.1	1.1	0.1	23.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	5.4	2.2	0.9	5.6	2.2	5.2	0.0	5.6	2.5	2.6	18.5
LnGrp Delay(d),s/veh	38.5	16.0	14.1	49.7	45.3	12.6	28.8	0.0	31.1	21.2	16.1	38.4
LnGrp LOS	D	B	B	D	D	B	C		C	C	B	D
Approach Vol, veh/h		1440			640			511			1441	
Approach Delay, s/veh		25.1			37.3			30.0			31.1	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	23.0	19.0	12.0	26.0		42.0		38.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0		6.0				
Max Green Setting (Gmax), s	17.0	13.0	6.0	20.0		36.0		32.0				
Max Q Clear Time (g_c+I1), s	15.6	15.0	7.1	13.9		12.9		31.8				
Green Ext Time (p_c), s	0.6	0.0	0.0	4.4		2.6		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			29.8									
HCM 2010 LOS			C									

# HCM 2010 Signalized Intersection Summary



















## 42: Garrett Rd & S. Frontage Rd

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	135	15	50	75	35	535	10	435	70	430	615	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	182.7	182.7	190.0	182.7	182.7	182.7	182.7	182.7	190.0	182.7	182.7	182.7
Adj Flow Rate, veh/h	171	27	91	115	76	0	17	483	76	483	741	201
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.79	0.56	0.55	0.65	0.46	0.85	0.58	0.90	0.92	0.89	0.83	0.77
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	315	92	309	223	209	434	237	644	101	558	1168	992
Arrive On Green	0.08	0.25	0.25	0.11	0.11	0.00	0.42	0.42	0.42	0.05	0.21	0.21
Sat Flow, veh/h	1740	368	1240	1244	1827	1553	581	1542	243	3375	1827	1553
Grp Volume(v), veh/h	171	0	118	115	76	0	17	0	559	483	741	201
Grp Sat Flow(s),veh/h/ln	1740	0	1608	1244	1827	1553	581	0	1784	1688	1827	1553
Q Serve(g_s), s	7.0	0.0	5.3	8.0	3.4	0.0	2.0	0.0	23.7	12.7	33.0	9.5
Cycle Q Clear(g_c), s	7.0	0.0	5.3	8.0	3.4	0.0	15.2	0.0	23.7	12.7	33.0	9.5
Prop In Lane	1.00		0.77	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	315	0	400	223	209	434	237	0	745	558	1168	992
V/C Ratio(X)	0.54	0.00	0.29	0.52	0.36	0.00	0.07	0.00	0.75	0.87	0.63	0.20
Avail Cap(c_a), veh/h	315	0	415	234	225	448	237	0	745	568	1168	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	31.1	0.0	27.2	38.6	36.5	0.0	24.5	0.0	22.0	41.2	25.7	16.5
Incr Delay (d2), s/veh	1.9	0.0	0.4	1.8	1.1	0.0	0.6	0.0	6.8	12.0	2.4	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	0.8	0.0	2.4	2.9	1.8	0.0	0.4	0.0	13.1	6.9	17.5	4.2
LnGrp Delay(d),s/veh	33.0	0.0	27.6	40.4	37.6	0.0	25.1	0.0	28.8	53.2	28.1	16.9
LnGrp LOS	C		C	D	D		C		C	D	C	B
Approach Vol, veh/h		289			191			576			1425	
Approach Delay, s/veh		30.8			39.3			28.7			35.0	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	19.7	43.1		27.2		62.8	12.0	15.2				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s	15.0	37.0		23.0		57.0	7.0	11.0				
Max Q Clear Time (g_c+I1), s	14.7	25.7		7.3		35.0	9.0	10.0				
Green Ext Time (p_c), s	0.1	1.0		1.3		1.0	0.0	0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			33.4									
HCM 2010 LOS			C									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary  
 46: Garrett Rd & I-20 WB on-ramp/I-20 WB off-ramp

3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	45	0	215	505	995	0	0	980	660
Number				3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln				181.0	181.0	190.0	182.7	182.7	0.0	0.0	182.7	182.7
Adj Flow Rate, veh/h				76	0	0	639	1093	0	0	1054	0
Adj No. of Lanes				1	1	0	2	2	0	0	2	1
Peak Hour Factor				0.59	0.90	0.90	0.79	0.91	0.88	0.88	0.93	0.84
Percent Heavy Veh, %				5	5	5	4	4	0	0	4	4
Cap, veh/h				287	302	0	698	2507	0	0	1680	714
Arrive On Green				0.17	0.00	0.00	0.41	1.00	0.00	0.00	0.46	0.00
Sat Flow, veh/h				1723	1810	0	3375	3563	0	0	3654	1553
Grp Volume(v), veh/h				76	0	0	639	1093	0	0	1054	0
Grp Sat Flow(s),veh/h/ln				1723	1810	0	1688	1736	0	0	1827	1553
Q Serve(g_s), s				3.5	0.0	0.0	16.1	0.0	0.0	0.0	19.7	0.0
Cycle Q Clear(g_c), s				3.5	0.0	0.0	16.1	0.0	0.0	0.0	19.7	0.0
Prop In Lane				1.00		0.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				287	302	0	698	2507	0	0	1680	714
V/C Ratio(X)				0.26	0.00	0.00	0.92	0.44	0.00	0.00	0.63	0.00
Avail Cap(c_a), veh/h				287	302	0	750	2507	0	0	1680	714
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	0.00	0.58	0.58	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				32.7	0.0	0.0	25.6	0.0	0.0	0.0	18.5	0.0
Incr Delay (d2), s/veh				2.2	0.0	0.0	9.8	0.3	0.0	0.0	1.8	0.0
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				1.8	0.0	0.0	8.2	0.1	0.0	0.0	10.4	0.0
LnGrp Delay(d),s/veh				34.9	0.0	0.0	35.4	0.3	0.0	0.0	20.2	0.0
LnGrp LOS				C			D	A			C	
Approach Vol, veh/h					76			1732			1054	
Approach Delay, s/veh					34.9			13.3			20.2	
Approach LOS					C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.0			23.6	46.4		20.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		65.0			20.0	40.0		15.0				
Max Q Clear Time (g_c+I1), s		2.0			18.1	21.7		5.5				
Green Ext Time (p_c), s		2.7			0.5	2.6		0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.4								
HCM 2010 LOS				B								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

