Dekalb County Department of Transportation

Panola Road Scoping Study

Traffic Report

August 2023

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1 Introduction

Panola Road is located east of Atlanta and provides north-south connection, from city of Stone Mountain to north and Flat Rock to the south. The project limits were identified from Fairington Road to the north and State Route (SR) 212 to the south, which can be seen in Figure 1-1 below. Within the project limits, heavier commercial developments are formed on the northern end, near I-20 interchange, and residential districts are formed to the south.

Figure 1-1: Project Limits

One overlapping project by Georgia Department of Transportation (DOT) was identified at the northern limit of the project. Panola Road at I-20 (P.I. No. 0002868) would propose to construct a Diverging Diamond Interchange at Panola Road at I-20, and construct a concrete raised median along Panola Road near the interchange. The project open year is 2028. The impact of P.I. No 0002868 to this project will be discussed later in this report.

This traffic report provides the assumptions and results of the traffic study performed for the Panola Road Scoping Study. The report handles the current and future traffic volumes along the corridor in Chapter 2 and will provide the historical crash analyses in chapter 3. In chapter 4, the level of service for the existing intersections in the corridor are provided and chapter 5 the proposed improvements will be explored. Chapter 6 will provide the traffic operations for the intersections with the proposed improvements in 10 projects. Based on the results of the benefit-cost analysis provided in chapter 0, chapter 8 will provide a summary and a potential prioritising of the 10 projects.

2 Volume Development

This section describes the process of volume development, including data collection to the existing year (2022) volumes and the future open year (2026) and design year (2046) volumes.

2.1 Data Collection

The project team collected data from publicly available sources, traffic models and traffic counts:

- Traffic Counts (May 10 and 11, 2022).
- Nearby GDOT TADA Stations (years 2010 to 2021).

- DeKalb County Census Population Data (years 2010 and 2020).
- Governor's Office of Planning and Budget Population Projections (years 2020 and 2060).
- ARC Travel Demand Model (years 2020 and 2050).

2.2 Traffic Counts

Total of 27 unsignalized and signalized intersections were identified within the study limits. Turn movements counts were collected at these 27 intersections during the a.m. and p.m. peak period Tuesday May 10, 2022:

- Morning peak period: 07:00 to 10:00 a.m.
- Afternoon peak period: 03:30 to 06:30 p.m.

The location of the intersections can be found in Figure 2-1, and their names are provided in Table 2-1. Tube counts were collected at 66 road segments for 48 hours May 10 and 11, 2022. A list of tube count locations is included in **Appendix A** and the raw counts are included in **Appendix B** (electronically submitted).

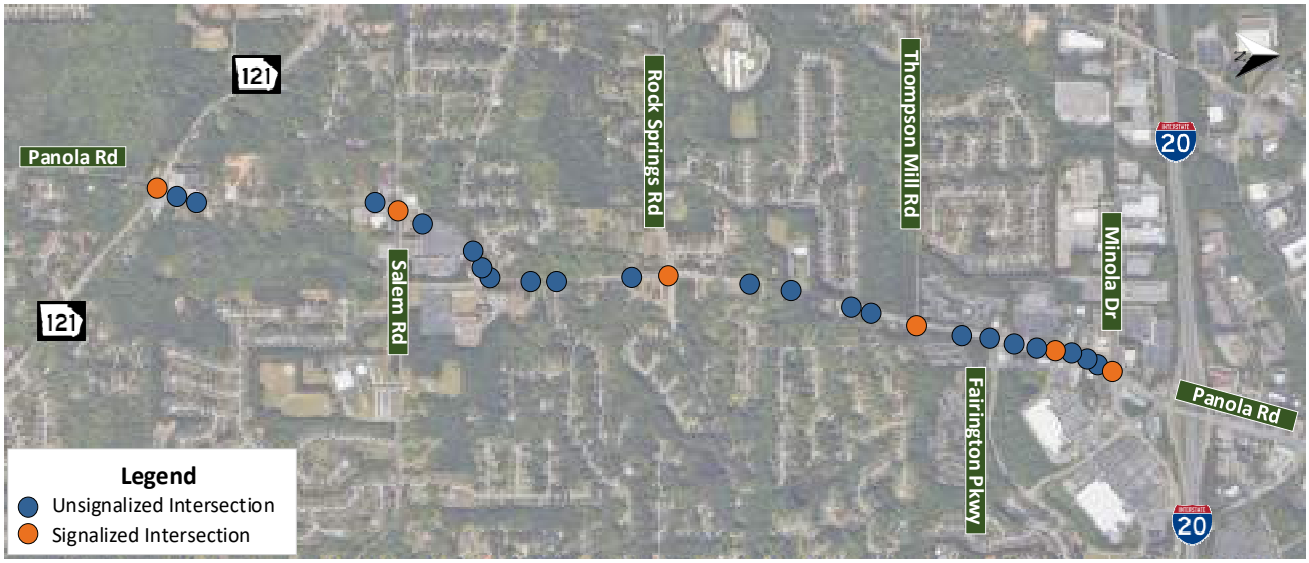

Figure 2-1. Location of the Study Intersections

Table 2-1. List of Study Intersections

No.	Intersection	No.	Intersection
1	Panola Road at Fairington Road	15	Panola Road at Rock Springs Road
2	Panola Road at Strip Mall Driveway	16	Panola Road at Macedonia Baptist
3	Panola Road at Dental Office Driveway	17	Panola Road at Cedar Rock Drive
4	Panola Road at IHOP Driveway	18	Panola Road at Big Miller Grove Baptist
5	Panola Road at Lowes/Bank of America Driveway	19	Panola Road at Big Miller Grove Way
6	Panola Road at Mall Driveway	20	Panola Road at Exxon Gas Station Driveway
7	Panola Road at the Land Building Driveway	21	Panola Road at Salem Crossing North Driveway
8	Panola Road at West Fairington Parkway	22	Panola Road at Salem Crossing South Driveway

No.	Intersection	No.	Intersection
9	Panola Road at Cavalier at 100 Apartments	23	Panola Road at Salem Road
10	Panola Road at Thompson Mill Road	24	Panola Road at Dekalb County Library Driveway
11	Panola Road at Winslow Crossing	25	Panola Road at Chevron Gas Station Driveway
12	Panola Road at Panola Mill Drive	26	Panola Road at BP Gas Station Driveway
13	Panola Road at Ousley United Methodist Church Driveway	27	Panola Road at SR 212
14	Panola Road at Black Foot Drive		

2.3 Peak Hour Calculation

Based on the traffic count, the following a.m. and p.m. peak hours were calculated.

- Morning peak hour: 07:15 to 08:15 a.m.
- Afternoon peak hour: 05:15 to 06:15 p.m.

2.4 Growth Rate Calculations

Error! Reference source not found. shows the annual growth rate used for this study, and the data sources it is based on. A detailed growth rate calculation can be found in **Appendix C**. For this study, an annual growth rate of 0.96 per year is used.

Table 2-2. Growth Rates

Data Source	Years Analyzed	Annual Growth Rate
GDOT TADA Stations	2010-2021	1.64%
ARC Travel Demand Model	2020 and 2050	0.81%
Governor's Office of Planning and Budget Population	2020 and 2050	0.40%
DeKalb County Census	2010 and 2020	1.00%
Average		**0.96%**

2.5 Volume Diagrams

Based on the traffic counts and the growth rates, existing year 2022, open year 2027 and design year 2047 volume diagrams were created. The diagrams for the Annual Average Daily Traffic (AADT) and the Design Hour Volume (DHV) are included in **Attachments D.**

These volumes are used for the capacity analyses in this study.

3 Corridor Safety Analysis

This section describes the safety analysis performed for the 2.5 miles Panola Road corridor. Historical crash data for the latest 5 years were pulled from Numetric[1] (2017-2021). Together with the AADT, crash summaries, crash rates, and crash trends were analyzed.

The crash data include fatality crashes, serious injurie crashes, and visible injury crashes. Serious injury crashes consist of the injury crashes which prevents the person from performing the daily activities which he/she was capable of before the accident. Visible injury crashes are the injury crashes which are clearly seen or evident at the accident scene. Crashes involving impaired driving was removed from the dataset.

The crash summary for the Study Area is as follows:

- A total of 1,438 crashes occurred along the Panola Corridor between 2017 and 2021.
- 78 crashes involved either a fatality or injury.
- One fatal crash was observed during analysis.
- 955 crashes out of 1,438 occurred during daylight, more than 83% accidents occurred during dry conditions.
- Overall, 102 people were injured including one death along the Panola Road Corridor.
- Crashes involving one fatality and 43 injuries occurred between intersection Panola Road/ Fairington Road/ Minola Dr. Road and intersection Panola Road/ Thompson Mill Road.

Figure 3-1 shows a heatmap of crashes in the five years between 2017 and 2021. The heatmap is drawn according to number of crashes involving fatalities and/or injuries only and not the total number of crashes at a particular location.

[1] https://www.numetric.com/

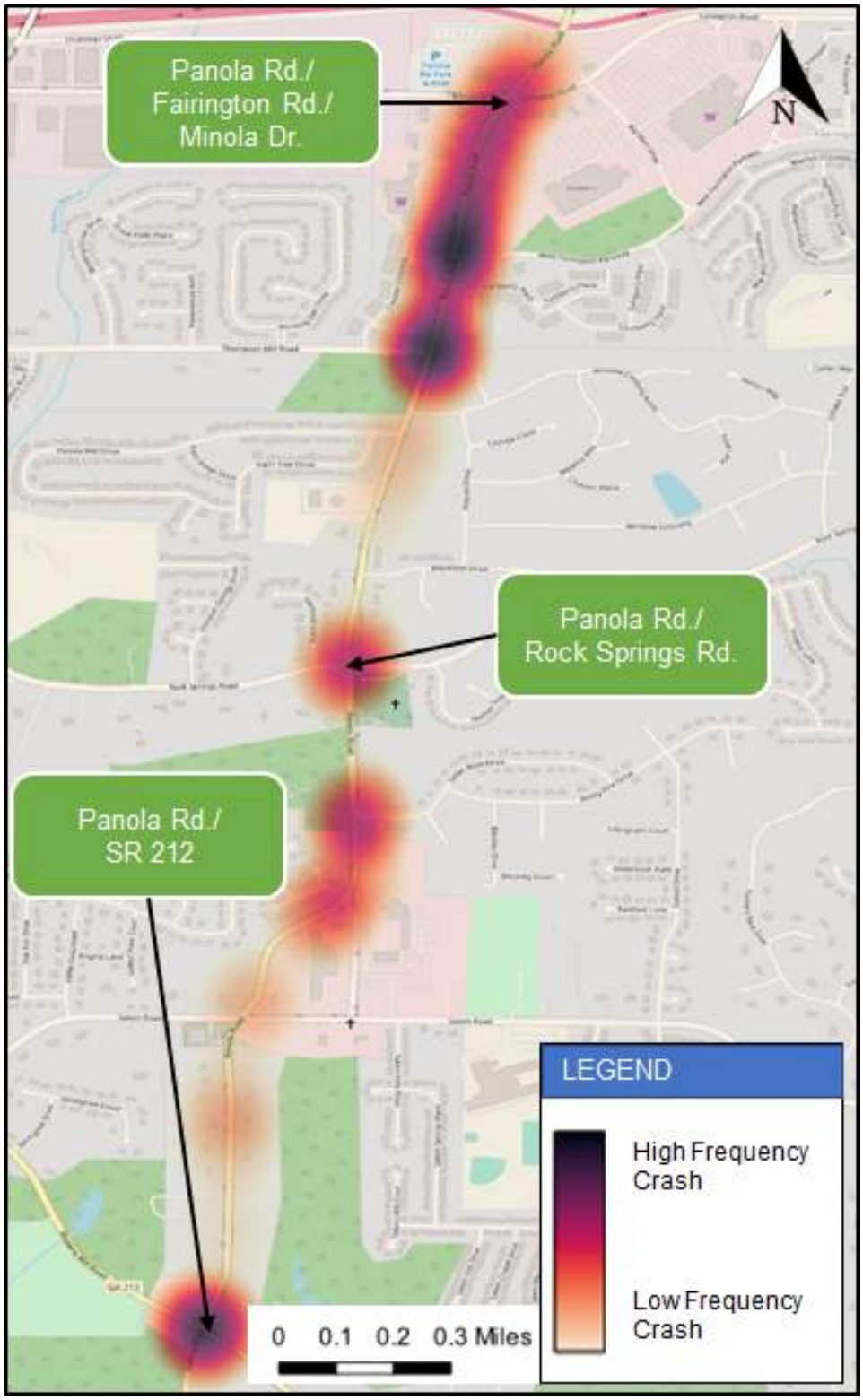

Figure 3-1 Crash Heat Map (2017-2021)

3.1 Crash Severity Analysis

Crash severity was analyzed by calculating the percentage of crashes involving fatalities and injuries to the total number of crashes at each intersection. It can be concluded that:

- A total of 1,326 intersection crashes were observed in the period of 5 years between 2017 to 2021, out of which 78 crashes involved fatalities and Injuries.
- One fatality was observed at the intersection of Panola Road at IHOP Driveway.
- There are 27 intersections in the corridor out of which 6 are signalized intersections.
- 961 of 1,326 crashes (72%) occurred at the signalized intersections.
- 8 intersections along Panola Corridor reported no injuries or fatalities.

Table 3-1 shows the percentage of fatalities and injuries at each intersection. A brief description of a fatal crash based on the police narrative is summarized below:

Collision ID 8290035: Pedestrian was trying to cross the Panola Road, not along the crossway, when a vehicle travelling Panola Road northbound hit the pedestrian. Driver stated that vehicle was unable to stop in time and that the pedestrian was not visible before the impact.

A total of 13 pedestrian crashes were observed along the corridor between 2017 and 2021; 1 deathly crash, 3 serious injury crashes and 9 visible injurie crashes were observed during analysis. Most of the pedestrian crashes occurred in the northern section between the Panola Road intersections with Fairington Road and Cavalier at 100 Apartments intersection.

Tables indicating the number of crashes involving fatalities and injuries, and a table with the number of people injured in crashes for each intersection can be seen in **Appendix E** of this report.

Table 3-1 Intersection Crash Severity (2017 – 2021)

	Intersection	Type of Intersection Control	Total	Fatalities + Injuries	Fatalities + Injuries (%)
1	Panola Road at Fairington Road	Signalized	454	12	3%
2	Panola Road at Strip Mall Driveway	Unsignalized	10	0	0%
3	Panola Road at Dental Office Driveway	Unsignalized	25	3	12%
4	Panola Road at IHOP Driveway	Unsignalized	12	1	8%
5	Panola Road at Lowes/Bank of America Driveway	Signalized	68	2	3%
6	Panola Road at Mall Driveway	Unsignalized	19	6	32%
7	Panola Road at the Land Building Driveway	Unsignalized	10	0	0%
8	Panola Road at West Fairington Parkway	Unsignalized	79	5	6%
9	Panola Road at Cavalier at 100 Apartments	Unsignalized	23	6	26%
10	Panola Road at Thompson Mill Road	Signalized	77	9	12%
11	Panola Road at Winslow Crossing	Unsignalized	13	1	8%

	Intersection	Type of Intersection Control	Total	Fatalities + Injuries	Fatalities + Injuries (%)
12	Panola Road at Panola Mill Drive	Unsignalized	17	0	0%
13	Panola Road at Ousley United Methodist Church Driveway	Unsignalized	4	1	25%
14	Panola Road at Black Foot Drive	Unsignalized	9	0	0%
15	Panola Road at Rock Springs Road	Signalized	140	9	6%
16	Panola Road at Macedonia Baptist	RIRO	4	0	0%
17	Panola Road at Cedar Rock Drive	Unsignalized	34	4	12%
18	Panola Road at Big Miller Grove Baptist	RIRO	8	2	25%
19	Panola Road at Big Miller Grove Way	RIRO	43	2	5%
20	Panola Road at Exxon Gas Station Driveway	Unsignalized	11	2	18%
21	Panola Road at Salem Crossing North Driveway	Unsignalized	4	0	0%
22	Panola Road at Salem Crossing South Driveway	Unsignalized	20	1	5%
23	Panola Road at Salem Road	Signalized	70	1	1%
24	Panola Road at Dekalb County Library Driveway	RIRO	3	0	0%
25	Panola Road at Chevron Gas Station Driveway	Unsignalized	6	1	17%
26	Panola Road at BP Gas Station Driveway	Unsignalized	11	0	0%
27	Panola Road at SR 212	Signalized	152	10	7%
	Total		**1,326**	**78**	**6%**

Note: Right-In Right-Out (RIRO)

3.2 Crash Type Analysis

The crash data was analyzed to determine the frequency of crashes by collision type along the corridor. In Georgia, crash data are categorized by type. A crash categorized as not a collision with a motor vehicle occurs when a vehicle strikes a fixed object (Traffic Post, Curb, Median Barrier, Animal, Utility Pole etc.), or a pedestrian or when a vehicle leaves the roadway. Figure 3-2 shows the crash frequencies by type for the Panola Road Corridor.

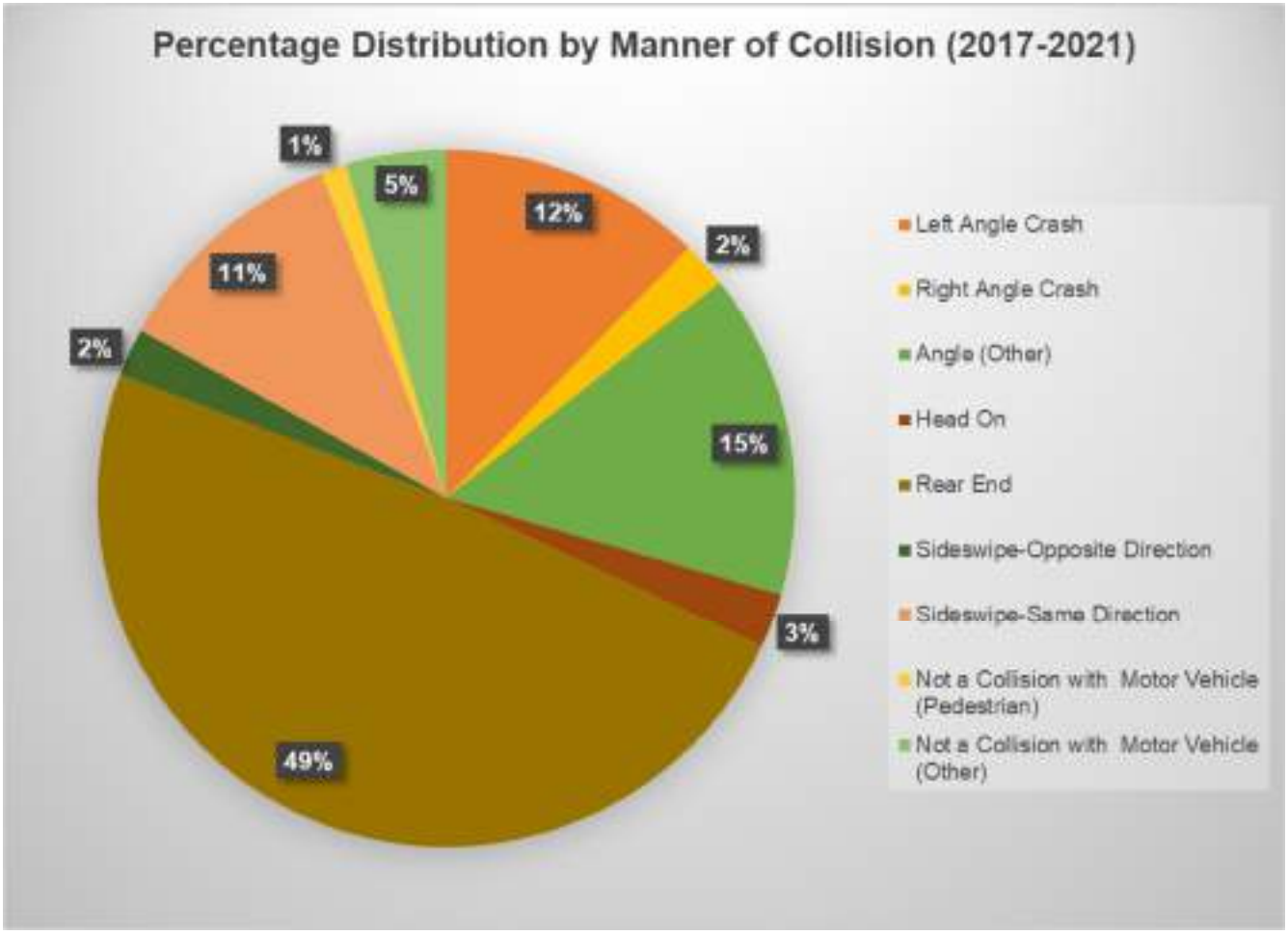

Figure 3-2: Percentage Distribution of Crashes by "Type" along Panola Road (2017 – 2021)

Almost half of all crashes observed are Rear End crashes (49%), followed by 29% Angle crashes (left angle + right angle + other angle). 13% of the crashes is a Sideswipe crash (2% from opposite direction and 11% in the same direction). 1% of the crashes occurred are observed as pedestrian crash. Figure 3-3 shows the crash type at each intersection in the Study Area and Table 3-2 shows the intersection crashes according to Manner of Collision.