# Timings

## 5: Connector & Kansas Ln

3/20/2014



Lane Group	EBL	NBT	SBT	SBR
Lane Configurations				
Volume (vph)	970	515	1095	1095
Turn Type	Prot	NA	NA	Free
Protected Phases	7	2	6	
Permitted Phases				Free
Detector Phase	7	2	6	
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	
Minimum Split (s)	9.0	20.0	20.0	
Total Split (s)	20.0	60.0	60.0	
Total Split (%)	25.0%	75.0%	75.0%	
Yellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Max	None	
Act Effect Green (s)	15.0	55.0	55.0	80.0
Actuated g/C Ratio	0.19	0.69	0.69	1.00
v/c Ratio	1.71	0.46	0.97	0.45
Control Delay	351.2	7.1	32.8	0.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	351.2	7.1	32.8	0.5
LOS	F	A	C	A
Approach Delay	351.2	7.1	16.7	
Approach LOS	F	A	B	

### Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.71	
Intersection Signal Delay: 103.6	Intersection LOS: F
Intersection Capacity Utilization 93.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Connector & Kansas Ln



# Timings

## 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

3/18/2014

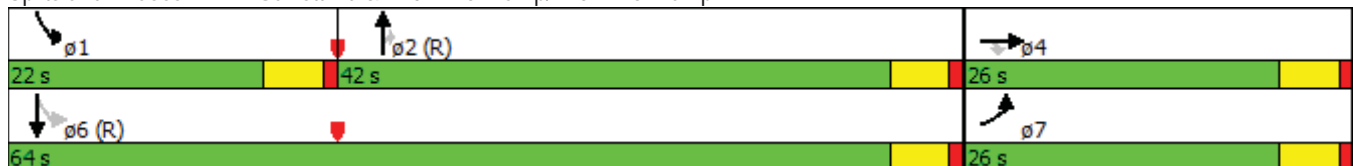


Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	525	0	410	975	130	235	790
Turn Type	Prot	NA	Perm	NA	Perm	pm+pt	NA
Protected Phases	7	4		2		1	6
Permitted Phases			4		2	6	
Detector Phase	7	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	20.0	20.0	9.0	20.0
Total Split (s)	26.0	26.0	26.0	42.0	42.0	22.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	46.7%	46.7%	24.4%	71.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	Max	Max	C-Max	C-Max	None	C-Max
Act Effect Green (s)	21.0	21.0	21.0	39.6	39.6	59.0	59.0
Actuated g/C Ratio	0.23	0.23	0.23	0.44	0.44	0.66	0.66
v/c Ratio	0.79	0.51	0.51	0.73	0.18	0.79	0.42
Control Delay	41.3	14.6	14.4	17.5	3.3	18.4	9.2
Queue Delay	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Total Delay	41.3	14.6	14.5	18.2	3.3	18.4	9.2
LOS	D	B	B	B	A	B	A
Approach Delay		29.7		16.6			11.4
Approach LOS		C		B			B

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 37 (41%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 18.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 74.3%  
 ICU Level of Service D  
 Analysis Period (min) 15

### Splits and Phases: 11: Garrett Rd & I-20 EB off-ramp/I-20 EB on-ramp

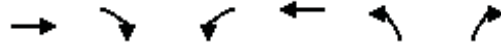




# Timings

## 34: Garrett Rd & Millhaven Rd

3/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↙↘	↑↑	↘	↙↘
Volume (vph)	265	445	410	325	225	290
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	6		5	2	4	4
Permitted Phases		6				
Detector Phase	6	6	5	2	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	27.0	27.0	23.0	50.0	30.0	30.0
Total Split (%)	33.8%	33.8%	28.8%	62.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effect Green (s)	26.2	26.2	16.7	47.9	22.1	22.1
Actuated g/C Ratio	0.33	0.33	0.21	0.60	0.28	0.28
v/c Ratio	0.26	0.72	0.90	0.22	0.92	0.36
Control Delay	13.7	9.8	48.3	8.3	54.0	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	9.8	48.3	8.3	54.0	3.5
LOS	B	A	D	A	D	A
Approach Delay	11.2			31.6	31.1	
Approach LOS	B			C	C	