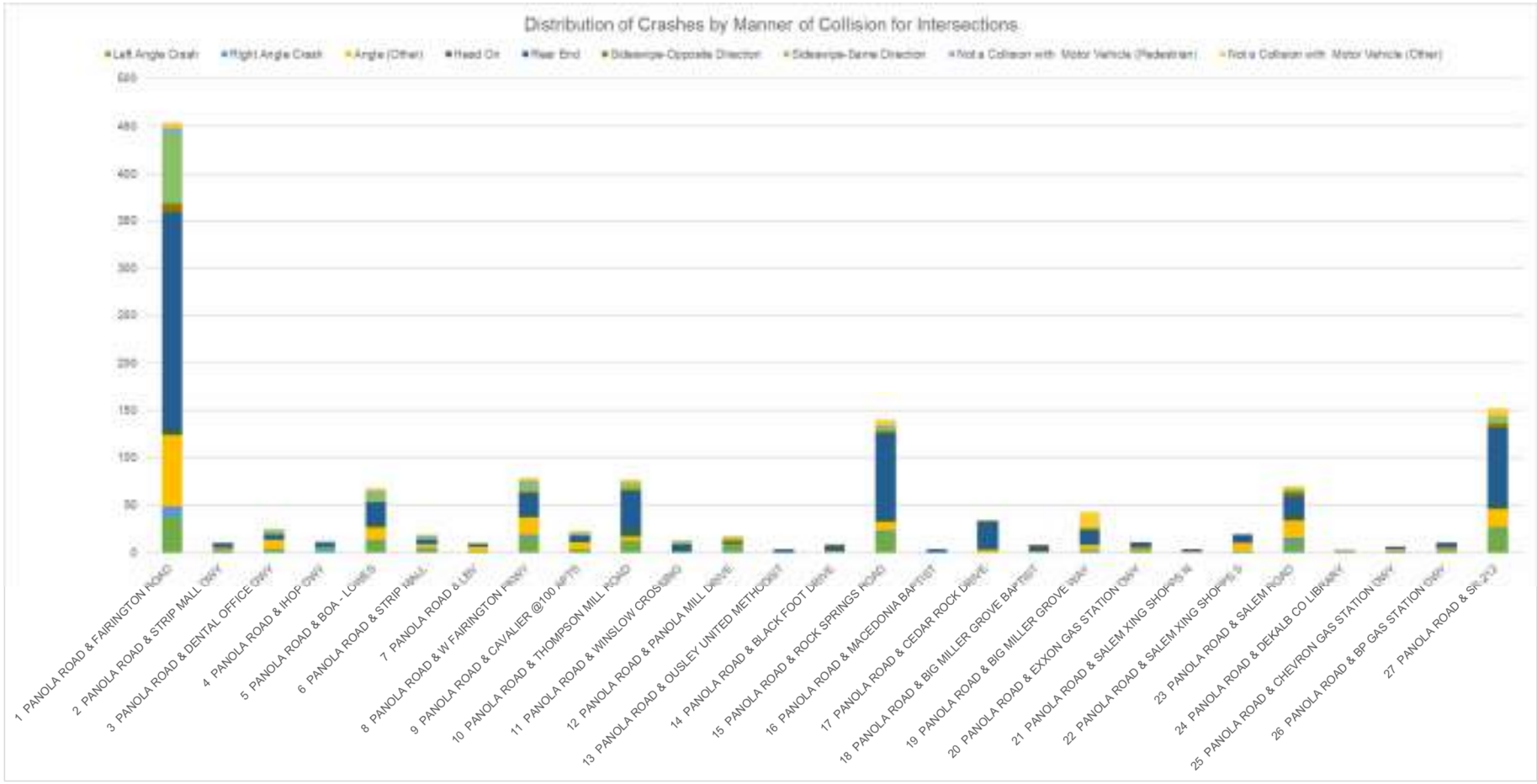

Figure 3-3 Distribution of Crashes by "Type" along Panola Road intersections in the Study Area (2017 – 2021)

Table 3-2 Intersection Crashes according to Manner of Collision (2017 – 2021)

	Intersection	Left Angle	Right Angle	Angle Other	Head On	Rear End	Sideswipe Opposite	Sideswipe Same	Not a collision with Motor Vehicle (Ped)	Not a collision with Motor Vehicle (Other)
1	Panola Road at Fairington Road	37	12	75	6	229	9	75	5	6
2	Panola Road at Strip Mall Driveway	3	0	2	0	5	0	0	0	0
3	Panola Road at Dental Office Driveway	3	1	10	0	5	0	4	1	1
4	Panola Road at IHOP Driveway	3	3	0	0	4	0	1	1	0
s	Panola Road at Lowes/Bank of America Driveway	12	2	13	3	23	0	10	2	3
6	Panola Road at Mall Driveway	4	1	4	0	5	0	2	2	1
7	Panola Road at the Land Building Driveway	1	0	5	0	3	0	1	0	0
8	Panola Road at West Fairington Parkway	16	3	18	2	24	1	9	3	3
9	Panola Road at Cavalier at 100 Apartments	4	0	7	1	6	0	2	1	2
10	Panola Road at Thompson Mill Road	12	1	4	6	42	2	7	0	3
11	Panola Road at Winslow Crossing	1	0	0	0	7	1	4	0	0
12	Panola Road at Panola Mill Drive	7	1	1	1	1	2	2	0	2
13	Panola Road at Ousley United Methodist Church Driveway	0	0	0	0	4	0	0	0	0
14	Panola Road at Black Foot Drive	1	0	1	0	5	1	1	0	0
15	Panola Road at Rock Springs Road	22	2	9	3	90	2	4	2	6
16	Panola Road at Macedonia Baptist	0	0	0	0	4	0	0	0	0
17	Panola Road at Cedar Rock Drive	0	0	3	2	28	1	0	0	0
18	Panola Road at Big Miller Grove Baptist	0	0	1	0	6	1	0	0	0
19	Panola Road at Big Miller Grove Way	2	1	5	0	15	2	2	0	16
20	Panola Road at Exxon Gas Station Driveway	3	0	2	1	5	0	0	0	0
21	Panola Road at Salem Crossing North Driveway	0	0	1	0	3	0	0	0	0
22	Panola Road at Salem Crossing South Driveway	2	0	8	1	8	0	0	0	1
23	Panola Road at Salem Road	11	5	18	4	22	4	3	0	3
24	Panola Road at Dekalb County Library Driveway	0	0	1	0	1	0	1	0	0
25	Panola Road at Chevron Gas Station Driveway	2	0	2	0	2	0	0	0	0
26	Panola Road at BP Gas Station Driveway	3	0	2	0	5	0	1	0	0
27	Panola Road at SR 212	25	2	19	4	81	5	8	0	8
	Total Crashes	**174**	**34**	**211**	**34**	**633**	**31**	**137**	**17**	**55**

4 No-Build Traffic Operations

A.M. and p.m. peak hour intersection operations for the 27 intersections within the study limit were analyzed for the existing year (2022), open year (2026) and design year (2046) for the no-build conditions using Synchro software.

4.1 Existing Year (2022) Operational Analysis

In the existing year (2022), the study intersections operate at LOS E or better during the a.m. and p.m. peak hours.

During the a.m. peak hour, all signalized intersections operate at LOS D or better. The intersection of Panola Road at SR 212 has the highest average intersection delay of 44.0 sec/veh (LOS D). The signalized intersection with the lowest average intersection delay of 6.8 sec/veh (LOS A) is at Panola Road at Bank of America/Lowes Driveway. While one unsignalized intersection of Panola Road at West Fairington Parkway operate at LOS E, the rest of the unsignalized intersections operate at LOS A during the a.m. peak hour.

The p.m. peak hour intersection delays and LOS show a similar trend as the a.m. peak hour results. The intersection of Panola Road at SR 212 has the highest average intersection delay of 39.9 sec/veh (LOS D). The signalized intersection with the lowest average intersection delay of 9.8 sec/veh (LOS A) is at Panola Road at Bank of America/Lowes Driveway. While one unsignalized intersection of Panola Road at West Fairington Parkway operate at LOS E, the rest of the unsignalized intersections operate at LOS A during the p.m. peak hour.

Table 4-1 lists the intersections analyzed and their a.m. and p.m. peak hour intersection LOS and average delays. Figure 4-2 shows the a.m. and p.m. peak hour intersection LOS results and the maximum approach delay results for unsignalized intersections. For unsignalized intersections, the maximum approach delays are much higher than the average intersection delays. Majority of the unsignalized intersections operate as minor approach stop-controlled and the minor roads generally serve lower volumes compared to the major roads, meaning the minor street approaches would experience higher delays, but the intersection delays would become lower once they are averaged. For an example, Panola Road at Black Foot Drive intersection delay in the a.m. peak hour is 0.2 sec/veh, while the maximum approach delay is 26.7 sec/veh. In the p.m. peak hour, the average intersection delays for the same intersection is 0.1 sec/veh, while the maximum approach delay is 20.6 sec/veh.

The detailed analysis results are provided in **Appendix F**.

Table 4-1. Existing Year (2022) Intersection LOS and Delays

No.	Intersection	A.M. Peak Hour	P.M. Peak Hour
1	Panola Road at Fairington Road	C (21.6)	C (26.4)
2	Panola Road at Strip Mall Driveway	A (0.0)	A (0.0)
3	Panola Road at Dental Office Driveway	A (0.3)	A (0.9)
4	Panola Road at IHOP Driveway	A (0.1)	A (0.1)
5	Panola Road at Lowes/Bank of America Driveway	A (6.8)	A (9.8)
6	Panola Road at Mall Driveway	A (1.8)	A (5.1)

No.	Intersection	A.M. Peak Hour	P.M. Peak Hour
7	Panola Road at the Land Building Driveway	A (0.5)	A (0.2)
8	Panola Road at West Fairington Parkway	E (38.0)	E (39.9)
9	Panola Road at Cavalier at 100 Apartments	A (0.6)	A (0.5)
10	Panola Road at Thompson Mill Road	B (14.3)	B (18.4)
11	Panola Road at Winslow Crossing	A (0.6)	A (0.8)
12	Panola Road at Panola Mill Drive	A (1.0)	A (0.9)
13	Panola Road at Ousley United Methodist Church Driveway	A (0.2)	A (0.2)
14	Panola Road at Black Foot Drive	A (0.2)	A (0.1)
15	Panola Road at Rock Springs Road	C (26.0)	C (23.9)
16	Panola Road at Macedonia Baptist	A (0.0)	A (0.0)
17	Panola Road at Cedar Rock Drive	A (0.4)	A (0.8)
18	Panola Road at Big Miller Grove Baptist	A (0.0)	A (0.0)
19	Panola Road at Big Miller Grove Way	A (2.2)	A (0.8)
20	Panola Road at Exxon Gas Station Driveway	A (0.7)	A (0.7)
21	Panola Road at Salem Crossing North Driveway	A (0.4)	A (1.0)
22	Panola Road at Salem Crossing South Driveway	A (0.6)	A (1.0)
23	Panola Road at Salem Road	D (38.8)	D (37.9)
24	Panola Road at Dekalb County Library Driveway	A (0.1)	A (0.1)
25	Panola Road at Chevron Gas Station Driveway	A (0.4)	A (0.5)
26	Panola Road at BP Gas Station Driveway	A (0.7)	A (0.7)
27	Panola Road at SR 212	D (44.0)	D (39.9)

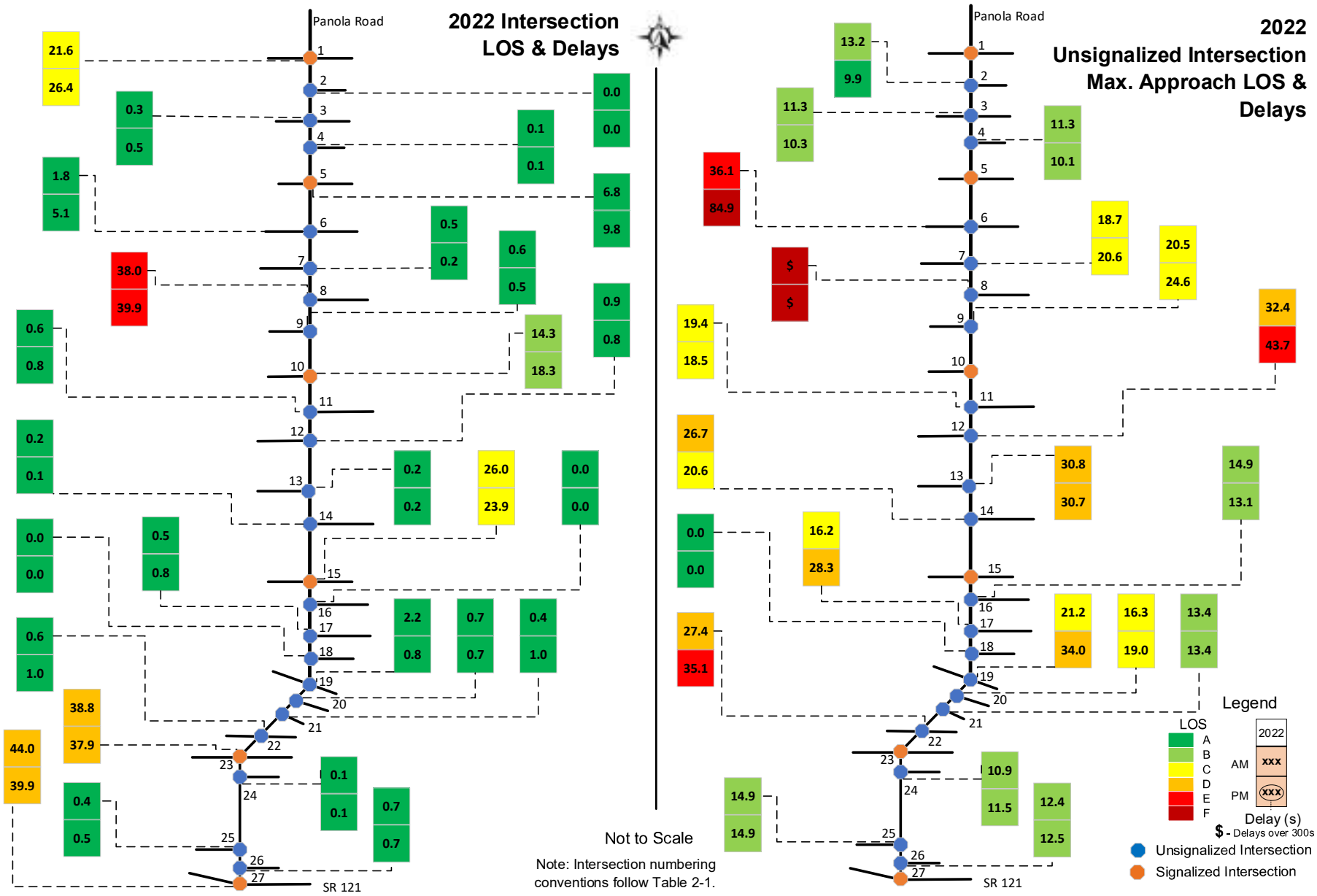

Figure 4-1. Existing Year (2022) Intersection and Maximum Approach LOS and Delays (sec/veh)

4.2 Future Year (2027 & 2047) Operational Analysis

The 27 intersections were analyzed for the future year condition to assess the Panola Road corridor operations. Table 4-2 suggests a trend that the intersection delays would increase in the future years, as the volumes would increase. In the open year (2027), the intersections would operate at LOS E or better during the a.m. peak hour. One intersection of Panola Road at West Fairington Parkway would be at LOS E, and two intersections of Panola Road at Salem Road and Panola Road at SR 212 would operate at LOS D during the a.m. peak hour. During the p.m. peak hour, Panola Road at West Fairington Parkway would be operating at a failing condition. All other intersections would be at LOS D or better.

In the design year (2047), the intersections delays would continue to increase. During the a.m. peak hour, two intersections of Panola Road at West Fairington Parkway and Panola Road at SR 212 would degrade down to LOS F. Panola Road at West Fairington Parkway intersection would operate at LOS F during the p.m. peak hour as well. Three intersections of Panola Road at Mall Driveway, Salem Road, and SR 212 would operate at LOS E during the p.m. peak hour. All other intersections would be at LOS C or better.

Figure 4-2 shows the a.m. and p.m. peak hour intersection LOS and the maximum approach delays for unsignalized intersections. As it was discussed in Section 4.1, the maximum approach delays for unsignalized intersections are much higher than the average intersection delays. Panola Road at West Fairington Parkway maximum approach delays in the open year is 459.1 sec/veh in the a.m. peak hour, while the intersection delay is 49.7 sec/veh. In the p.m. peak hour, the maximum approach delay is 1,426.5 sec/veh, while the intersection delay is 152.8 sec/veh during the same time period.

The detailed Synchro analysis results for the study intersections are provided in **Appendix G**.

Table 4-2. Open (2027) and Design (2047) Year Intersection LOS and Delays (sec/veh) – No-Build Condition

No.	Intersection	Open Year (2027)		Design Year (2047)	
		A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
1	Panola Road at Fairington Road	C (21.5)	C (26.9)	C (23.1)	C (30.9)
2	Panola Road at Strip Mall Driveway	A (0.0)	A (0.0)	A (0.0)	A (0.0)
3	Panola Road at Dental Office Driveway	A (0.1)	A (0.3)	A (0.1)	A (0.3)
4	Panola Road at IHOP Driveway	A (0.0)	A (0.0)	A (0.0)	A (0.1)
5	Panola Road at Lowes/Bank of America Driveway	A (5.6)	A (10.0)	A (6.8)	B (11.2)
6	Panola Road at Mall Driveway	A (1.9)	A (6.8)	A (6.1)	E (46.3)
7	Panola Road at the Land Building Driveway	A (0.5)	A (0.2)	A (0.7)	A (0.4)
8	Panola Road at West Fairington Parkway	E (49.7)	F (54.2)	F (152.8)	F (201.1)
9	Panola Road at Cavalier at 100 Apartments	A (0.6)	A (0.5)	A (0.8)	A (0.7)
10	Panola Road at Thompson Mill Road	B (14.4)	B (19.5)	B (17.1)	C (23.7)
11	Panola Road at Winslow Crossing	A (0.6)	A (0.8)	A (0.9)	A (1.0)
12	Panola Road at Panola Mill Drive	A (1.0)	A (0.9)	A (1.8)	A (2.4)
13	Panola Road at Ousley United Methodist Church Driveway	A (0.2)	A (0.2)	A (0.2)	A (0.3)
14	Panola Road at Black Foot Drive	A (0.2)	A (0.1)	A (0.2)	A (0.3)
15	Panola Road at Rock Springs Road	C (27.4)	C (24.7)	C (34.2)	C (30.8)
16	Panola Road at Macedonia Baptist	A (0.0)	A (0.0)	A (0.0)	A (0.0)
17	Panola Road at Cedar Rock Drive	A (0.5)	A (0.8)	A (0.9)	A (1.2)
18	Panola Road at Big Miller Grove Baptist	A (0.0)	A (0.0)	A (0.0)	A (0.0)
19	Panola Road at Big Miller Grove Way	A (2.5)	A (0.9)	A (4.1)	A (1.1)
20	Panola Road at Exxon Gas Station Driveway	A (0.6)	A (0.7)	A (0.8)	A (0.9)
21	Panola Road at Salem Crossing North Driveway	A (0.3)	A (1.3)	A (0.4)	A (1.5)
22	Panola Road at Salem Crossing South Driveway	A (0.6)	A (1.3)	A (1.1)	A (2.8)
23	Panola Road at Salem Road	D (40.9)	D (40.2)	D (53.9)	E (56.4)
24	Panola Road at Dekalb County Library Driveway	A (0.1)	A (0.1)	A (0.1)	A (0.1)
25	Panola Road at Chevron Gas Station Driveway	A (0.4)	A (0.5)	A (0.6)	A (0.7)
26	Panola Road at BP Gas Station Driveway	A (0.6)	A (0.7)	A (0.8)	A (0.8)
27	Panola Road at SR 212	D (49.5)	D (43.0)	F (89.6)	E (77.0)

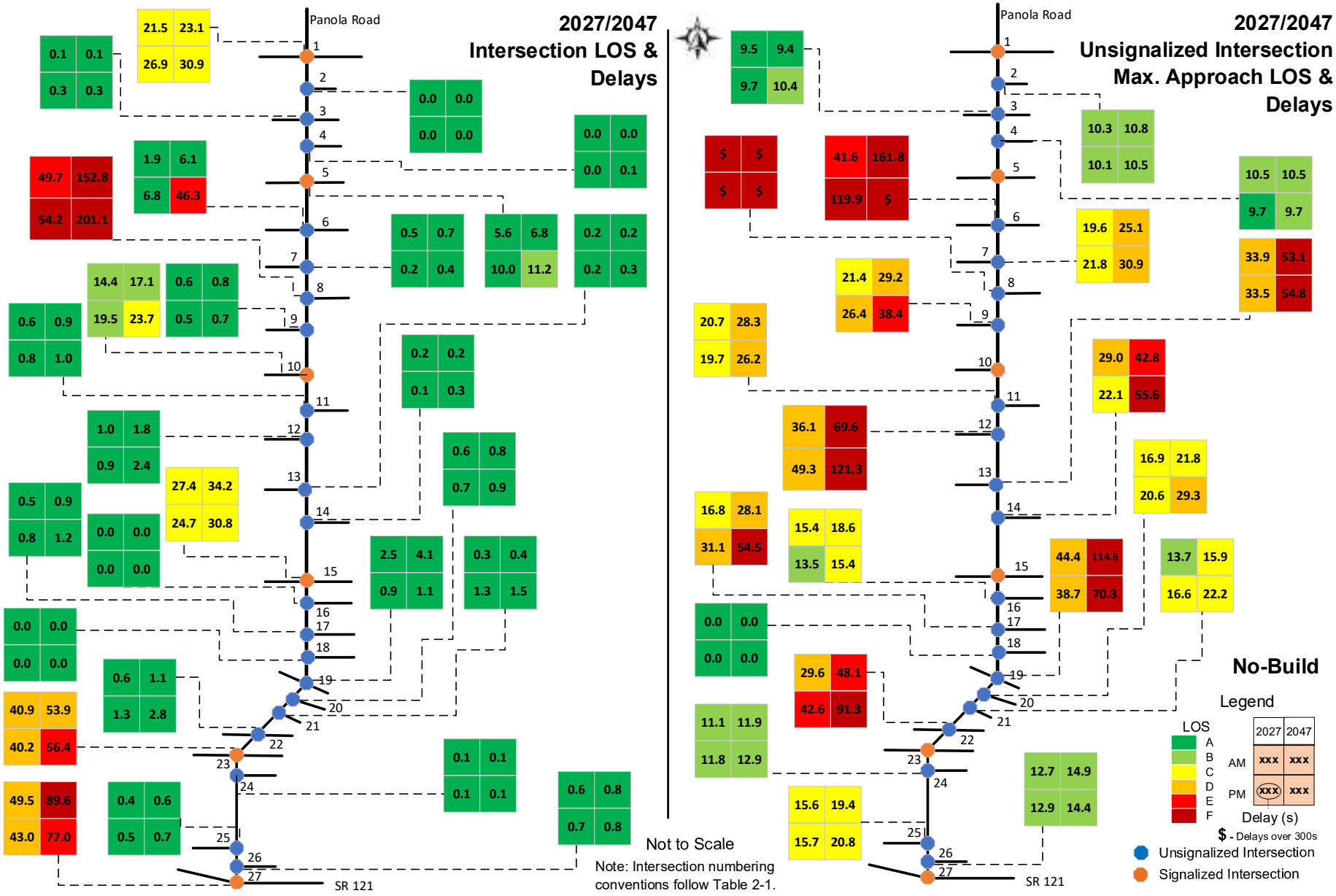

Figure 4-2. Open (2027) and Design (2047) Year Intersection and Maximum Approach LOS and Delays (sec/veh) – No-Build Condition

5 Proposed Improvements

Intersection Control Evaluation (ICE) tool Stage 1 analysis was performed for the intersections along Panola Road. ICE Stage 1 reviews if each alternative would 1) address the project need in a balanced manner, 2) improve safety performance by reducing severe crashes, 3) incorporate pedestrian and bicycle safety, 4) improve traffic operations, 5) address feasibility based on the projects characteristics, constrains, and location context, and 6) address overall feasibility based on other project factors. Based on the ICE Stage 1 results, the proposed improvements were selected for each intersection. The detailed ICE Stage 1 analysis for each intersection can be found in **Appendix H**. Then, the proposed improvements were grouped into ten different projects based on the types of improvements and the intersection location to further assess the safety and operational benefit-cost ratios and to determine the project construction priority.

The concept layout for the proposed improvements is included in **Appendix I**. Note this is an initial planning-level concept layout and this needs to be further refined as the project advances to the design phase. The latest concept design was provided on August 17, 2023.

5.1 Project 1

Project 1 includes Bank of America / Lowes Driveway intersection to the northern end of the corridor to Thompson Mill Road intersection. Project 1 would construct a concrete raised median along Panola Road from the Bank of America / Lowes Driveway to Thompson Mill Road intersection. West Fairington Parkway intersection would be converted from unsignalized intersection to signalized intersection. Additionally, Project 1 would include multi-use path on the eastern side of Panola Road. Figure 5-1 illustrates the improvements that would be incorporated under Project 1. The figure also illustrated the changes made to Panola Road at Minola Drive/Fairington Parkway and the median up to the Bank of America / Lowes Driveway intersection that would be modified under Panola Road at I-20 project (P.I. No. 0002868). Project 1 will continue the median constructed in P.I. No. 0002868, to the Thomson Mill Road intersection.

Figure 5-1. Proposed Layout for Project 1 and Project 2

5.2 Project 2

Project 2 covers the intersection of Panola Road at Thompson Mill Road. An eastbound right turn lane on Thompson Mill Road and a southbound right turn lane on Panola Road would be proposed. The intersection control would remain as a signal control. At the signal, the multi-use path will cross Panola Road from the east to the west side. Figure 5-1 covers the proposed improvement for Project 2.

5.3 Project 3

Project 3 proposes for an elliptical single lane roundabout to be constructed at the intersection of Panola Road at Panola Mill Drive. The intersection operates as an unsignalized minor-street stop-controlled intersection under the existing condition. Winslow Crossing intersection would remain as an unsignalized minor-street stop-controlled intersection. There are two northbound and southbound lanes to north of the intersection of Panola Road at Panola Mill Drive. One southbound approach lane would drop as a southbound bypass lane, and the other southbound approach lane would continue to the roundabout as a through lane. In the northbound direction, one through lane would open after the traffic passes the roundabout. The multi-use path is added on the west side of Panola Road. Figure 5-2 depicts the proposed improvements for Project 3.

Figure 5-2. Proposed Layout for Project 3

5.4 Project 4

A single lane roundabout would be constructed at the intersection of Panola Road at Black Foot Drive. The intersection operates as an unsignalized minor-street stop-controlled intersection under the existing condition. Ousley United Methodist Church Driveway intersection at Panola Road would remain the same as existing

condition. The multi-use path is added on the west side of Panola Road. Figure 5-3 shows the proposed layout for Project 4.

Figure 5-3. Proposed Layout for Project 4

5.5 Project 5

A multilane roundabout at the intersection of Panola Road at Rock Spring Road would be constructed. Panola Road at Rock Spring Road intersection operates under signal control in the existing condition. The multilane roundabout would have a spiral layout to accommodate for two entering lanes from all approaches, two exiting lanes onto Panola Road, and one exiting lane onto Rock Springs Road. On Panola Road exit, two lanes would merge into one to tie into the proposed project on both ends of Panola Road. Project 5 would also propose to construct a multi-use path on the western side of Panola Road. Panola Road at Macedonia Church intersection would remain as unsignalized minor-street stop-controlled. The proposed layout is depicted in Figure 5-4.

5.6 Project 6

Project 6 would construct a single lane roundabout at the intersection of Panola Road at Cedar Rock Drive. The intersection of Panola Road at Big Miller Grove Baptist Church Driveway would remain as a right-in right-out (RIRO). A multi-use path on western side of Panola Road would also be included. The proposed layout is illustrated in Figure 5-5.

Figure 5-4. Proposed Layout for Project 5

Figure 5-5. Proposed Layout for Project 6

5.7 Project 7

The intersection of Panola Road at Oaktree Trail/Big Miller Grove Way is currently unsignalized. Oaktree Trail approach is stop-controlled, and Big Miller Grove Way approach is currently RIRO. Project 7 would retain the minor street approach controls as-is, but a southbound right turn lane and a northbound left turn lane would be constructed on Panola Road. Project 7 would also include a multi-use path on the western side Paola Road. The proposed layout is provided in Figure 5-6.

Figure 5-6. Proposed Layout for Project 7

5.8 Project 8

Project 8 would retain the signalized intersection control at Salem Road, and construct turn lanes to accommodate higher intersection volumes. In the existing condition, Panola Road at Salem Road intersection has one left, one through, and one right turn lane for northbound and southbound approaches. On the eastbound approach, a shared left-through-right lane exists. On the westbound approach a shared left-through-right turn lane is provided. Project 8 would configure this intersection to have one left turn, one through, and one right turn lanes for eastbound approach. The proposed layout is provided in Figure 5-7.

5.9 Project 9

A multilane roundabout would be constructed at the intersection of Panola Road at SR 212/Browns Mill Road. The multilane roundabout would have two circulating lanes throughout, with two approaching lanes from all directions. As all approaching and exiting roads become two-lane road, the approaching legs would be expanded to provide an additional lane, and the lanes would merge into one lane on the exiting legs.

Circle K Gas Station Driveway at Panola Road would become RIRO due to the close proximity to the propose roundabout, while Chevron Gas station Driveway at Panola Road would remain as full access. The proposed layout for Project 9 is provided in Figure 5-8.

Figure 5-7. Proposed Layout for Project 8

Figure 5-8. Proposed Layout for Project 9

5.10 Project 10

Project 10 would construct a raised concrete median from Thompson Mill Road to Rock Springs Road, converting the driveways in between into RIRO. A single lane roundabout would be constructed at the intersection of Panola Road at Ousley United Methodist Church Driveway. The restricted movements at the intersections of Winslow Crossing, Panola Mill Drive, and Black Foot Drive would be re-directed to the Thompson Mill Road, United Methodist Church Driveway, and Rock Springs Road intersections. The proposed layout for Project 10 is provided in Figure 5-9.

Figure 5-9. Proposed Layout for Project 10

5.11 Project Cost Estimates

Estimated costs for Project 1 through 9 are provided in Table 5-1below. As layouts for each project are in concept stage and still in development, the project cost estimate is subject to change. Therefore, preliminary engineering, engineering and inspection, and construction contingency costs were each developed by applying 15%, 5%, and 15% of the total construction cost, respectively.

Table 5-1. Estimated Project Cost Breakdown

Projects	Construction Cost	Preliminary Engineering	Engineering and Inspection	Construction Contingency	Right-of-Way Cost	Total Cost
Project 1	$3,071,387	$460,708	$153,569	$460,708	$846,560	$4,992,933
Project 2	$359,481	$53,922	$17,974	$53,922	$101,910	$587,209
Project 3	$2,144,423	$321,663	$107,221	$321,663	$316,740	$3,211,711
Project 4	$1,780,951	$267,143	$89,048	$267,143	$145,840	$2,550,124

Projects	Construction Cost	Preliminary Engineering	Engineering and Inspection	Construction Contingency	Right-of-Way Cost	Total Cost
Project 5	$3,122,482	$468,372	$156,124	$468,372	$152,140	$4,367,491
Project 6	$1,080,521	$162,078	$54,026	$162,078	$113,050	$1,571,753
Project 7	$660,271	$99,041	$33,014	$99,041	$23,430	$914,796
Project 8	$1,461,844	$219,277	$73,092	$219,277	$227,830	$2,201,320
Project 9	$1,754,863	$263,229	$87,743	$263,229	$332,570	$2,701,635
Project 10	$4,430,885	$664,633	$221,544	$664,633	$604,690	$6,586,385

6 Build Traffic Operations

Build condition traffic operation was reviewed for a.m. and p.m. peak hours in the open (2027) and design (2047) years. SIDRA software was used for he proposed roundabouts, and Synchro software was used for all other unsignalized and signalized intersection analysis.

Build condition operational results for each intersection are presented in Table 6-1 and the maximum approach delays for unsignalized intersections are presented in Figure 6-2. Intersection and approach delay results for Project 10 are provided in Figure 6-1. Intersections from Panola Road at Fairington Road to Panola Road at IHOP Driveway are not included in the table, as they would be modified under P.I. No. 0002868.

Most of the intersection operations would remain similar for Project 1, except for the intersections at Panola Road at West Fairington Parkway and Panola Road at Mall Driveway. As Panola Road at West Fairington Parkway intersection control would change from unsignalized in the no-build condition to signalized in the build condition, the intersection operations would improve from LOS E to LOS A in the open year, and from LOS F to LOS B in the design year. Panola Road at Mall Driveway intersection operations would improve from LOS E to LOS A in the design year p.m. peak hour, as the raised concrete median would close the intersection openings and convert the intersection into a RIRO. Maximum approach delays for Mall Driveway would significantly decrease in all future year scenarios, comparing Figure 6-2 to Figure 4-2. For an example, approach delays for Mall Driveway intersection in the design year would decrease from 161.8 sec/veh to 17.7 sec/veh during the a.m. peak hour.

Project 2 intersection operations at Panola Road at Thompson Mill Road would improve from the no-build condition. The a.m. peak hour intersection delays would be lowered from 14.4 sec/veh to 11.6 sec/veh and 17.4 sec/veh to 13.9 sec/veh in the open and design years, respectively. The p.m. peak hour intersection delays would be improved from 19.7 sec/veh to 14.0 sec/veh and 23.8 sec/veh to 16.6 sec/veh in the open and design years, respectively.

Projects 3, 4 and 6 would convert the existing unsignalized minor road stop-controlled intersections of Panola Road at Panola Mill Drive, Black Foot Drive, and Cedar Rock Drive to single lane roundabout intersections. Converting the free-flow mainline control to yield control for the roundabout would increase the average intersection delays. The three intersections of Panola Road at Panola Mill Drive, Black Foot Drive, and Cedar Rock Drive operations would become LOS B or C in the build condition, from LOS A in the no-build condition. However, the changes in intersection control would improve the maximum approach delay results. For the Cedar

Rock Drive intersection, the approach delays would be reduced from 31.1 sec/veh to 19.7 sec/veh in the open year, and from 54.5 sec/veh to 22.9 sec/veh in the design year during the p.m. peak hour condition.

Project 5 would convert the conventional signalized intersection into a multilane roundabout, and would improve the intersection delays at Panola Road at Rock Springs Rd. The LOS would change from LOS C in the no-build condition to LOS B and A in the build condition.

Project 7 proposes to construct turn lanes into a minor street at unsignalized intersections. However, the average intersection delays in all future year scenarios would remain the same from the no-build to build conditions. Project 7 would not make a meaningful impact to the intersection delays, because the turning volumes from Panola Road to minor roads are low. In the a.m. peak hour, there are zero left turning and five right turning volumes onto Oak Tree Trail. In the p.m. peak hour, there are five left turning and ten right turning volumes onto Oak Tree Trail (**Appendix D**).

Project 8 would significantly improve the intersection delay results for Panola Road at Salem Road intersection. In the open year, the intersection delays would improve from 40.9 sec/veh to 26.8 sec/veh and from 40.2 sec/veh to 23.0 sec/veh in the a.m., and p.m. peak hours, respectively. In the design year, the intersection delays would be reduced from 53.9 sec/veh to 33.3 sec/veh and from 56.4 sec/veh to 27.6 sec/veh in the a.m. and p.m. peak hours, respectively.

The multilane roundabout proposed for Project 9 would significantly improve the intersection delay results for Panola Road at SR 212 intersection. In the open year, the intersection delays would improve from 49.5 sec/veh to 12.9 sec/veh and from 43.0 sec/veh to 15.7 sec/veh in the a.m., and p.m. peak hours, respectively. In the design year, the intersection delays would be reduced from 89.6 sec/veh to 16.9 sec/veh and from 77.0 sec/veh to 19.5 sec/veh in the a.m. and p.m. peak hours, respectively.

Project 10 would improve the intersection delays for Winslow Crossing, Panola Mill Drive and Black Foot Drive, as the minor street left and through, and the major street left turn movements are removed. For Ousley United Methodist Church intersection, converting the free-flow mainline control to yield control for the roundabout would increase the average intersection delays. Additionally, re-routed traffic from three RIRO intersections would travel to Panola Mill Road, Ousley United Methodist Church, and Rock Springs Road intersections. It should be noted that implementation of Project 10 would potentially impact the intersection operations at Panola Mill Road and Rock Springs Road intersections.

The detailed Synchro and SIDRA analysis results for the study intersections are provided in **Appendix J**. Operational analysis results of all projects are based on the stand-alone projects. As different combinations of the projects are selected, the operational results should be further investigated.

Table 6-1. Open (2027) and Design (2047) Year Intersection LOS and Delays (sec/veh) – Build Condition

No.	Intersection	Open Year (2027)		Design Year (2047)	
		A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
Project 1					
5	Panola Road at Lowes/Bank of America Driveway	A (5.7)	A (10.0)	A (6.2)	B (13.7)
6	Panola Road at Mall Driveway	A (0.6)	A (1.0)	A (0.7)	A (1.4)
7	Panola Road at the Land Building Driveway	A (0.3)	A (0.1)	A (0.5)	A (0.2)
8	Panola Road at West Fairington Parkway	A (9.5)	A (8.5)	B (12.1)	B (11.3)
9	Panola Road at Cavalier at 100 Apartments	A (0.3)	A (0.2)	A (0.3)	A (0.3)
Project 2					
10	Panola Road at Thompson Mill Road	B (11.6)	B (14.0)	B (13.9)	B (16.6)
Project 3					
11	Panola Road at Winslow Crossing	A (0.6)	A (0.8)	A (0.9)	A (1.0)
12	Panola Road at Panola Mill Drive	C (15.1)	B (15.0)	C (16.2)	C (15.8)
Project 4					
13	Panola Road at Ousley United Methodist Church Driveway	A (0.2)	A (0.2)	A (0.2)	A (0.3)
14	Panola Road at Black Foot Drive	B (13.7)	B (14.3)	B (14.4)	C (15.2)
Project 5					
15	Panola Road at Rock Springs Road	B (13.5)	A (7.9)	B (10.7)	B (10.7)
16	Panola Road at Macedonia Baptist	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Project 6					
17	Panola Road at Cedar Rock Drive	B (13.4)	C (16.0)	B (13.8)	C (17.8)
18	Panola Road at Big Miller Grove Baptist	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Project 7					
19	Panola Road at Big Miller Grove Way	A (2.5)	A (0.9)	A (4.1)	A (1.1)
20	Panola Road at Exxon Gas Station Driveway	A (0.6)	A (0.7)	A (0.7)	A (0.9)
21	Panola Road at Salem Crossing North Driveway	A (0.3)	A (1.3)	A (0.4)	A (1.5)
Project 8					
22	Panola Road at Salem Crossing South Driveway	A (0.6)	A (1.3)	A (1.1)	A (2.8)
23	Panola Road at Salem Road	C (26.8)	C (23.0)	C (33.3)	C (27.6)
24	Panola Road at Dekalb County Library Driveway	A (0.1)	A (0.1)	A (0.1)	A (0.1)
Project 9					
25	Panola Road at Chevron Gas Station Driveway	A (0.4)	A (0.1)	A (0.1)	A (0.7)

No.	Intersection	Open Year (2027)		Design Year (2047)	
		A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
26	Panola Road at BP Gas Station Driveway	A (0.6)	A (0.5)	A (0.6)	A (0.8)
27	Panola Road at SR 212	B (12.9)	A (0.7)	A (0.8)	C (19.5)
Project 10					
11	Panola Road at Winslow Crossing	A (0.5)	A (0.5)	A (0.8)	A (0.7)
12	Panola Road at Panola Mill Drive	A (0.4)	A (0.3)	A (0.4)	A (0.6)
13	Panola Road at Ousley United Methodist Church Driveway	B (12.0)	B (13.4)	C (22.9)	D (25.5)
14	Panola Road at Black Foot Drive	A (0.1)	A (0.0)	A (0.2)	A (0.1)

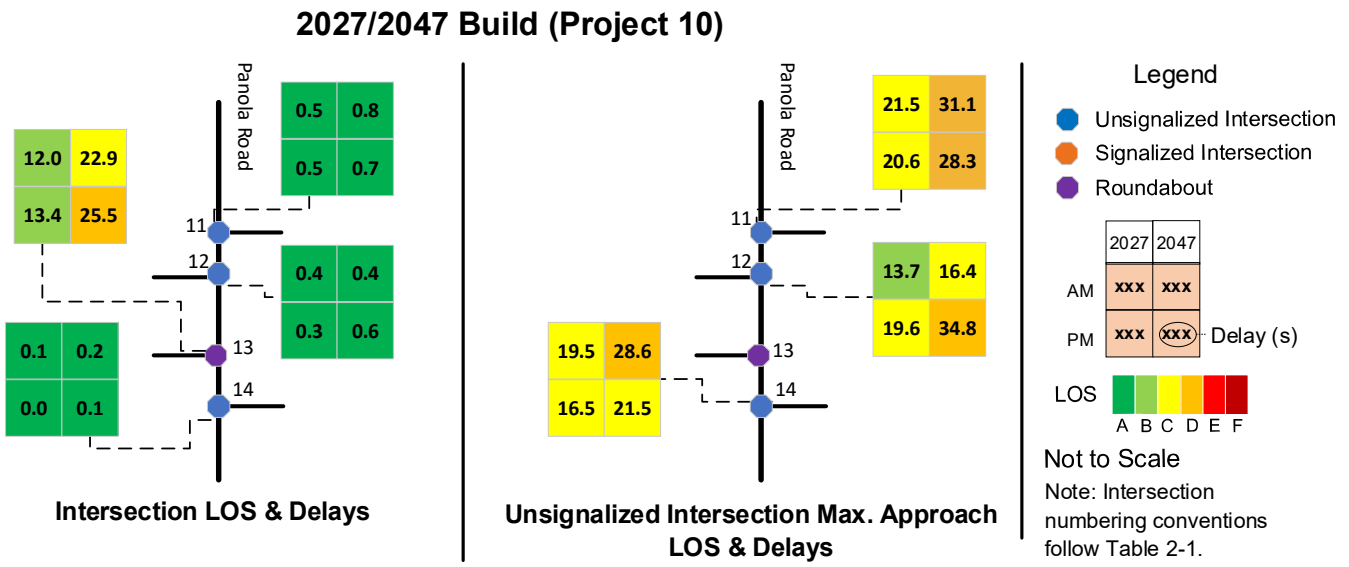

Figure 6-1. Open (2027) and Design (2047) Year Intersection and Approach LOS and Delays (sec/veh) – Project 10 Build Condition