### Intersection Summary

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 15 (19%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 25.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 52.3%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 34: Garrett Rd & Millhaven Rd





# Timings

## 42: Garrett Rd & S. Frontage Rd

3/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	135	15	75	35	535	10	435	430	615	155
Turn Type	pm+pt	NA	Perm	NA	pt+ov	Perm	NA	Prot	NA	Perm
Protected Phases	7	4		8	8 1		2	1	6	
Permitted Phases	4		8			2				6
Detector Phase	7	4	8	8	8 1	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	3.0	3.0	3.0	3.0		5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	8.0	8.0	8.0	8.0		10.0	10.0	8.0	10.0	10.0
Total Split (s)	12.0	28.0	16.0	16.0		42.0	42.0	20.0	62.0	62.0
Total Split (%)	13.3%	31.1%	17.8%	17.8%		46.7%	46.7%	22.2%	68.9%	68.9%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		
Recall Mode	None	None	None	None		C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	23.0	23.0	11.0	11.0	30.8	37.2	37.2	14.8	57.0	57.0
Actuated g/C Ratio	0.26	0.26	0.12	0.12	0.34	0.41	0.41	0.16	0.63	0.63
v/c Ratio	0.79	0.25	0.76	1.07	0.53	0.06	0.75	0.87	0.64	0.19
Control Delay	55.8	10.4	69.5	90.8	11.5	16.9	29.7	58.8	11.0	1.6
Queue Delay	3.1	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.7	0.0
Total Delay	58.9	10.4	69.5	94.3	11.5	16.9	29.7	58.8	11.7	1.6
LOS	E	B	E	F	B	B	C	E	B	A
Approach Delay		39.1		55.9			29.4		26.3	
Approach LOS		D		E			C		C	

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 4 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 35.8

Intersection LOS: D

Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 42: Garrett Rd & S. Frontage Rd



# Timings

## 46: Garrett Rd & I-20 WB on-ramp/I-20 WB off-ramp

3/18/2014



Lane Group	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	45	0	505	995	980	660
Turn Type	Perm	NA	Prot	NA	NA	Perm
Protected Phases		8	5	2	6	
Permitted Phases	8					6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	21.0	21.0
Total Split (s)	20.0	20.0	25.0	70.0	45.0	45.0
Total Split (%)	22.2%	22.2%	27.8%	77.8%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	Max	Max	None	C-Max	C-Max	C-Max
Act Effect Green (s)	15.0	15.0	19.5	65.0	40.5	40.5
Actuated g/C Ratio	0.17	0.17	0.22	0.72	0.45	0.45
v/c Ratio	0.27	0.63	0.88	0.44	0.87	0.62
Control Delay	35.6	22.0	56.4	8.2	29.9	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	22.0	56.4	8.2	29.9	6.5
LOS	D	C	E	A	C	A
Approach Delay		25.3		26.0	22.8	
Approach LOS		C		C	C	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 64 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 24.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 74.3%  
 ICU Level of Service D  
 Analysis Period (min) 15

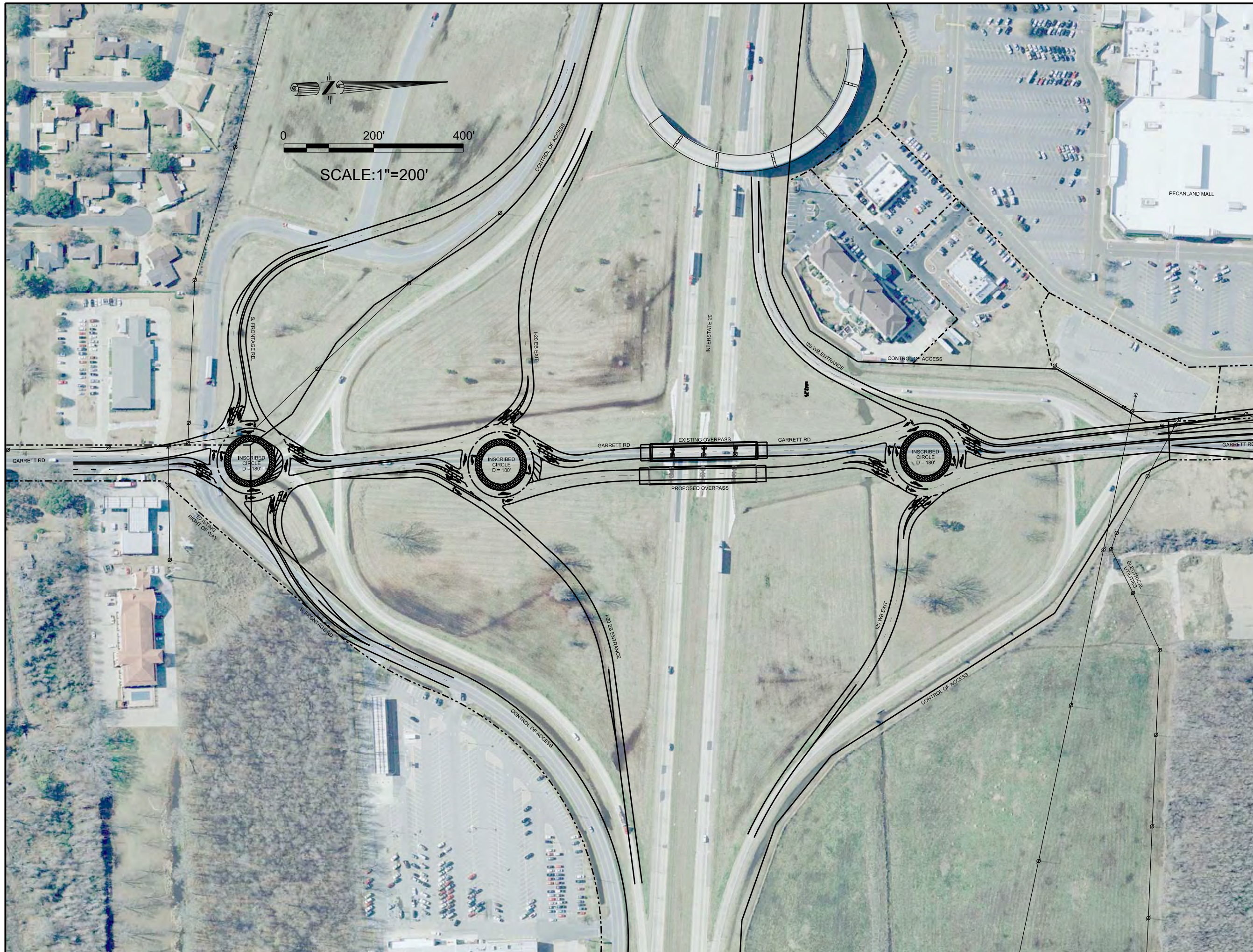
### Splits and Phases: 46: Garrett Rd & I-20 WB on-ramp/I-20 WB off-ramp