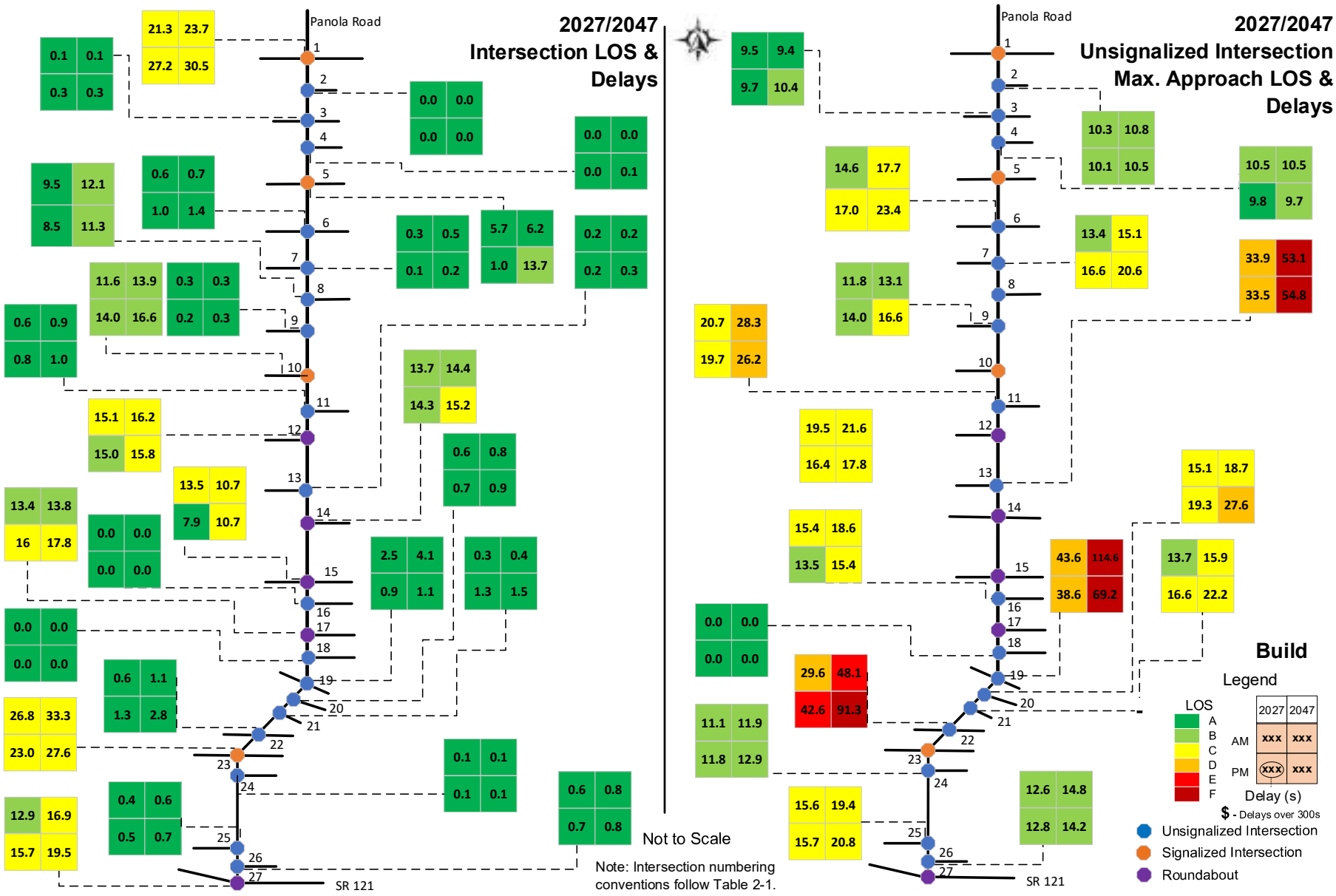

Figure 6-2. Open (2027) and Design (2047) Year Intersection and Approach LOS and Delays (sec/veh) – Build Condition

7 Benefit-Cost Analysis Results

With the operational analysis results provided in Chapters 4 and 6, and with the safety analysis results provided in Chapter **Error! Reference source not found.**, benefit-cost analysis was performed for each project to ultimately prioritize projects.

Operational benefits are calculated by assigning monetary values to the reduction in automobile delays and truck delays and by accounting for fuel cost savings. Table 7-1 lists the various parameters and their values used in equations for benefit calculations. The values shown in the table are Georgia DOT default values for each parameter. The safety benefit (no-build versus build conditions) was determined by applying a dollar amount to the predicted change in crash frequency.

Table 7-1. Operational and Safety Benefit-Cost Analysis Parameters

Parameter	Value
Discount rate	7.0%
Value of automobile travel ($/hour)	13.75
Value of truck travel ($/hour)	72.65
Percent trucks*	3%
Fatality Cost	$ 12,450,000
Serious Injury Cost	$ 2,740,000
Visible Injury Cost	$ 600,000
Complaint Injury Cost	$ 129,000
Property Damage Only Cost	$28,000
No. of working days in a year	250

Note: *Average of daily truck percentage within the corridor

Benefit-cost analysis results of all projects are based on the stand-alone projects. As different combinations of the projects are selected, the benefit-cost analysis should be further investigated.

Table 7-2 contains estimated total project cost as presented in Section 5, operational and safety 20-year design life benefits, and benefit-cost ratio (BCR) for Projects 1 through 10. Project 1 would have the highest operational BCR of 22.6, and Project 9 would have the highest safety BCR of 5.9. Projects 3, 4, 6, and 10 would have negative 20-year design life benefits and BCR, because the intersection operations would be negatively impacted with the proposed project, as discussed in Section 6. Project 7 would not have an operational benefit, as the intersection operational results remained the same from the no-build condition to build condition. In contrary, all projects would be expected to have positive safety benefits. The detailed benefit-cost analysis results are provided in **Appendix K.**

Benefit-cost analysis results of all projects are based on the stand-alone projects. As different combinations of the projects are selected, the benefit-cost analysis should be further investigated.

Table 7-2. Operational and Safety Benefit-Cost Analysis Results

Projects	Project Total Cost	Operational Benefit-Cost Analysis		Safety Benefit-Cost Analysis	
		Design Life Benefits	BCR	Design Life Benefits	BCR
Project 1	$4,992,933	$112,804,284	22.6	$42,443,520	4.5
Project 2	$587,209	$1,117,075	1.9	$3,476,000	2.4
Project 3	$3,211,711	$(2,436,048)	(0.8)	$786,240	0.1
Project 4	$2,550,124	$(2,403,328)	(0.9)	$393,120	0.1
Project 5	$4,367,491	$4,074,096	0.9	$42,600,480	5.3
Project 6	$1,649,350	$(2,489,928)	(1.5)	$15,475,200	4.7
Project 7	$1,148,874	$-	-	$3,476,000	1.4
Project 8	$2,473,475	$3,977,096	1.6	$988,800	0.2
Project 9	$2,534,817	$10,150,553	4.0	$28,206,880	5.9
Project 10	$6,586,385	$(3,033,305)	(0.5)	$4,827,840	0.4

Note: Numbers in parenthesis indicates negative values.

The project would have equal amount of emphasis on operational and safety benefits. Therefore, the weighted BCR was calculated for each project to determine the priority. Table 7-3 below calculates the weighted average of the BCR for each project and ranks the projects from the highest to lowest BCR. Project 1 would have the highest BCR or 14.4, followed by Project 9 with BCR or 5.2. Total BCR for Project 3 and 4 would be -0.2 and -0.3, indicating the safety BCRs could not compensate for the low operational BCRs.

Table 7-3. Project Total Benefit-Cost Ratios and Priority Rankings

Projects	Total Benefit-Cost Ratio	Priority Ranking
Project 1	14.4	1
Project 2	2.3	5
Project 3	(0.2)	9
Project 4	(0.3)	10
Project 5	3.8	3
Project 6	2.6	4
Project 7	1.0	6
Project 8	0.7	7
Project 9	5.2	2
Project 10	0.1	8

Note: Numbers in parenthesis indicates negative values.

8 Conclusion

Operational analysis was performed for the total of 27 signalized and unsignalized intersections along Panola Road, from Fairington Road to SR 212 in the existing (2022), open (2027), and design (2047) year in the no-build condition to identify the operational needs. 5-year crash history for 27 intersections were reviewed to determine the safety needs. The proposed improvements would divide Panola Road corridor into 10 different projects and addressing operational and/or safety concerns. Once the operational results for the open and design years were determined, operational and safety benefit-cost analyses were performed on 10 projects to calculate the averaged benefit-cost ratios. Benefit-cost analysis results identified top 5 priority projects as Project 1, Project 9, Project 5, Project 6, and Project 2 in a consecutive order:

1. Project 1 (BCR 14.4) Minola / Fairington Road to Thompson Mill Road:
    - Adding a signal at intersection West Fairington Parkway
    - Adding a multi-use path on the east side of Panola Road
2. Project 9 (5.2) Browns Mill / State Route 212
    - Adding a multi lane roundabout
3. Project 5 (BCR 3.8) Rock Springs Road intersection:
    - Adding a multilane roundabout
    - Adding a multi-use path on the west side of Panola Road
4. Project 6 (BCR 2.6) Cedar Rock Drive intersection:
    - Adding a single lane roundabout
    - Adding a multi-use path on the west side of Panola Road
5. Project 2 (BCR 2.3) Thompson Mill Road intersection:
    - Adding a southbound right turn lane from Panola Road to Thompson Mill Road
    - Adding an eastbound right turn lane from Thompson Mill Road to Panola Road
    - Adding a new multi-use path crossing at the signal

Operational and safety analysis results, and BCR for Projects 1 through 10 assume stand-alone projects. As different combination of projects is selected as the preferred alternative, the final operational, safety, and BC analysis would be different and warrant a further investigation.

Appendix A

Tube Count Locations

Appendix B

Raw Traffic Counts (Electronically Submitted)

Appendix C

Growth Rate Calculations

Appendix D

Volume Diagrams

Appendix E

5 Year (2017-2021) Crash History by Intersection

Appendix F

Existing Year (2022) Operational Analysis Results

Appendix G

Future Year (2027 and 2047) No-Build Analysis Results

Appendix H

Intersection Control Evaluation (ICE) Stage 1 Results

Appendix I

Proposed Concept Layout (Subject to Change)

Appendix J

Future Year (2027 and 2047) Build Analysis Results

Appendix K

Benefit Cost Analysis Results

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Appendix A

Tube Count Locations

Table-1 Count Locations Turn Movement Count (a.m. and p.m. peak period)

TMC	Intersection	Signal	TMC	Intersection	Signa
1	Panola Road & Fairington Road	Yes	15	Panola Road & Rock Springs Road	No
2	Panola Road & Strip Mall Dwy	No	16	Panola Road & Macedonia Baptist	No
3	Panola Road & Dental Office Dwy	No	17	Panola Road & Cedar Rock Drive	No
4	Panola Road & IHOP Dwy	No	18	Panola Road & Big Miller Grove Baptist	No
5	Panola Road & Boa - Lowes	Yes	19	Panola Road & Big Miller Grove Way	No
6	Panola Road & Strip Mall	No	20	Panola Road & Exxon Gas Station Dwy	No
7	Panola Road & LBV	No	21	Panola Road & Salem Xing Shopps N	No
8	Panola Road & W Fairington Pkwy	No	22	Panola Road & Salem Xing Shopps S	No
9	Panola Road & Cavalier @100 APTS	No	23	Panola Road & Salem Road	Yes
10	Panola Road & Thompson Mill Road	Yes	24	Panola Road & Dekalb Co Library	No
11	Panola Road & Winslow Crossing	No	25	Panola Road & Chevron Gas Station Dwy	No
12	Panola Road & Panola Mill Drive	No	26	Panola Road & BP Gas Station Dwy	No
13	Panola Road & Ousley United Methodist	No	27	Panola Road & SR-212	Yes
14	Panola Road & Black Foot Drive	No			

Table-2 Count Locations Tubes (48 hours)

TMC	Intersection
1	PANOLA ROAD NORTH OF MINOLA DR-FAIRINGTON ROAD
2	MINOLA DR-FAIRINGTON ROAD EAST OF PANOLA ROAD
3	PANOLA ROAD NORTH OF STRIP MALL DWY
4	MINOLA DR-FAIRINGTON ROAD WEST OF PANOLA ROAD
5	STRIP MALL DWY EAST OF PANOLA ROAD
6	PANOLA ROAD SOUTH OF STRIP MALL DWY
7	GAS STATION-DENTAL OFFICE DWY EAST OF PANOLA ROAD
8	PANOLA ROAD NORTH OF IHOP DWY
9	GAS STATION-DENTAL OFFICE DWY WEST OF PANOLA ROAD
10	IHOP DWY EAST OF PANOLA ROAD
11	PANOLA ROAD NORTH OF PUBLIX DWY N-BOA - LOWES
12	PUBLIX DWY N-BOA - LOWES EAST OF PANOLA ROAD
13	PANOLA ROAD SOUTH OF PUBLIX DWY N-BOA - LOWES
14	PUBLIX DWY N-BOA - LOWES WEST OF PANOLA ROAD

TMC	Intersection
15	PUBLIX DWY S-STRIP MALL EAST OF PANOLA ROAD
16	PANOLA ROAD SOUTH OF PUBLIX DWY S-STRIP MALL
17	PUBLIX DWY S-STRIP MALL WEST OF PANOLA ROAD
18	PANOLA ROAD SOUTH OF LBV
19	LBV WEST OF PANOLA ROAD
20	LA PETITE-W FAIRINGTON PKWY EAST OF PANOLA ROAD
21	PANOLA ROAD SOUTH OF LA PETITE-W FAIRINGTON PKWY
22	LA PETITE-W FAIRINGTON PKWY WEST OF PANOLA ROAD
23	PANOLA ROAD SOUTH OF CAVALIER @100 APTS
24	CAVALIER @100 APTS WEST OF PANOLA ROAD
25	PANOLA ROAD SOUTH OF THOMPSON MILL ROAD
26	THOMPSON MILL ROAD WEST OF PANOLA ROAD
27	WINSLOW CROSSING EAST OF PANOLA ROAD
28	PANOLA ROAD SOUTH OF WINSLOW CROSSING
29	PANOLA ROAD NORTH OF OUSLEY UNITED METHODIST
30	PANOLA MILL DRIVE WEST OF PANOLA ROAD
31	PANOLA ROAD SOUTH OF OUSLEY UNITED METHODIST
32	OUSLEY UNITED METHODIST WEST OF PANOLA ROAD
33	OUSLEY UNITED METHODIST WEST OF PANOLA ROAD
34	BLACK FOOT DRIVE EAST OF PANOLA ROAD
35	ROCK SPRINGS ROAD EAST OF PANOLA ROAD
36	PANOLA ROAD SOUTH OF ROCK SPRINGS ROAD
37	ROCK SPRINGS ROAD WEST OF PANOLA ROAD
38	MACEDONIA BAPTIST EAST OF PANOLA ROAD
39	PANOLA ROAD SOUTH OF MACEDONIA BAPTIST
40	CEDAR ROCK DRIVE EAST OF PANOLA ROAD
41	PANOLA ROAD SOUTH OF CEDAR ROCK DRIVE
42	BIG MILLER GROVE BAPTIST EAST OF PANOLA ROAD
43	PANOLA ROAD SOUTH OF BIG MILLER GROVE BAPTIST
44	OAKTREE TRL-BIG MILLER GROVE WAY EAST OF PANOLA ROAD
45	PANOLA ROAD NORTH OF EXXON GAS STATION DWY
46	OAKTREE TRL-BIG MILLER GROVE WAY WEST OF PANOLA ROAD

TMC	Intersection
47	EXXON GAS STATION DWY EAST OF PANOLA ROAD
48	PANOLA ROAD NORTH OF SALEM XING SHOPPS N
49	SALEM XING SHOPPS N EAST OF PANOLA ROAD
50	PANOLA ROAD NORTH OF FAMILY DOLLAR DWY-SALEM XING SHOPPS S
51	FAMILY DOLLAR DWY-SALEM XING SHOPPS S EAST OF PANOLA ROAD
52	PANOLA ROAD NORTH OF SALEM ROAD
53	FAMILY DOLLAR DWY-SALEM XING SHOPPS S WEST OF PANOLA ROAD
54	SALEM ROAD EAST OF PANOLA ROAD
55	PANOLA ROAD SOUTH OF SALEM ROAD
56	SALEM ROAD WEST OF PANOLA ROAD
57	EXCELL PREP-DEKALB CO LIBRARY EAST OF PANOLA ROAD
58	PANOLA ROAD SOUTH OF EXCELL PREP-DEKALB CO LIBRARY
59	EXCELL PREP-DEKALB CO LIBRARY WEST OF PANOLA ROAD
60	PANOLA ROAD SOUTH OF CHEVRON GAS STATION DWY
61	CHEVRON GAS STATION DWY WEST OF PANOLA ROAD
62	BP GAS STATION DWY EAST OF PANOLA ROAD
63	PANOLA ROAD SOUTH OF BP GAS STATION DWY
64	SR-212 EAST OF PANOLA ROAD
65	PANOLA ROAD SOUTH OF SR-212
66	SR-212 WEST OF PANOLA ROAD

Appendix B

Raw Traffic Counts (Electronically Submitted)

Appendix C

Growth Rate Calculations

Growth Rate Calculation

The annual growth rate for the Panola Road scoping study area was computed to be 0.96%. Data was complied from the GDOT TADA, the ARC TDM, the Governor's Office of Planning and Budget Population projections, and the Dekalb County Census population data. Below are the calculations used to derive this value.

GDOT TADA Growth Rate Data

Table 1. GDOT TADA Stations AADT Data

Roadway	Panola Rd North of Thompson Mill Rd	Panola Rd North of Salem Rd	CA 212 - Browns Mill Rd West of Panola RD	CA 212 - Browns Mill Rd East of Panola RD	Panola Rd North of Sandy Lake Way
Station ID	**089-3549**	**089-0547**	**089-0247**	**089-0249**	**089-0545**
Year	**AADT**	**AADT**	**AADT**	**AADT**	**AADT**
2007					
2008					
2009					
2010				14300	
2011		15700		13900	
2012	27,600		17,100		
2013				14,300	
2014			15,500		
2015		15,500		14,800	
2016	29,200		14,800		
2017				16,200	10,100
2018	29,100	16,800	17,400		
2019				16,200	
2020	27,200				
2021				15,100	9,230
Growth Rate	0.96%	0.90%	2.93%	1.78%	NA
GDOT TADA Average Growth Rate			**1.64%**		

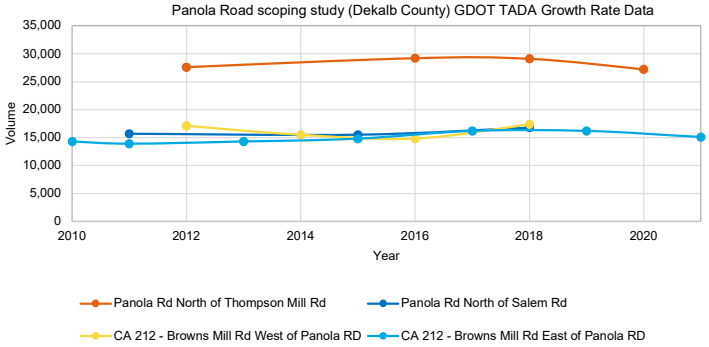


Figure 2. Collected AADT Data

Figure 1. GDOT TADA Stations

ARC Travel Demand Model

Table 2. Travel Demand Model Data

Location	Direction	Year	Volume	Annual Growth Rate
Panola Rd North of Fairington Rd	NB	2020	17,643	0.67%
		2050	21,571	
	SB	2020	20,559	0.41%
		2050	23,251	
Panola Rd South of Fairington Rd	NB	2020	9,014	1.05%
		2050	12,338	
	SB	2020	11,511	0.27%
		2050	12,477	
Panola Rd North of Rock Springs Rd	NB	2020	7,595	1.15%
		2050	10,707	
	SB	2020	9,713	0.32%
		2050	10,701	
Panola Rd South of Rock Springs Rd	NB	2020	9,524	1.18%
		2050	13,534	
	SB	2020	11,530	0.50%
		2050	13,396	
Panola Rd North of Salem Rd	NB	2020	7,558	1.15%
		2050	10,643	
	SB	2020	10,554	0.51%
		2050	12,278	
Panola Rd South of Salem Rd	NB	2020	6,084	1.30%
		2050	8,960	
	SB	2020	7,570	0.53%
		2050	8,866	
Panola Rd North of SR 212	NB	2020	5,928	1.30%
		2050	8,726	
	SB	2020	7,391	0.51%
		2050	8,622	
Panola Rd South of SR 212	NB	2020	6,569	1.25%
		2050	9,536	
	SB	2020	7,191	0.85%
		2050	9,265	

Source: http://abmfiles.atlantaregional.com/

ARC Travel Demand Model Average: **0.81%**

Growth Rate Summary

Table 4. Combined Growth Rate Data

Data Source	Annual Growth Rate
GDOT TADA Stations	1.64%
ARC Travel Demand Model	0.81%
Governor's Office of Planning and Budget Population	0.40%
Dekalb County Census	1.00%
Project Growth Rate	**0.96%**

Dekalb County Census Population Data

Table 3. Dekalb County Census Population Data

2010	2020	Total Change	Percent Change	Annual Growth Rate
6,91,893	7,64,382	72,489	10.48%	**1.00%**

Source: https://www.census.gov/quickfacts/fact/table/dekalbcountygeorgia,US/PST045221

Governor's Office of Planning and Budget Population Projections

Table 4. Governor's Office of Planning and Budget - Dekalb County Population

2020	2060	Total Change	Percent Change	Annual Growth Rate
7,62,009	8,93,219	1,31,210	17.22%	**0.40%**

Source: https://opb.georgia.gov/population-estimates

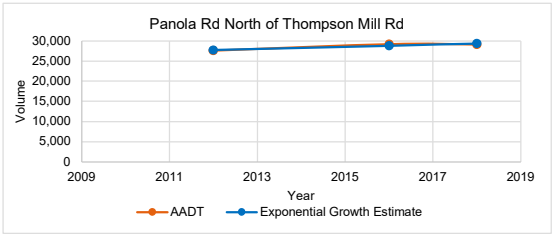
Growth Rate Calculation

GDOT TADA Station Data

Roadway Station ID Panola Rd North of Thompson Mill Rd
089-3549

Year	AADT	Exponential Growth Estimate
2012	27,600	27,725
2016	29,200	28,808
2018	29,100	29,364

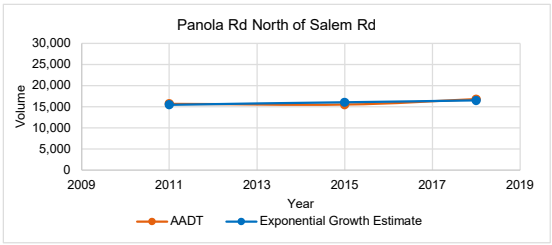
Growth Rate 0.96%



Roadway Station ID Panola Rd North of Salem Rd
089-0547

Year	AADT	Exponential Growth Estimate
2011	15,700	15,473
2015	15,500	16,038
2018	16,800	16,476

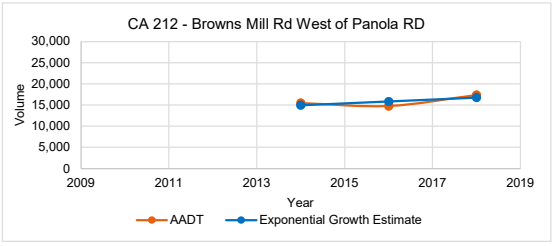
Growth Rate 0.90%



Roadway Station ID CA 212 - Browns Mill Rd West of Panola RD
089-0247

Year	AADT	Exponential Growth Estimate
2,012	17,100	
2014	15,500	14,972
2016	14,800	15,863
2018	17,400	16,807

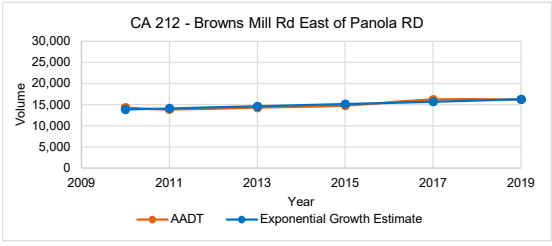
Growth Rate 2.93%



Roadway Station ID CA 212 - Browns Mill Rd East of Panola RD
089-0249

Year	AADT	Exponential Growth Estimate
2010	14,300	13,863
2011	13,900	14,111
2013	14,300	14,618
2015	14,800	15,144
2017	16,200	15,689
2019	16,200	16,253

Growth Rate 1.78%

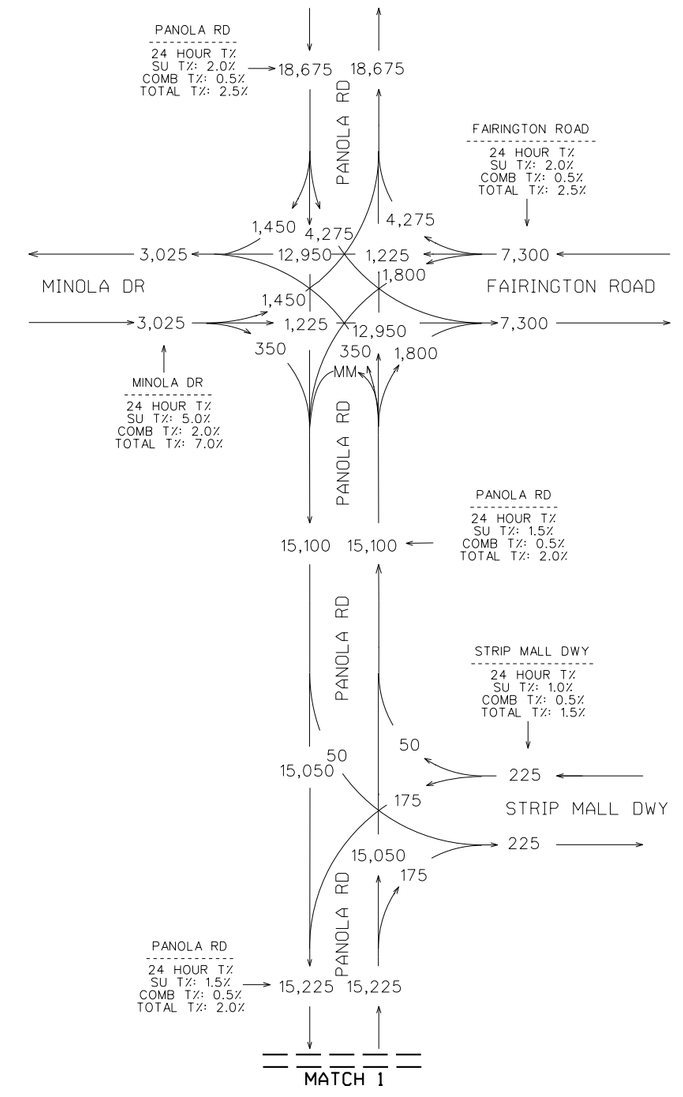


Appendix D

Volume Diagrams

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		01	84

AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 1 OF 14

DRAWING No.
10-0001

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		02	84

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EXISTING YEAR 2022
AADT = XXX

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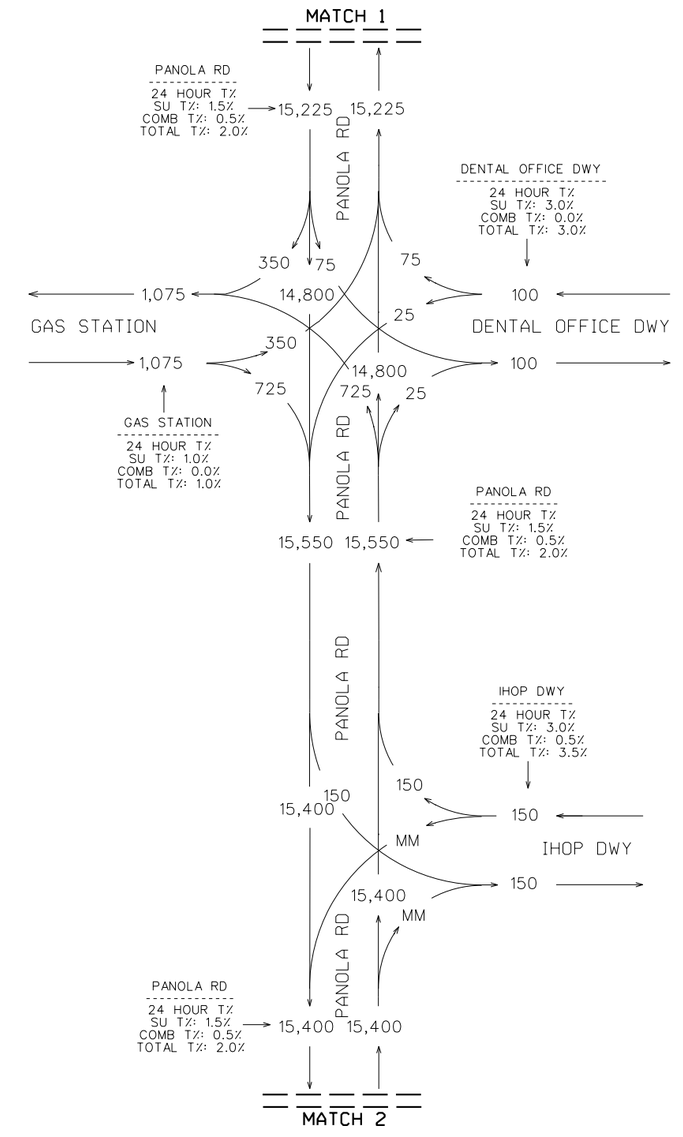

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 2 OF 14

DRAWING No.
10-0002

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		03	84

N

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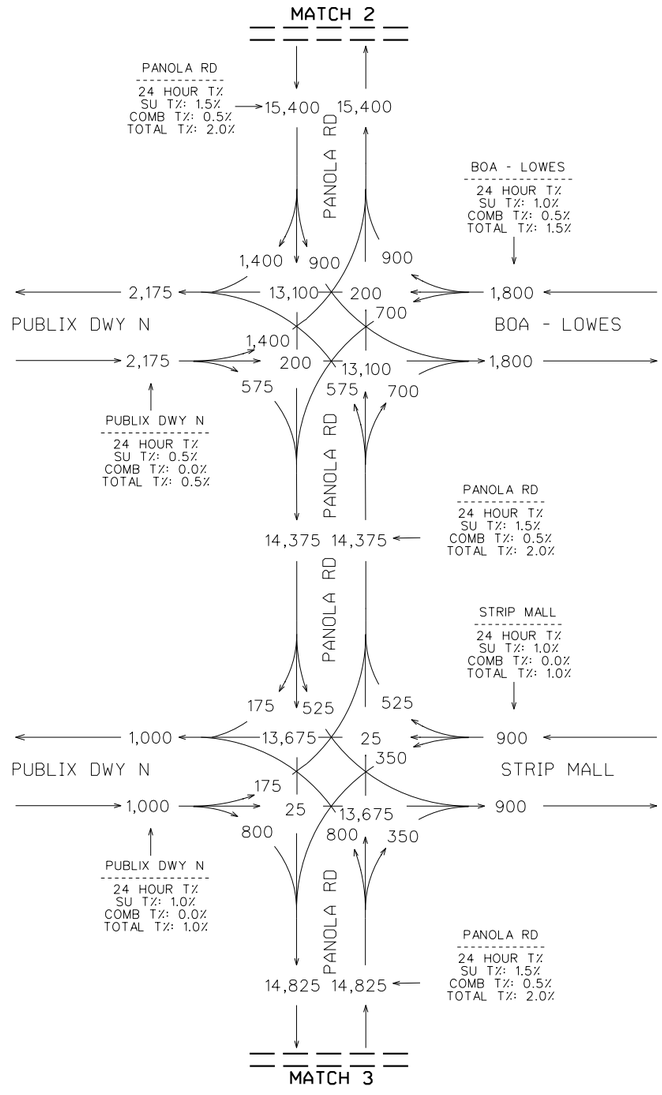
EXISTING YEAR 2022
AADT = XXX



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DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 3 OF 14

DRAWING No.
10-0003

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		04	84

AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX

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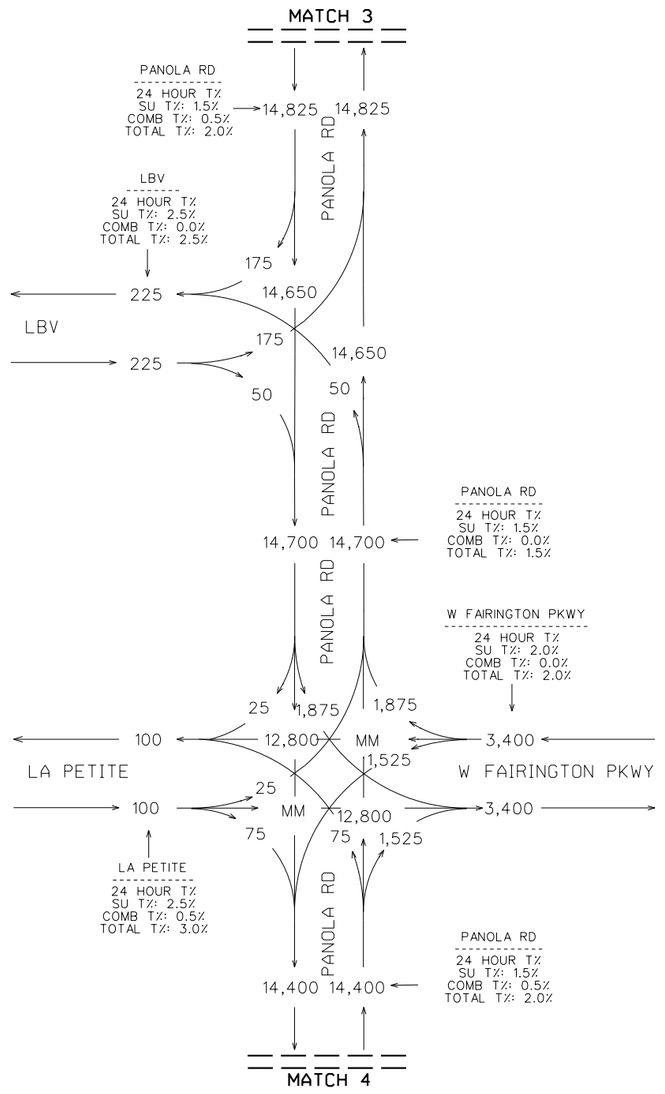

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GEORGIA

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DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 4 OF 14

DRAWING No.
10-0004

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		05	84

AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX

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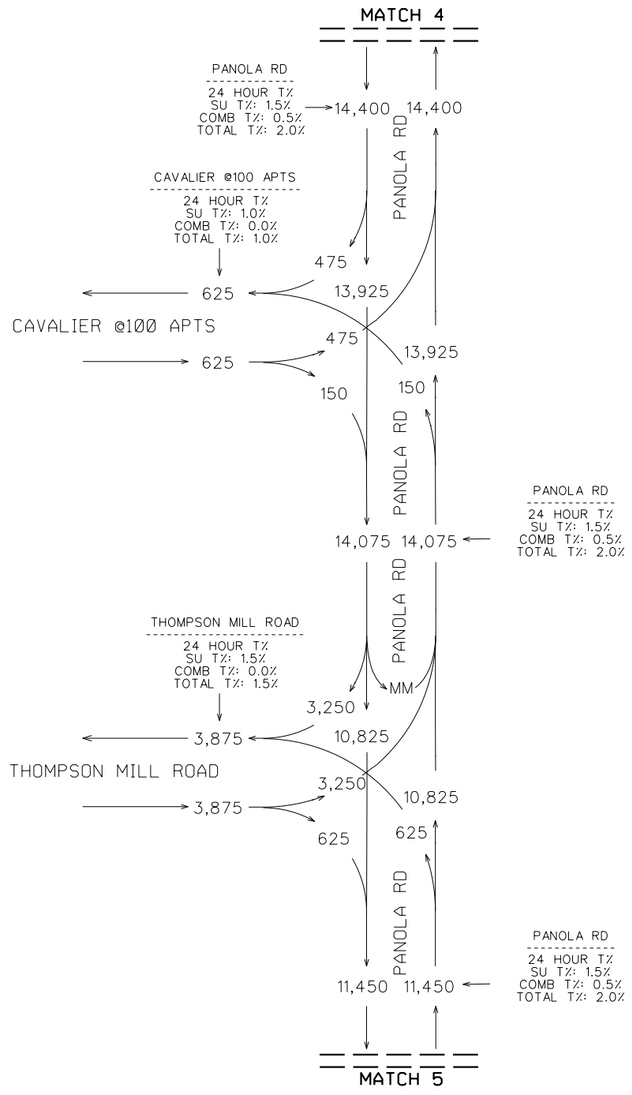

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 5 OF 14

DRAWING No.
10-0005

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		06	84

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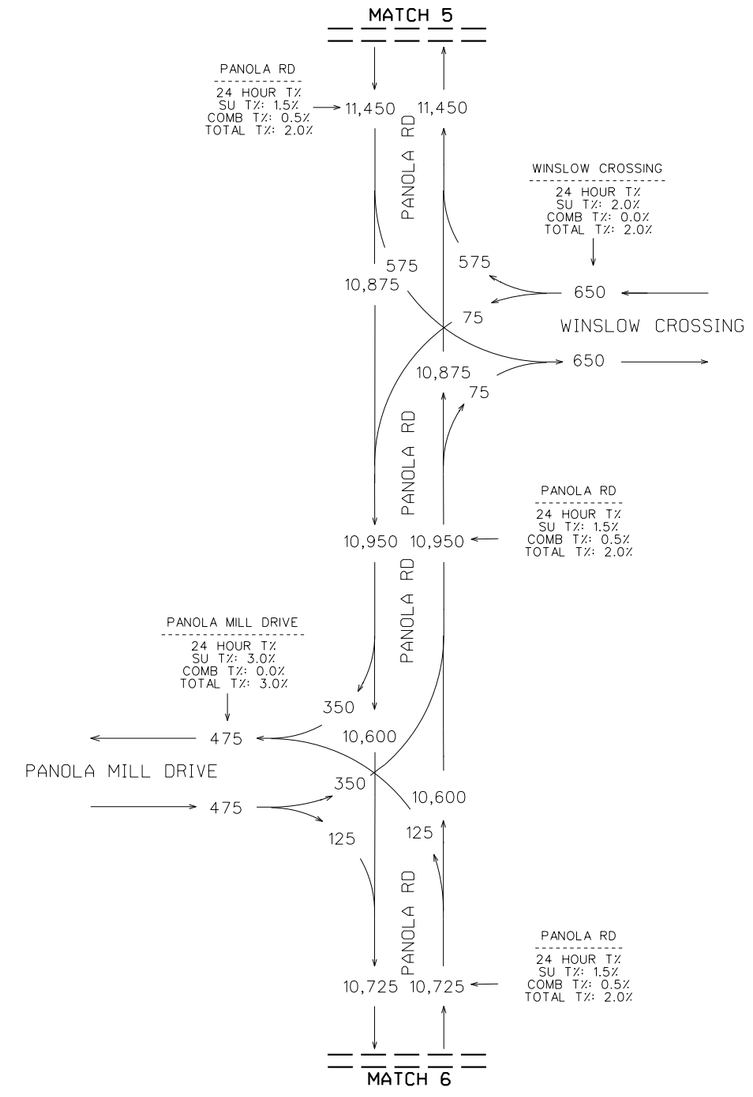
EXISTING YEAR 2022
AADT = XXX



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GEORGIA

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DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 6 OF 14

DRAWING No.
10-0006

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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EXISTING YEAR 2022
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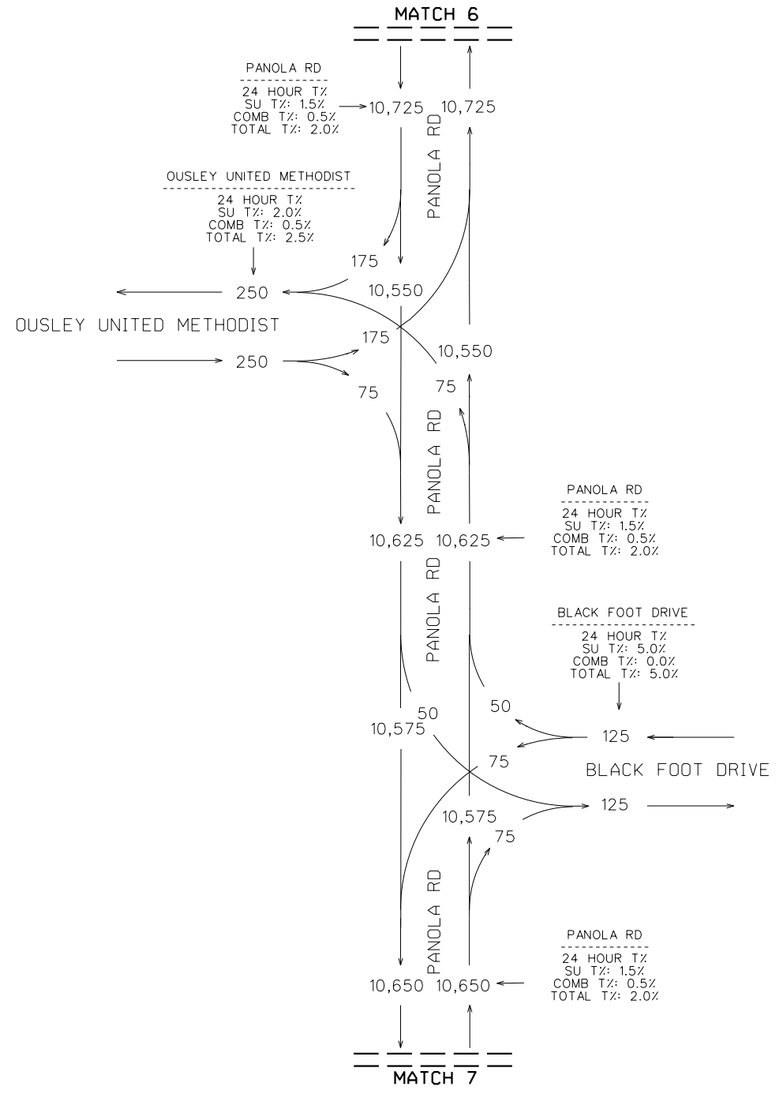

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DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