## **Appendix G**

Conceptual Roundabout Layouts



Kansas Lane - Garrett Road  
 Connector and I 20 Interchange  
 Improvements, Route I 20  
 Environmental Assessment  
 Ouachita Parish, Louisiana

State Project No. 700-37-0119  
 F.A.P. No. IM 3704(508)

**ROUNDAABOUTS  
 I-20/GARRETT ROAD  
 INTERCHANGE**

- Legend**
- - - EXISTING RIGHT-OF-WAY
  - CONTROL OF ACCESS
  - ELECTRICAL UTILITIES



Date: 6/10/2014      Project Number: LA002910.0004

Figure No.: **G-1**



Kansas Lane - Garrett Road  
Connector and I 20 Interchange  
Improvements, Route I 20  
Environmental Assessment  
Ouachita Parish, Louisiana

State Project No. 700-37-0119  
F.A.P. No. IM 3704(508)

**ROUNDBOUTS  
KANSAS CITY SOUTHERN  
RAILROAD OVERPASS**

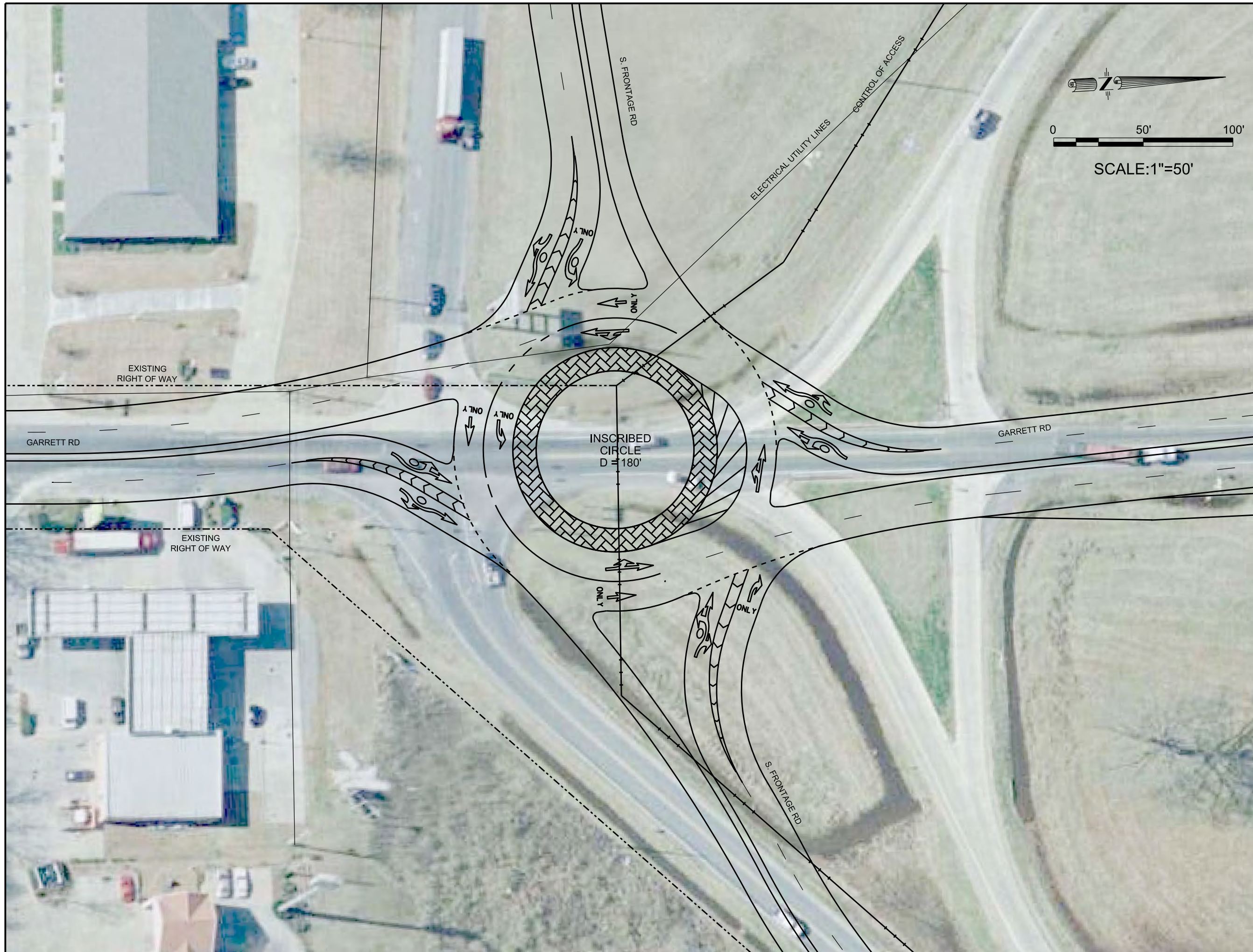
**Legend**

- - - EXISTING RIGHT-OF-WAY
- CONTROL OF ACCESS
- ELECTRICAL UTILITIES



Date: 6/10/2014      Project Number: LA002910.0004

Figure No.:  
**G-2**



Kansas Lane - Garrett Road  
Connector and I 20 Interchange  
Improvements, Route I 20  
Environmental Assessment  
Ouachita Parish, Louisiana

State Project No. 700-37-0119  
F.A.P. No. IM 3704(508)

**ROUNDAABOUT  
GARRETT ROAD AT  
S. FRONTAGE ROAD**

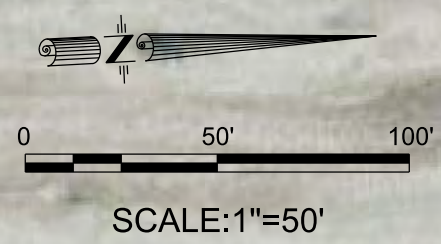
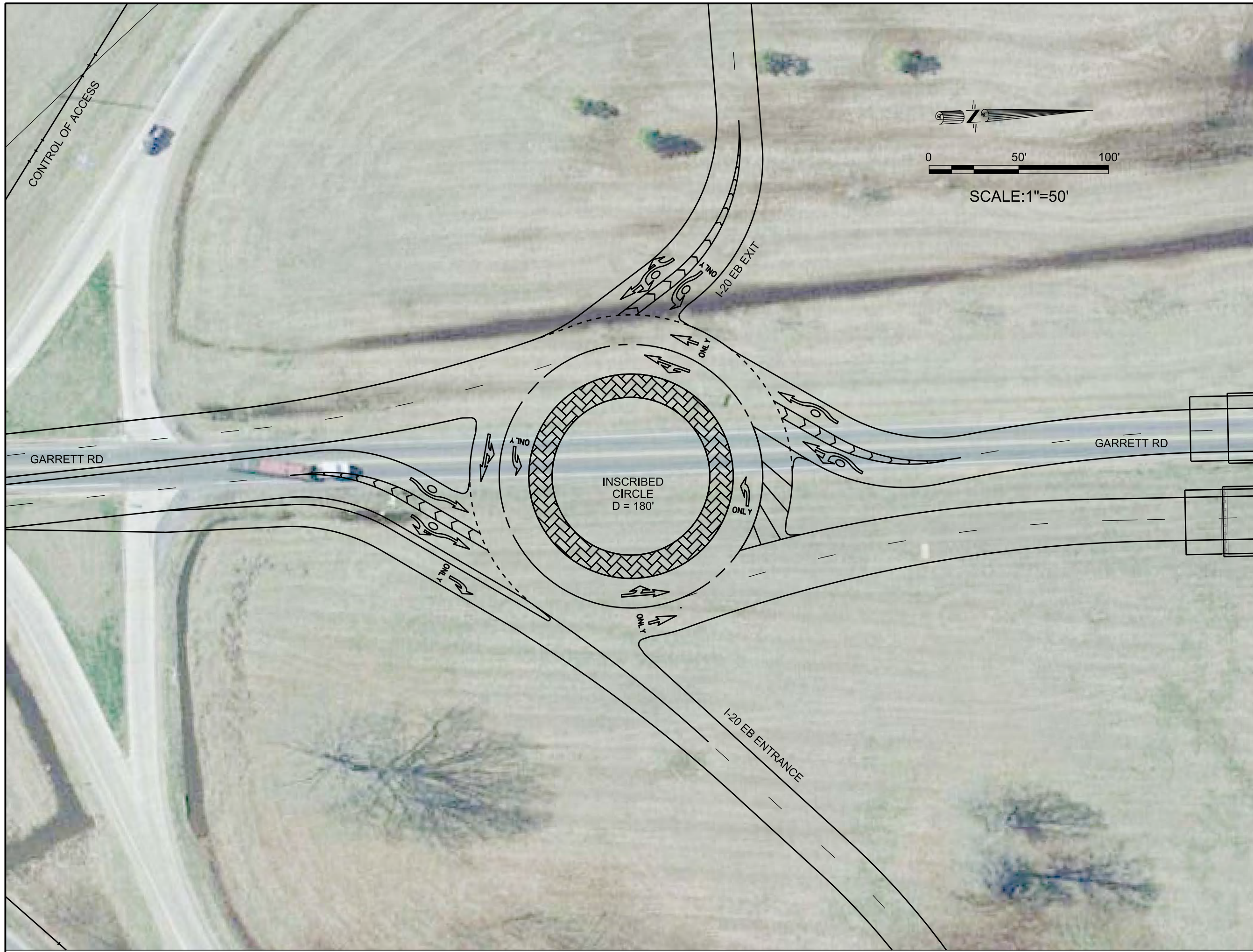
- Legend**
- - - EXISTING RIGHT-OF-WAY
  - CONTROL OF ACCESS
  - ELECTRICAL UTILITIES



Date: 6/10/2014      Project Number: LA002910.0004

Figure No.:  
**G-3**





Kansas Lane - Garrett Road  
 Connector and I 20 Interchange  
 Improvements, Route I 20  
 Environmental Assessment  
 Ouachita Parish, Louisiana

State Project No. 700-37-0119  
 F.A.P. No. IM 3704(508)

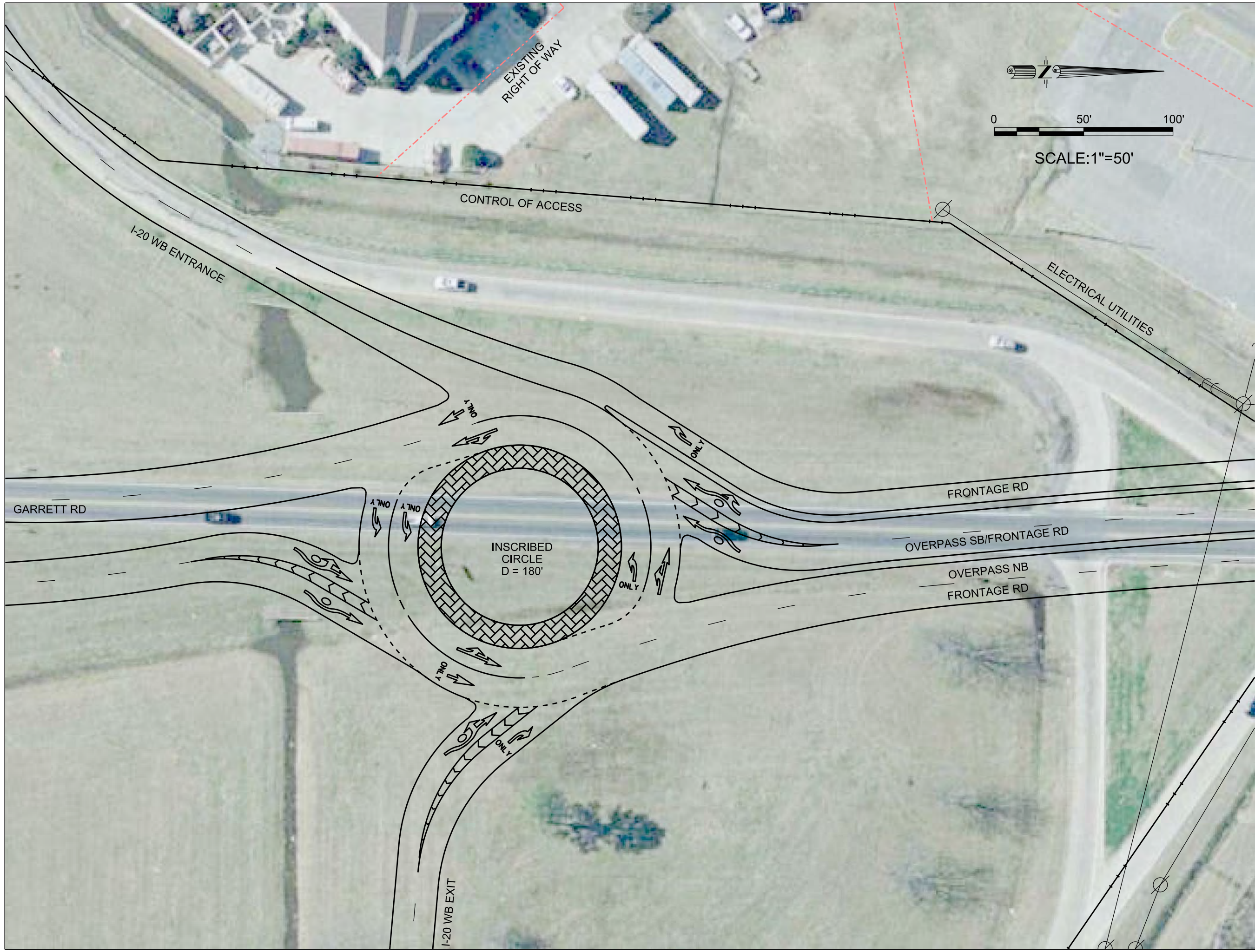
**ROUNDBOUT  
 GARRETT ROAD AT  
 I-20 EASTBOUND RAMP**