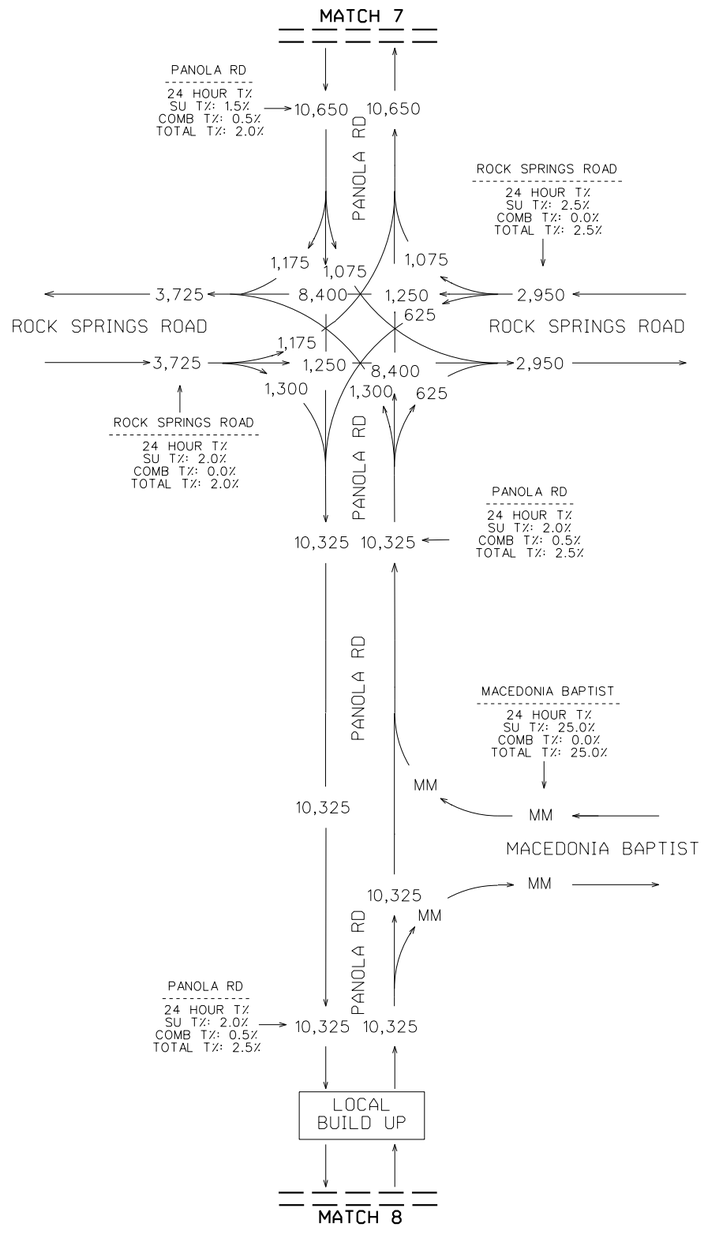
YEAR 2022 AADT
SHEET 7 OF 14

DRAWING No.
10-0007

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		08	84

AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX

N



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REVISION DATES		

DEKALB COUNTY

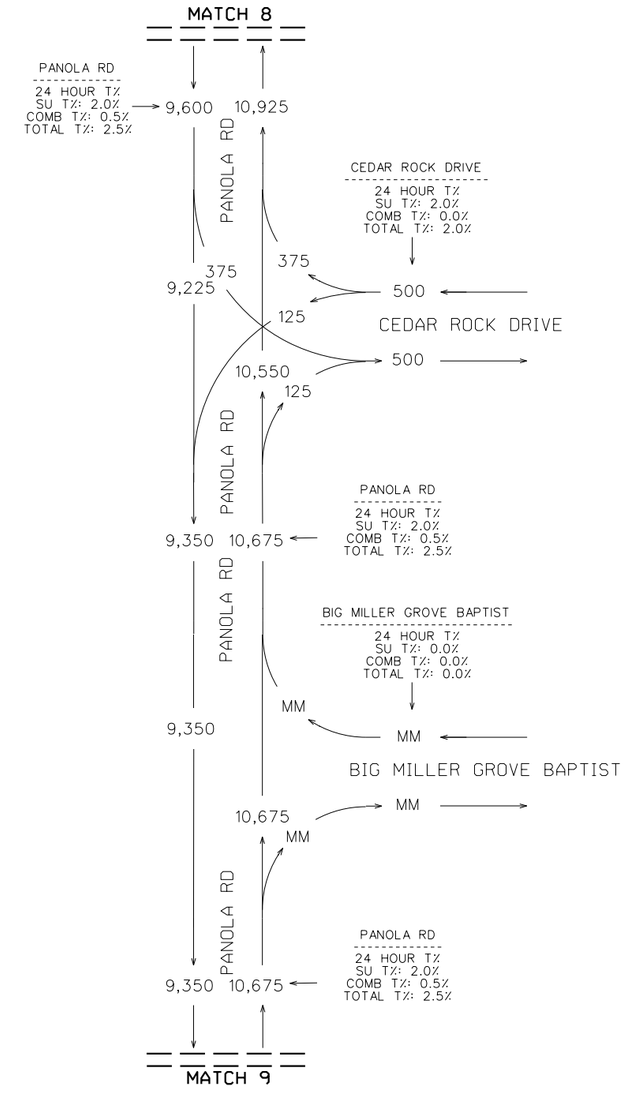
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 8 OF 14

DRAWING No.
10-0008

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		09	84

AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX



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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 9 OF 14

DRAWING No.
10-0009

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		10	84

AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX

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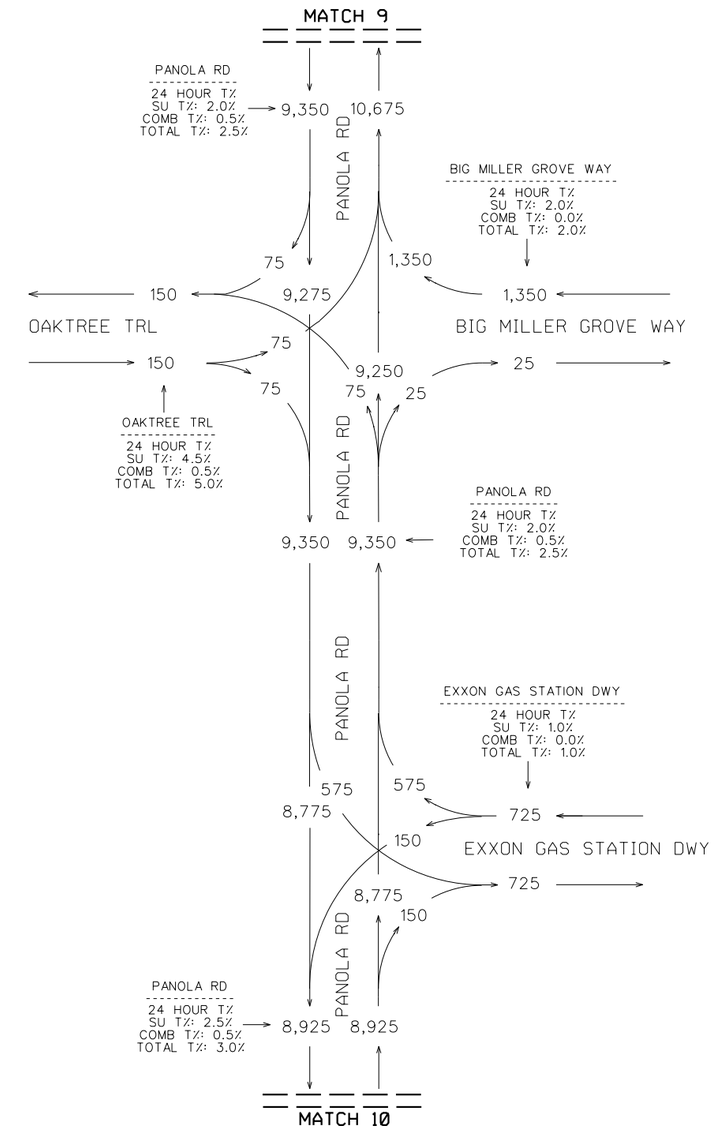

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GEORGIA

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DEKALB COUNTY

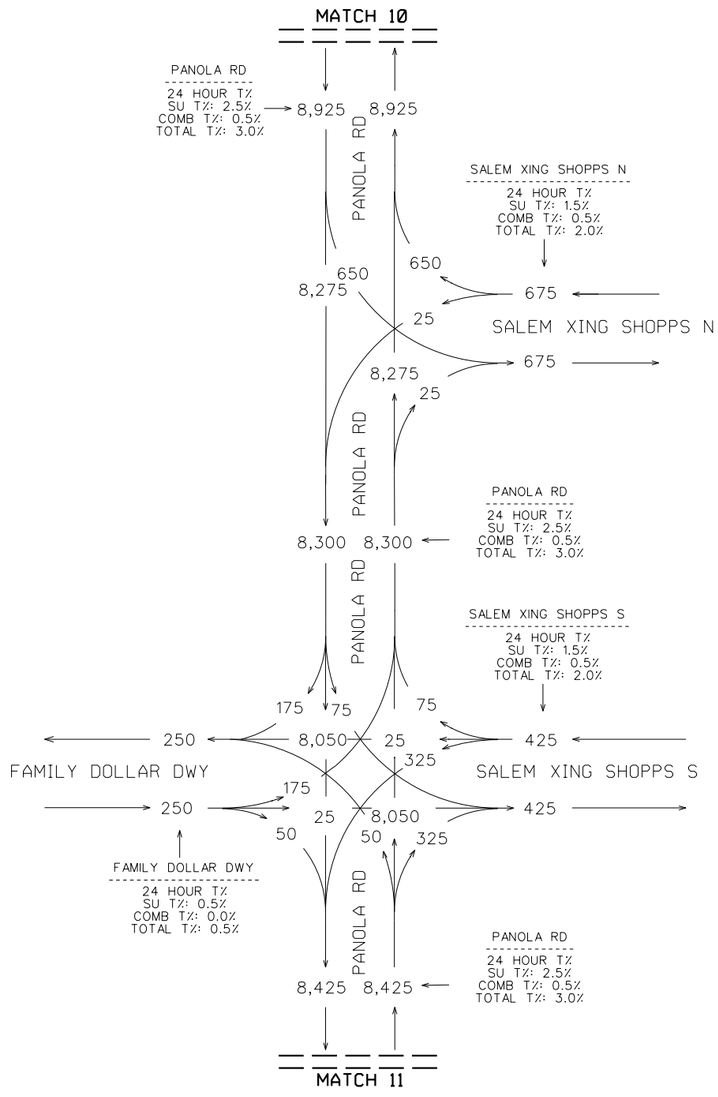
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 10 OF 14

DRAWING No.
10-0010

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		11	84

AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX



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TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 11 OF 14

DRAWING No.
10-0011

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		12	84

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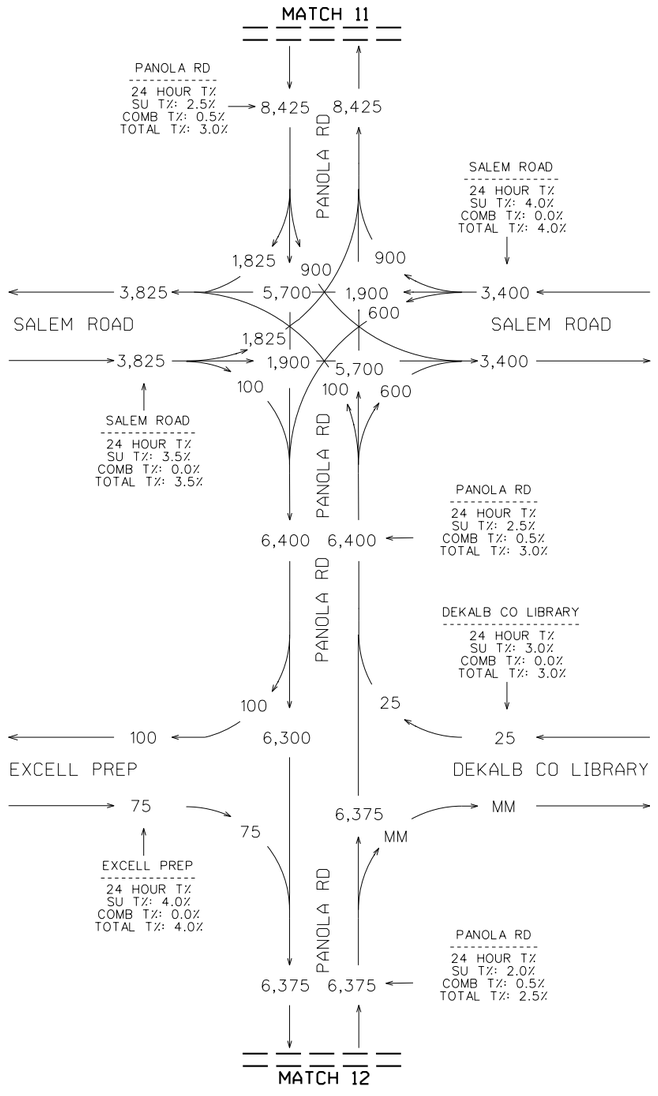
AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX



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DEKALB COUNTY

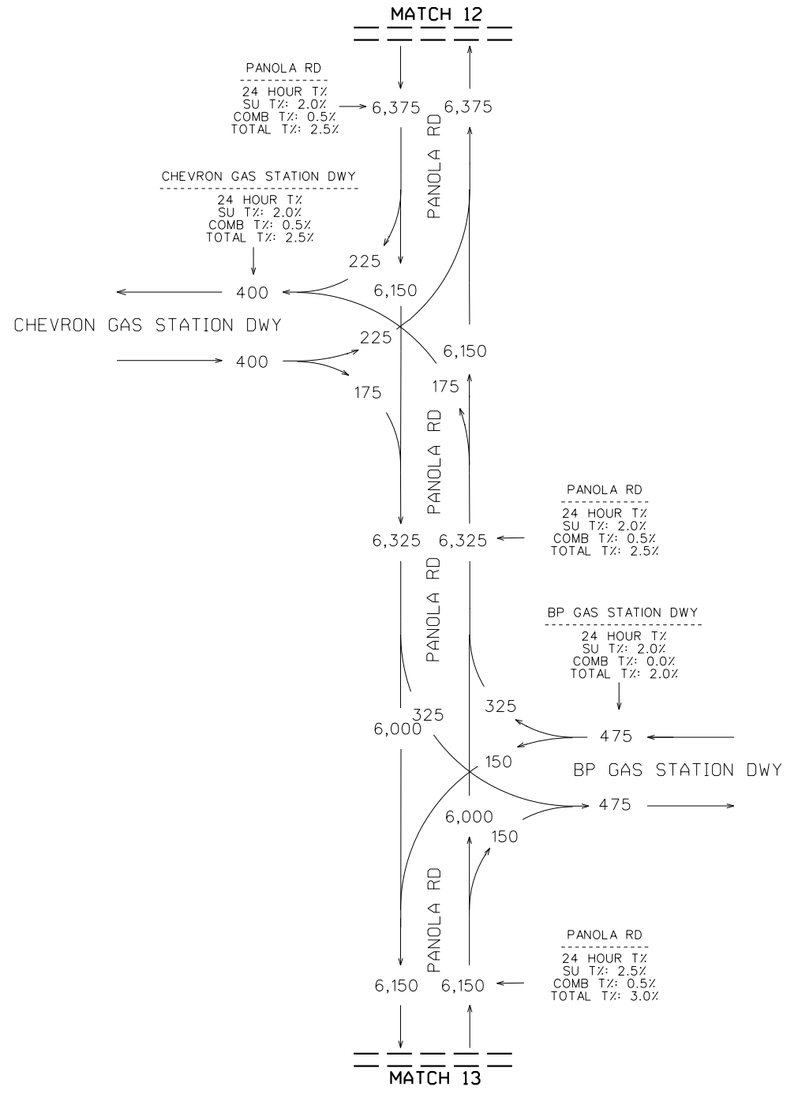
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 12 OF 14

DRAWING No.
10-0012

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		13	84

AADT VOLUMES
EXISTING YEAR 2022
AADT = XXX



REVISION DATES		

DeKalb County
GEORGIA

ARCADIS Design & Consultancy for natural and built assets

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 AADT
SHEET 13 OF 14

DRAWING No.
10-0013

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		14	84

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AADT VOLUMES
EXISTING YEAR 2022
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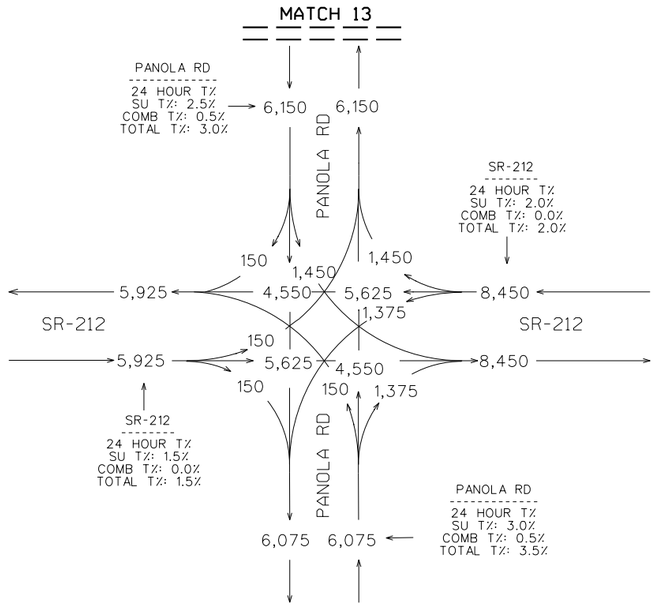


DeKalb County
GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

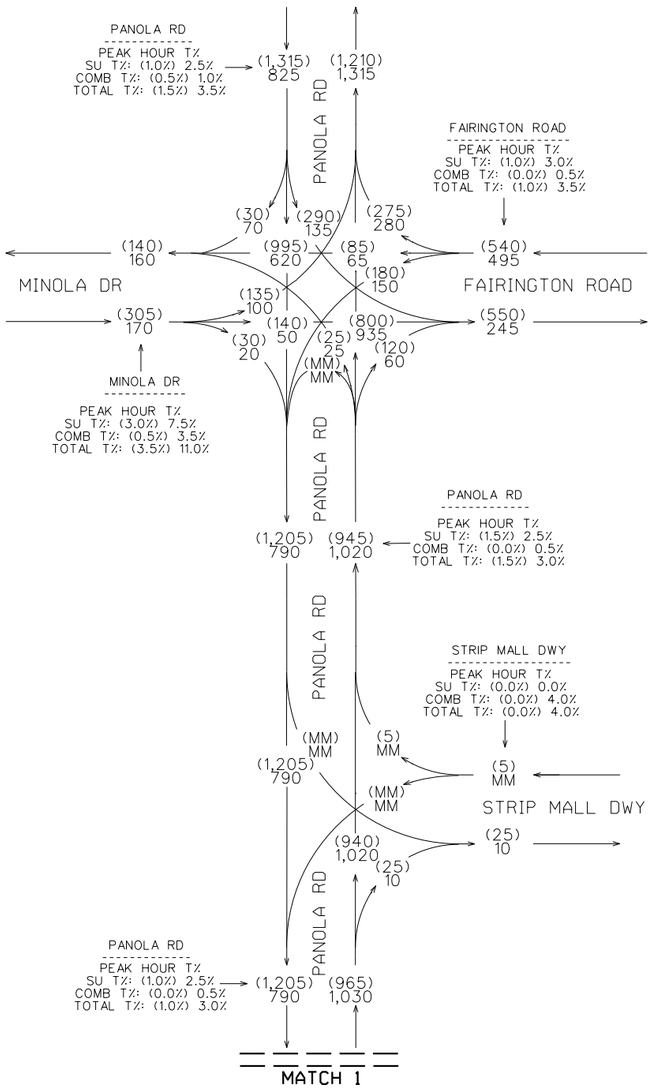
YEAR 2022 AADT
SHEET 14 OF 14

DRAWING No.
10-0014

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		15	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

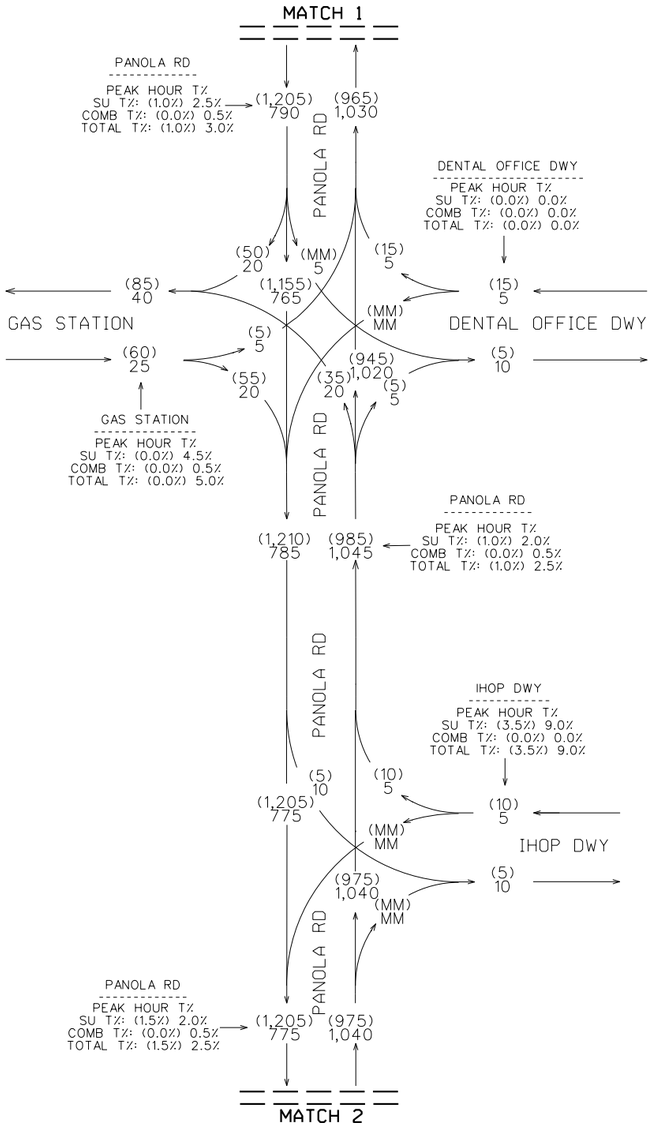
DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 1 OF 14