- Legend**
- EXISTING RIGHT-OF-WAY
  - CONTROL OF ACCESS
  - ELECTRICAL UTILITIES



Date: 6/10/2014	Project Number: LA002910.0004
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Figure No.:  
 G-4






Kansas Lane - Garrett Road  
Connector and I 20 Interchange  
Improvements, Route I 20  
Environmental Assessment  
Ouachita Parish, Louisiana

State Project No. 700-37-0119  
F.A.P. No. IM 3704(508)

**ROUNDAABOUT  
GARRETT ROAD AT  
I-20 WESTBOUND RAMP**

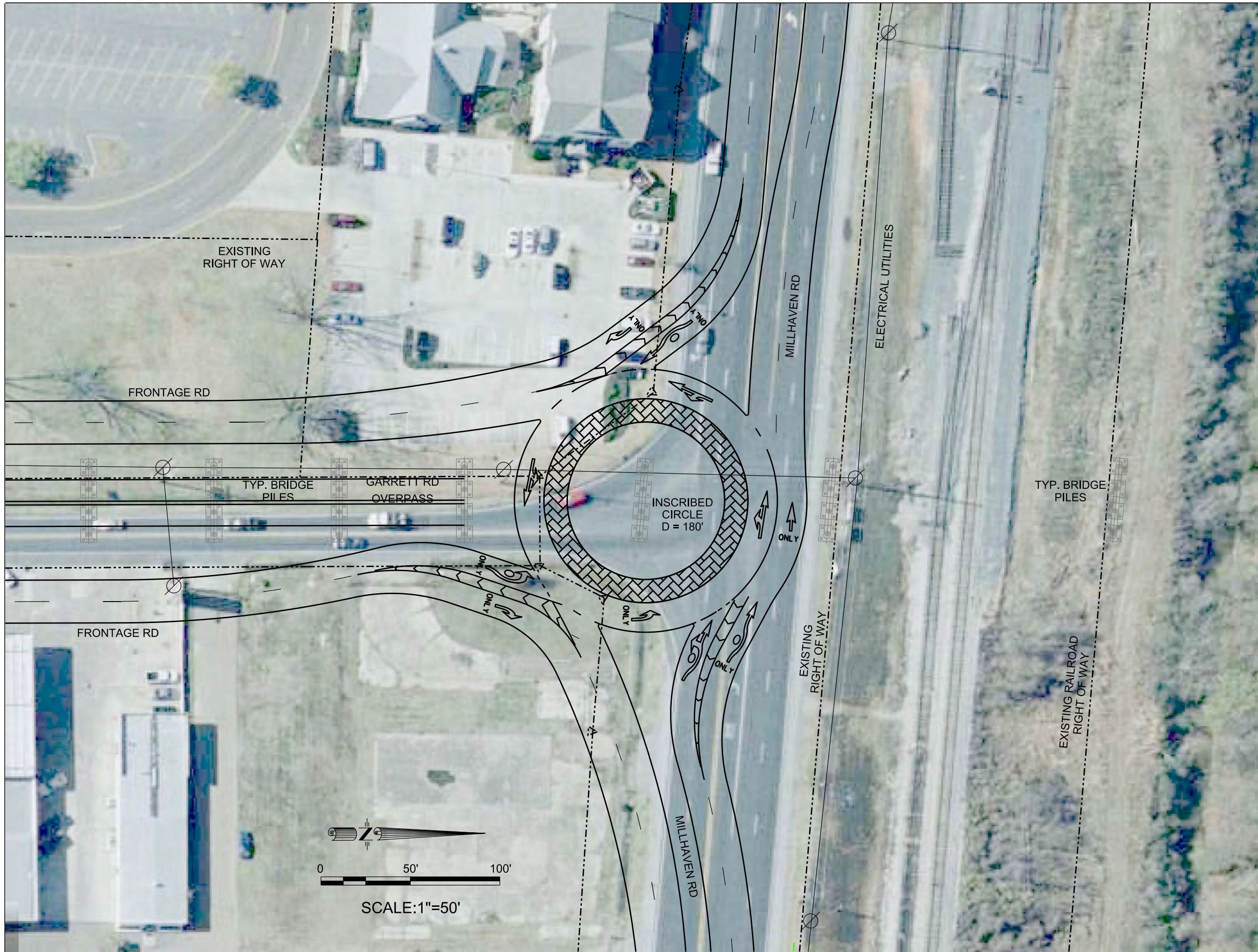
**Legend**

	EXISTING RIGHT-OF-WAY
	CONTROL OF ACCESS
	ELECTRICAL UTILITIES



Date: 6/10/2014	Project Number: LA002910.0004
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Figure No.:  
**G-5**

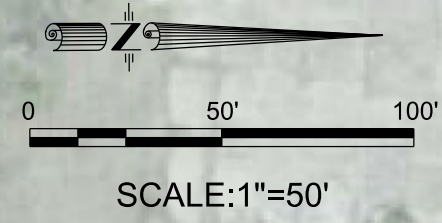


Kansas Lane - Garrett Road Connector and I 20 Interchange Improvements, Route I 20 Environmental Assessment Ouachita Parish, Louisiana