DRAWING No.
10-0015

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		16	84



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DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

DeKalb County
GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 2 OF 14

DRAWING No.
10-0016

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		17	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

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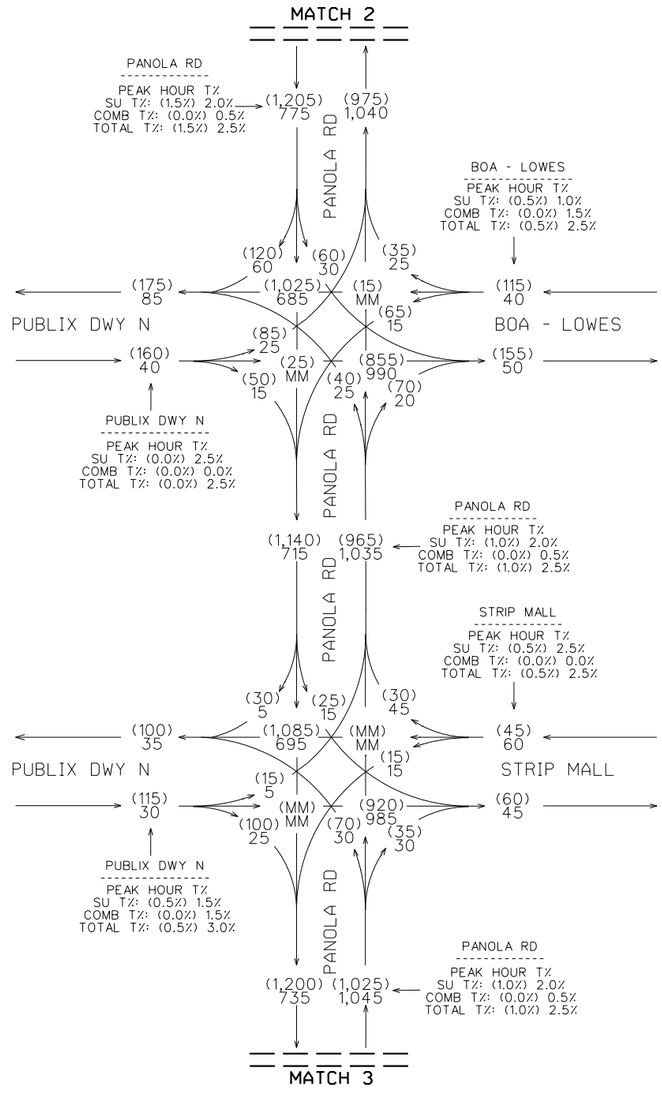


REVISION DATES		

DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

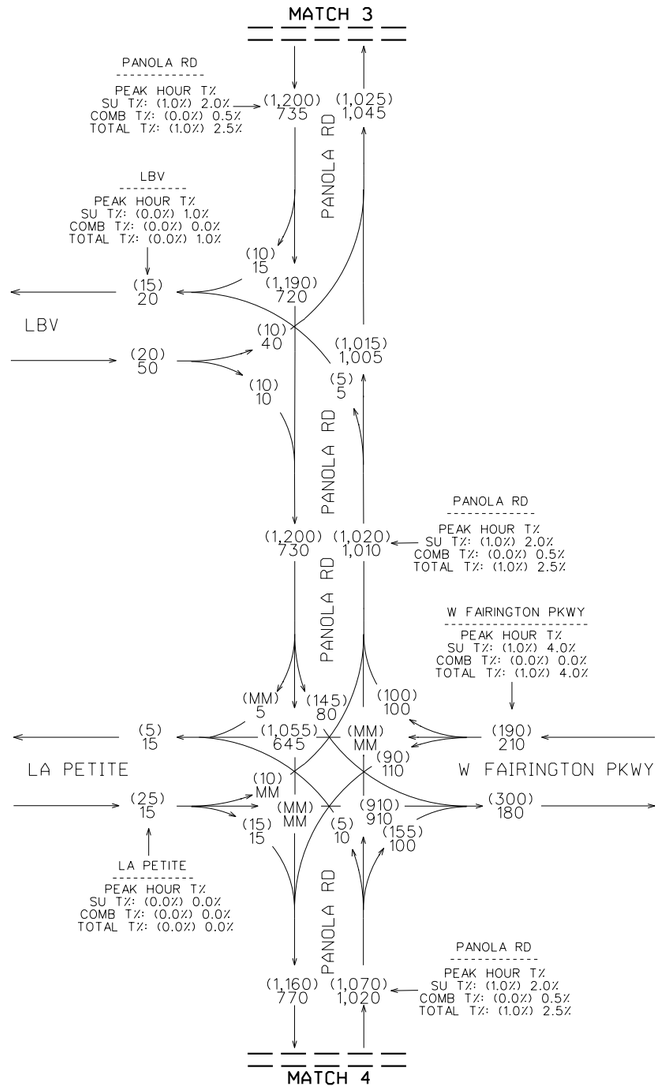
DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 3 OF 14

DRAWING No.
10-0017

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		18	84



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DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

DeKalb County
GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 4 OF 14

DRAWING No.
10-0018

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		19	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

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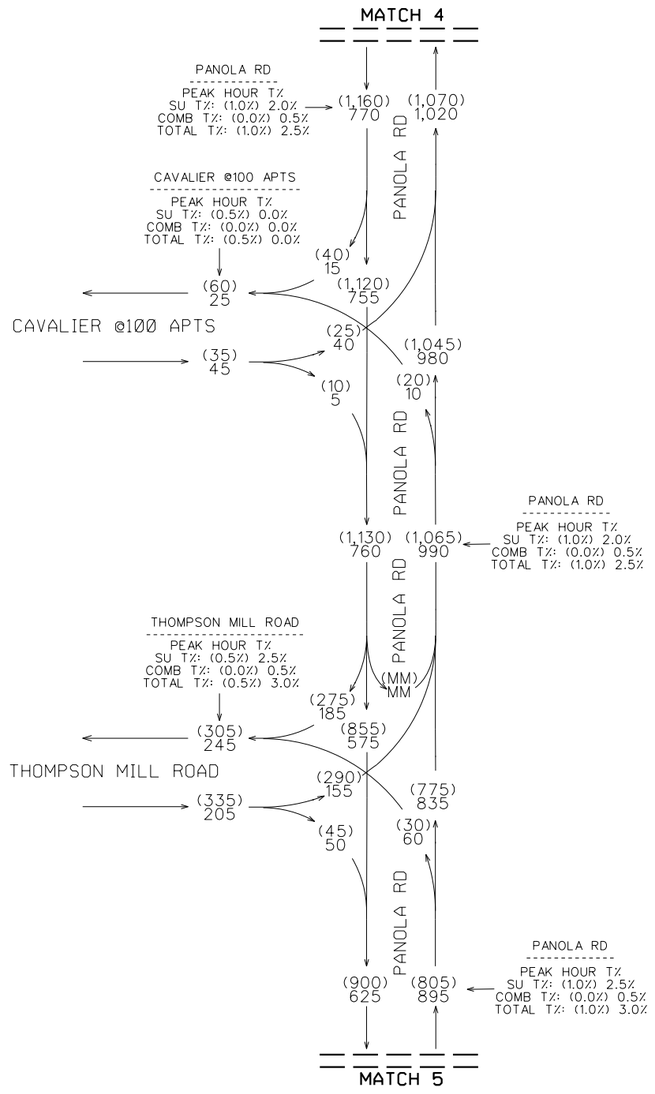


DeKalb County
GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

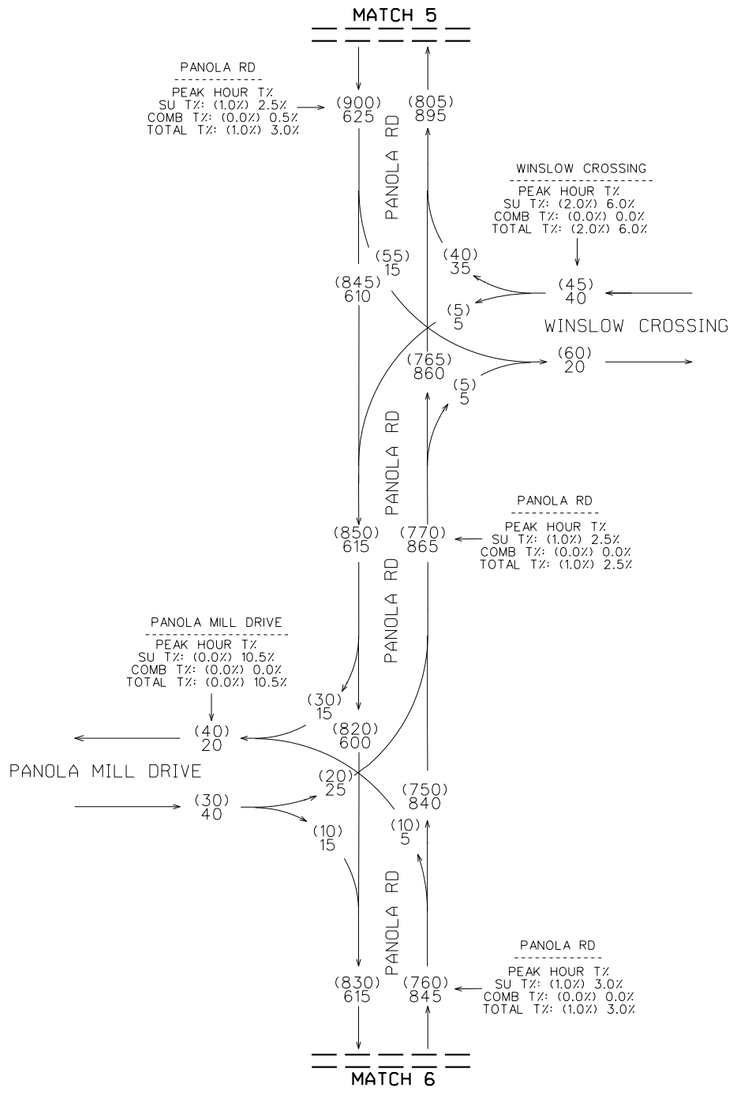
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 5 OF 14

DRAWING No.
10-0019

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		20	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

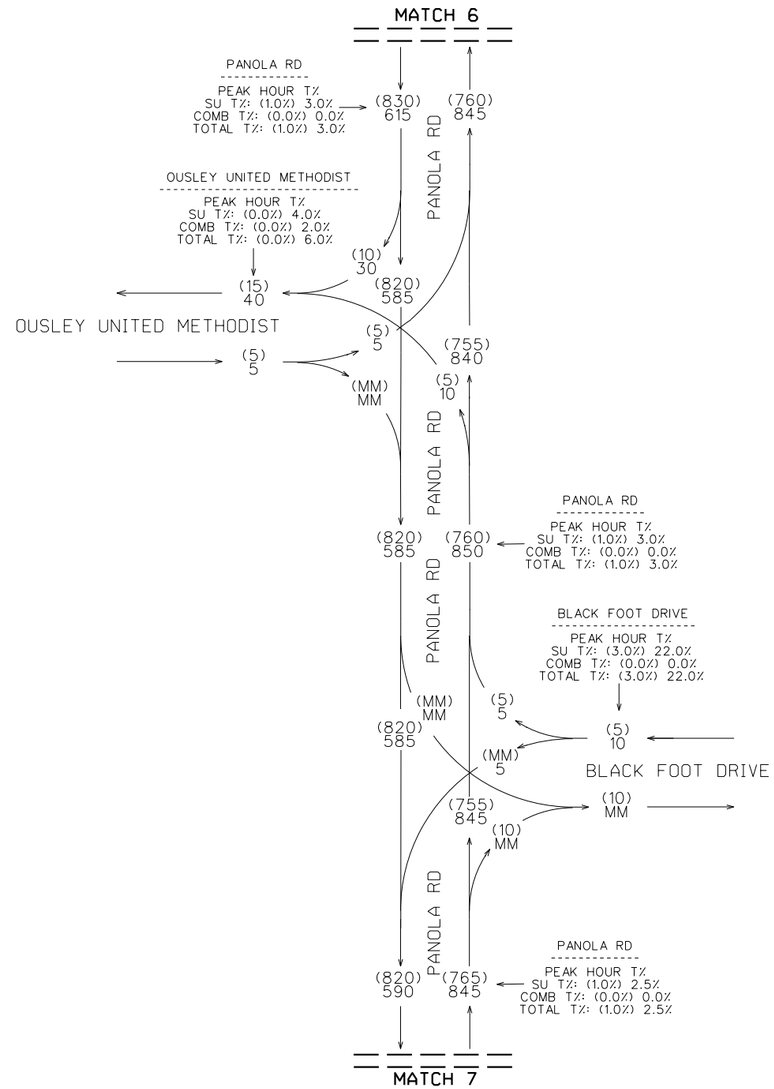
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 6 OF 14

DRAWING No.
10-0020

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		21	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 7 OF 14

DRAWING No.
10-0021

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		22	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

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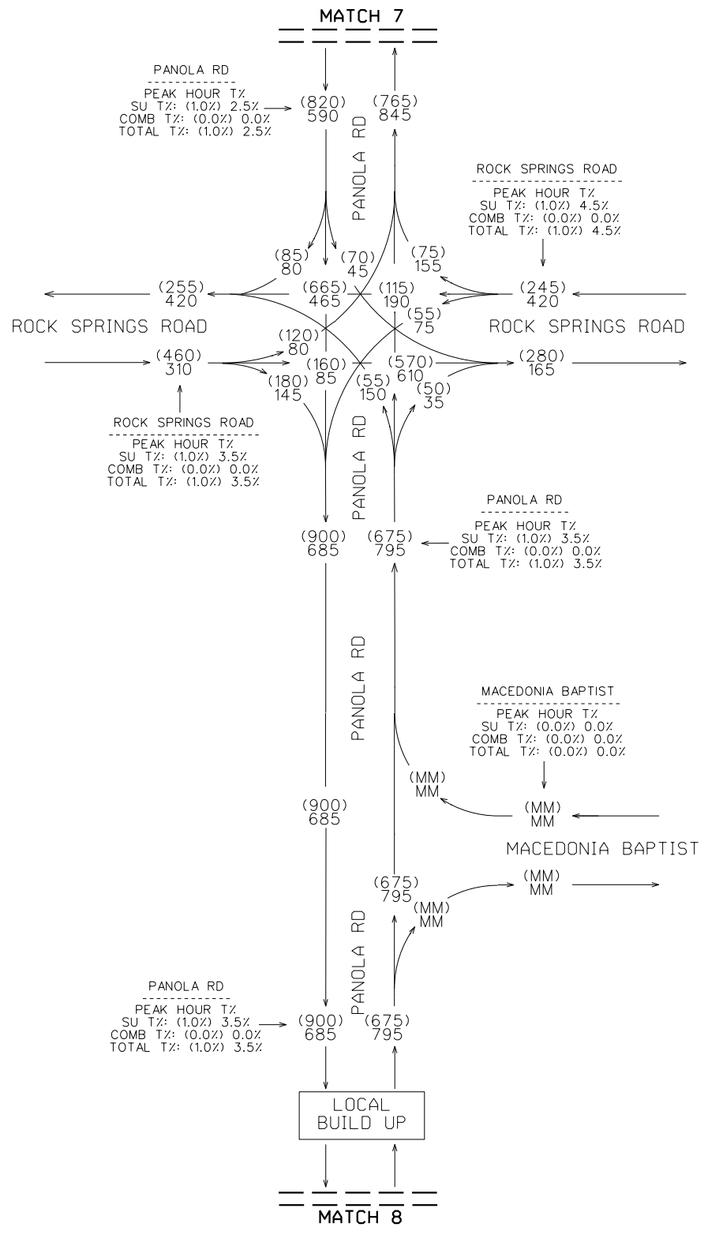

DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 8 OF 14

DRAWING No.
10-0022

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		23	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

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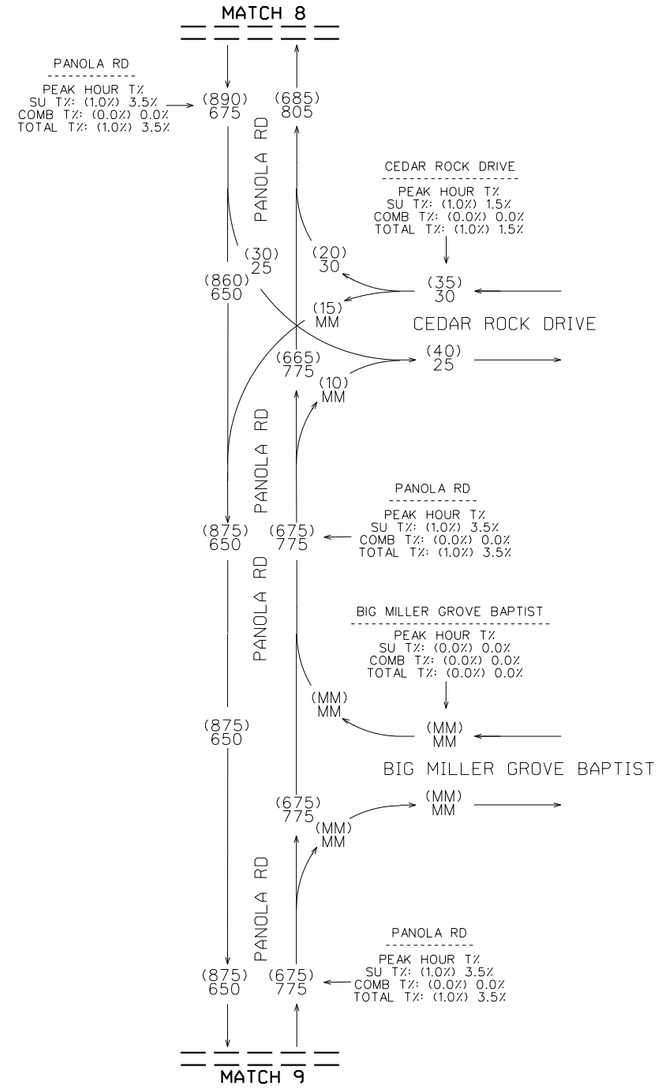


DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

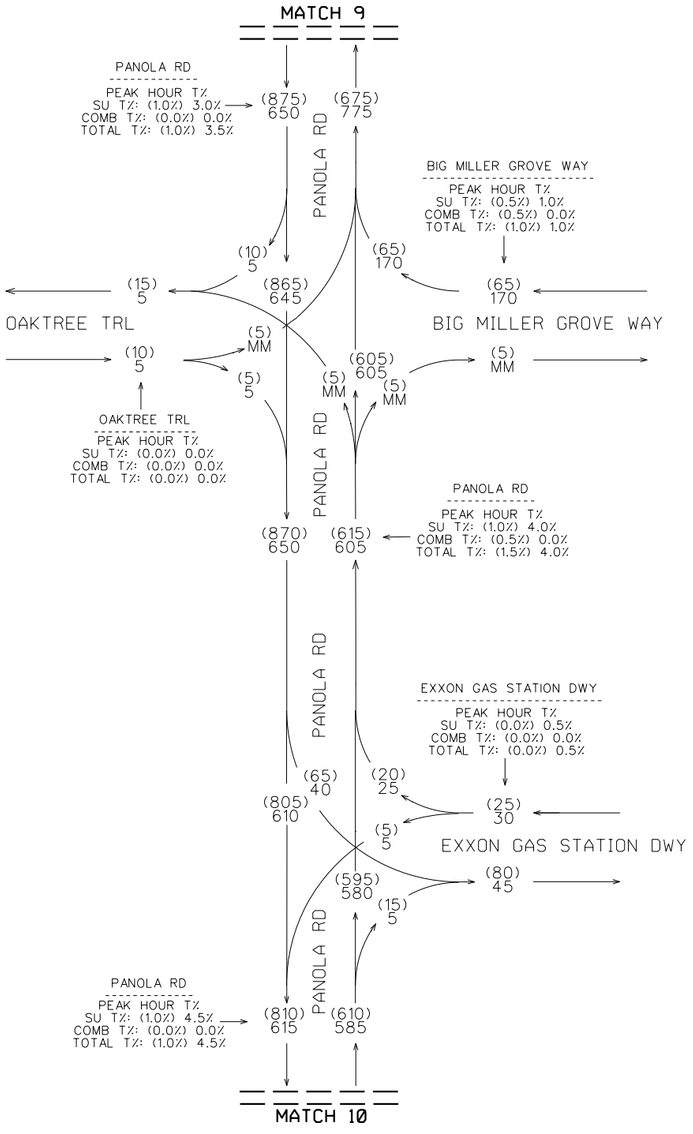
YEAR 2022 DHV
SHEET 9 OF 14

DRAWING No.
10-0023

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		24	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