State Project No. 700-37-0119  
F.A.P. No. IM 3704(508)

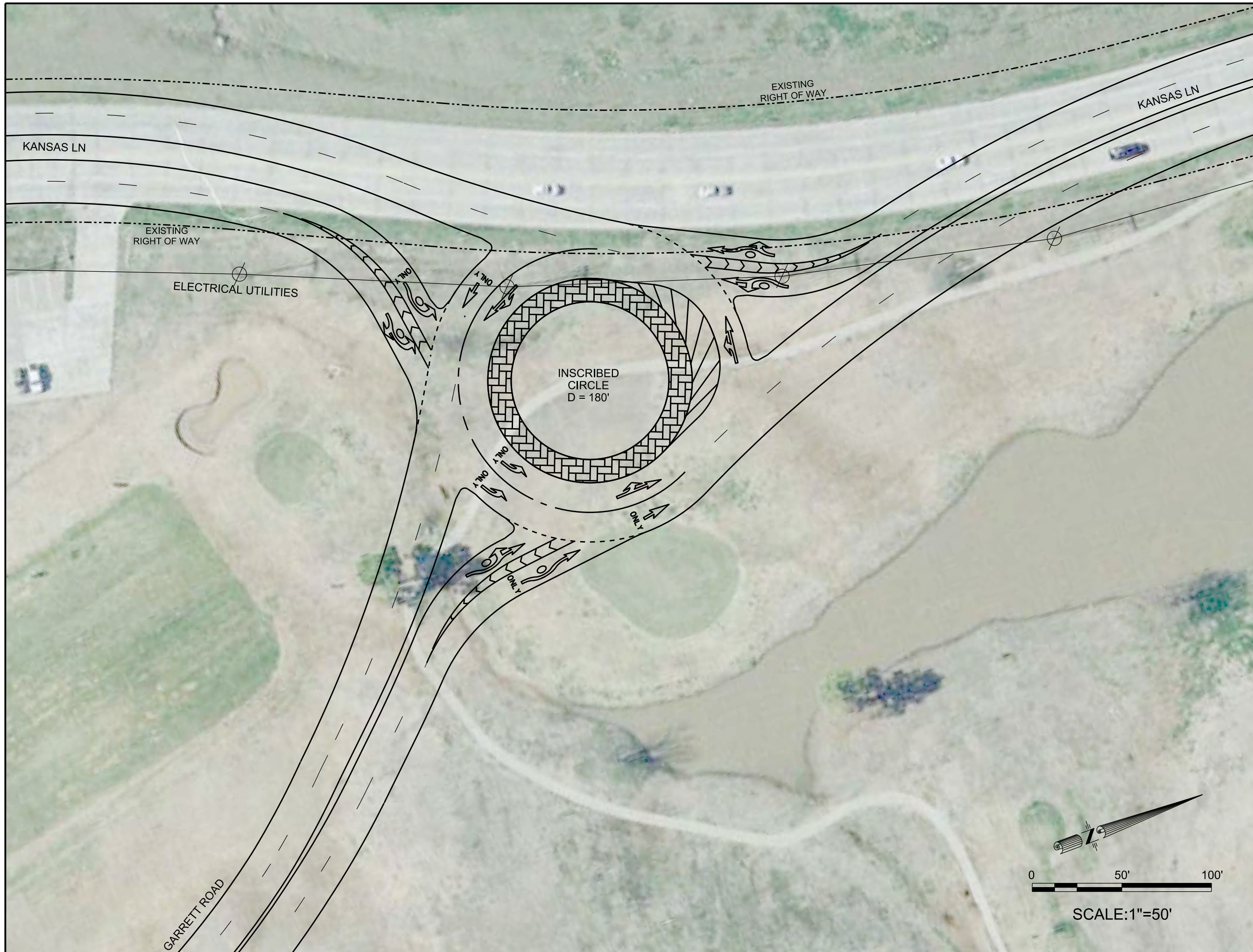
**ROUNDAABOUT GARRETT ROAD AT MILLHAVEN ROAD**

- Legend**
- - - EXISTING RIGHT-OF-WAY
  - CONTROL OF ACCESS
  - ELECTRICAL UTILITIES



Date: 6/10/2014      Project Number: LA002910.0004

Figure No.: **G-6**

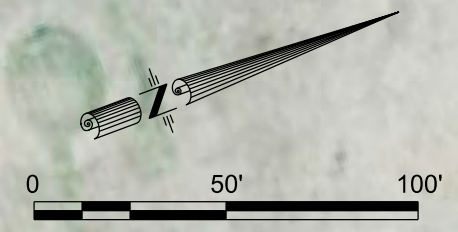


Kansas Lane - Garrett Road Connector and I 20 Interchange Improvements, Route I 20 Environmental Assessment Ouachita Parish, Louisiana

State Project No. 700-37-0119  
F.A.P. No. IM 3704(508)

**ROUNDAABOUT GARRETT ROAD AT KANSAS LANE**

- Legend**
- - - EXISTING RIGHT-OF-WAY
  - CONTROL OF ACCESS
  - ELECTRICAL UTILITIES



SCALE: 1"=50'



Date: 6/10/2014	Project Number: LA002910.0004
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Figure No.:  
**G-7**