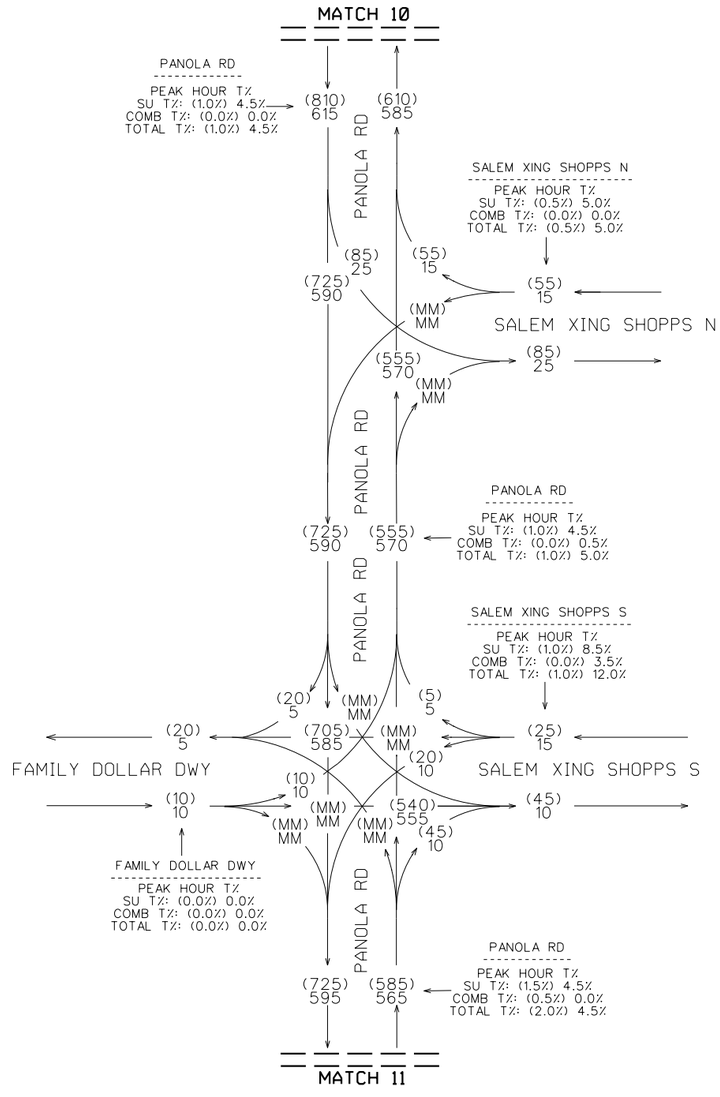
YEAR 2022 DHV
SHEET 10 OF 14

DRAWING No.
10-0024

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		25	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County
GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

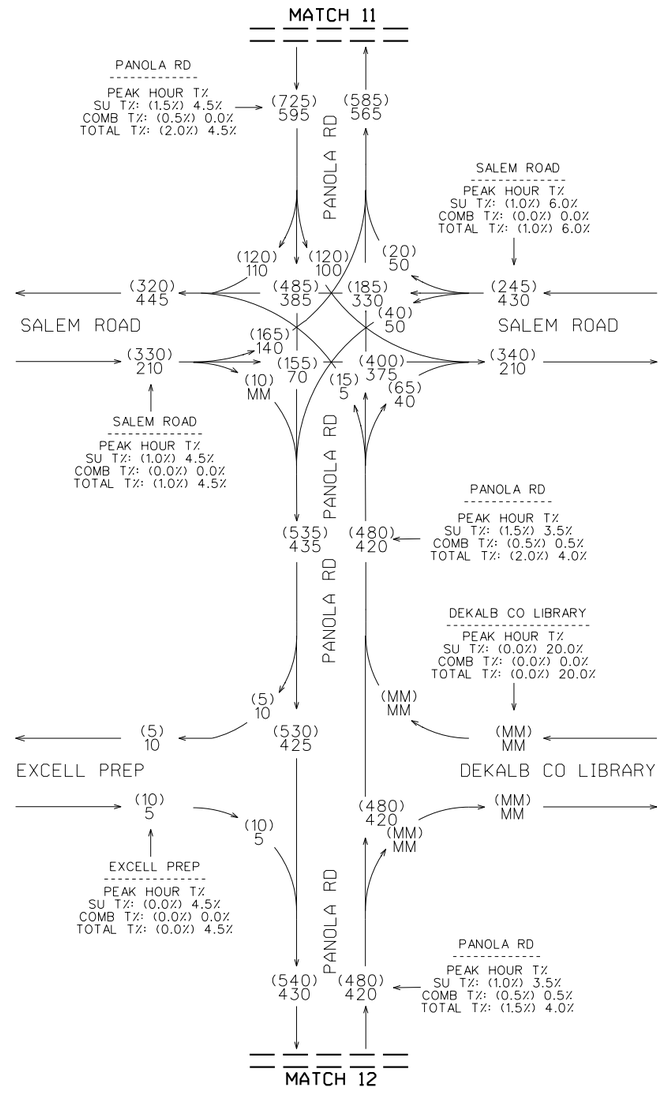
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 11 OF 14

DRAWING No.
10-0025

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		26	84

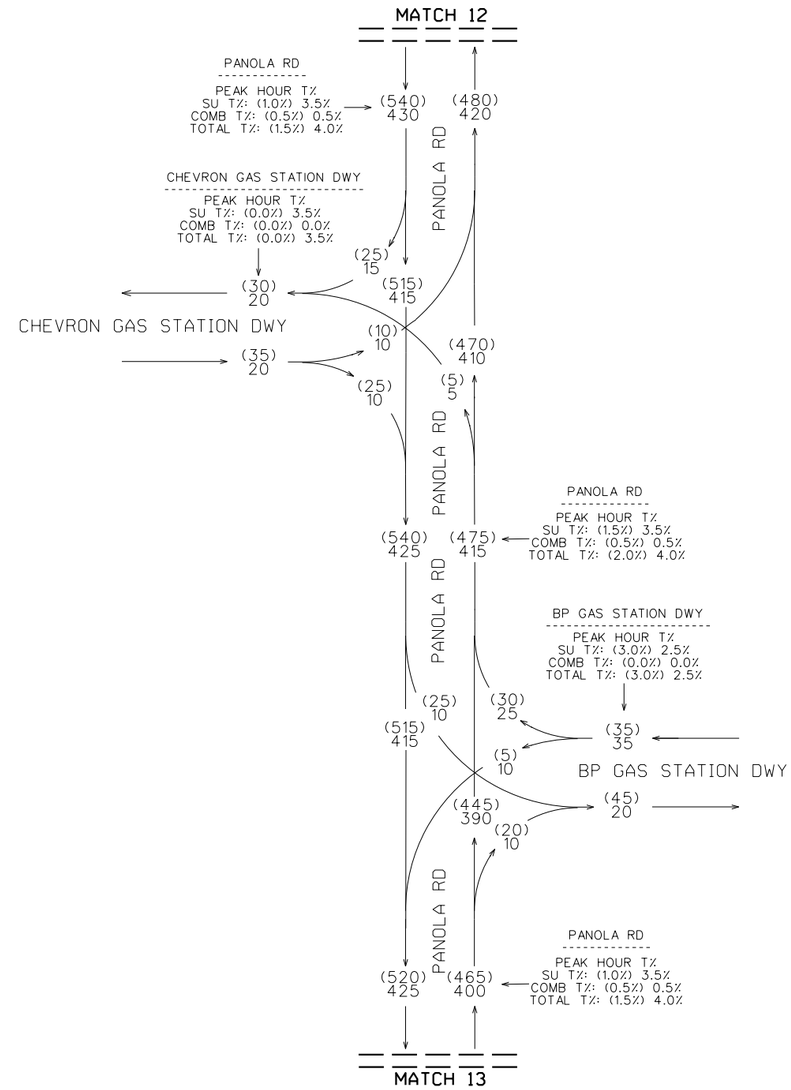
DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX



				REVISION DATES			
	DeKalb County GEORGIA	ARCADIS Design & Consultancy for natural and built assets					DEKALB COUNTY
							TRAFFIC DIAGRAM PANOLA ROAD SCOPING STUDY
							YEAR 2022 DHV SHEET 12 OF 14
							DRAWING No. 10-0026

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		27	84

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

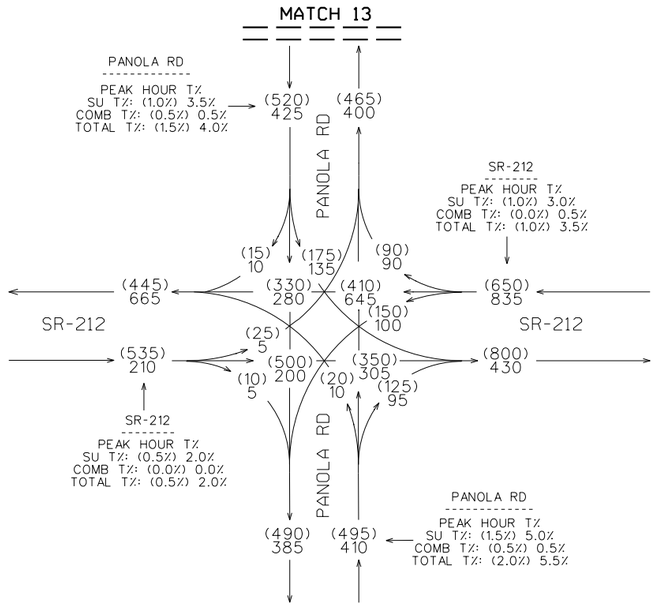
YEAR 2022 DHV
SHEET 13 OF 14

DRAWING No.
10-0027

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		28	84

N

DHV VOLUMES
EXISTING YEAR 2022
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

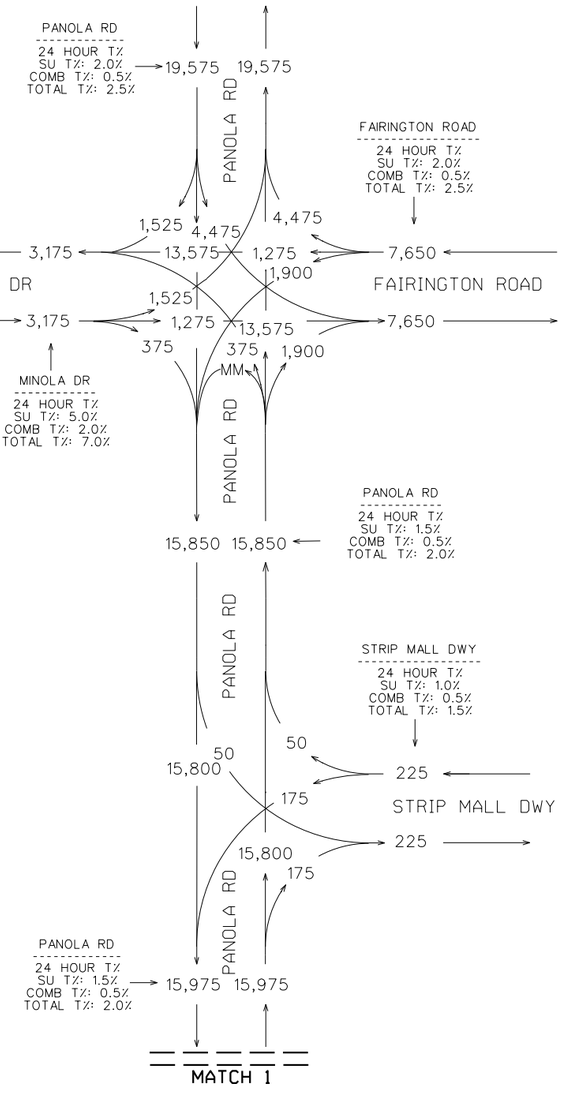
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

YEAR 2022 DHV
SHEET 14 OF 14

DRAWING No.
10-0028

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		29	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

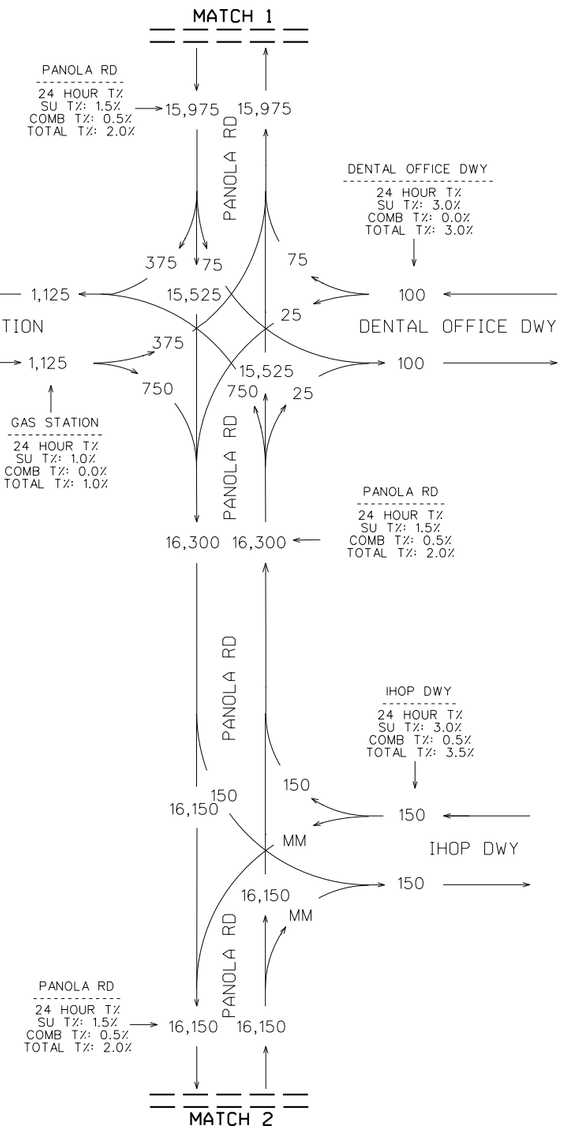
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 1 OF 14

DRAWING No.
10-0029

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		30	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

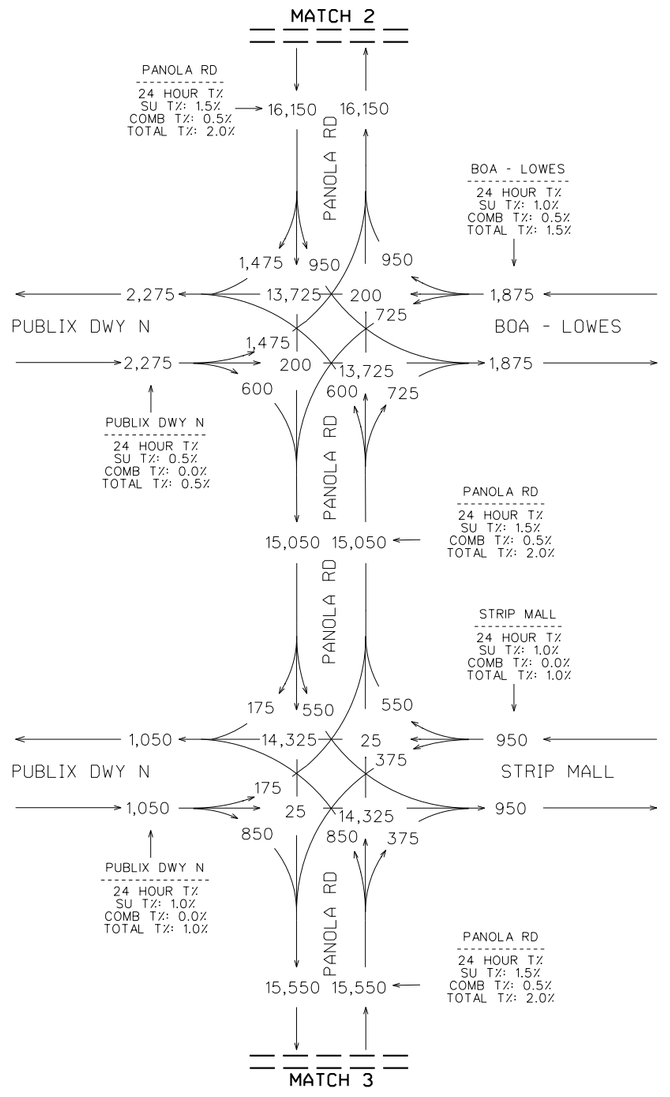
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 2 OF 14

DRAWING No.
10-0030

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		31	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

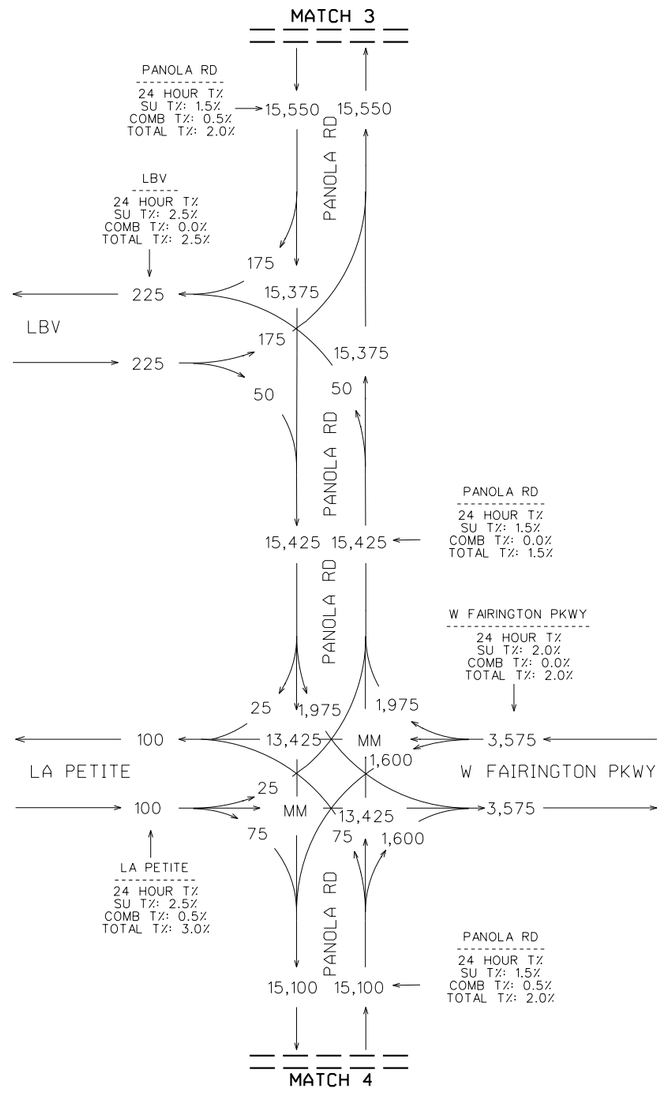
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 3 OF 14

DRAWING No.
10-0031

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		32	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

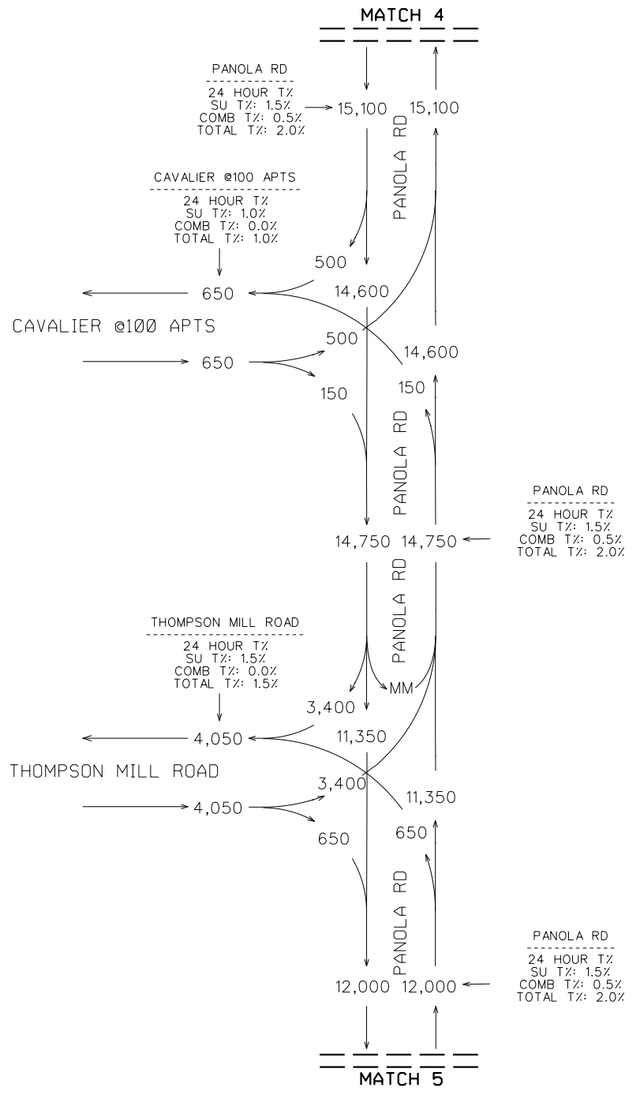
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 4 OF 14

DRAWING No.
10-0032

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		33	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



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DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

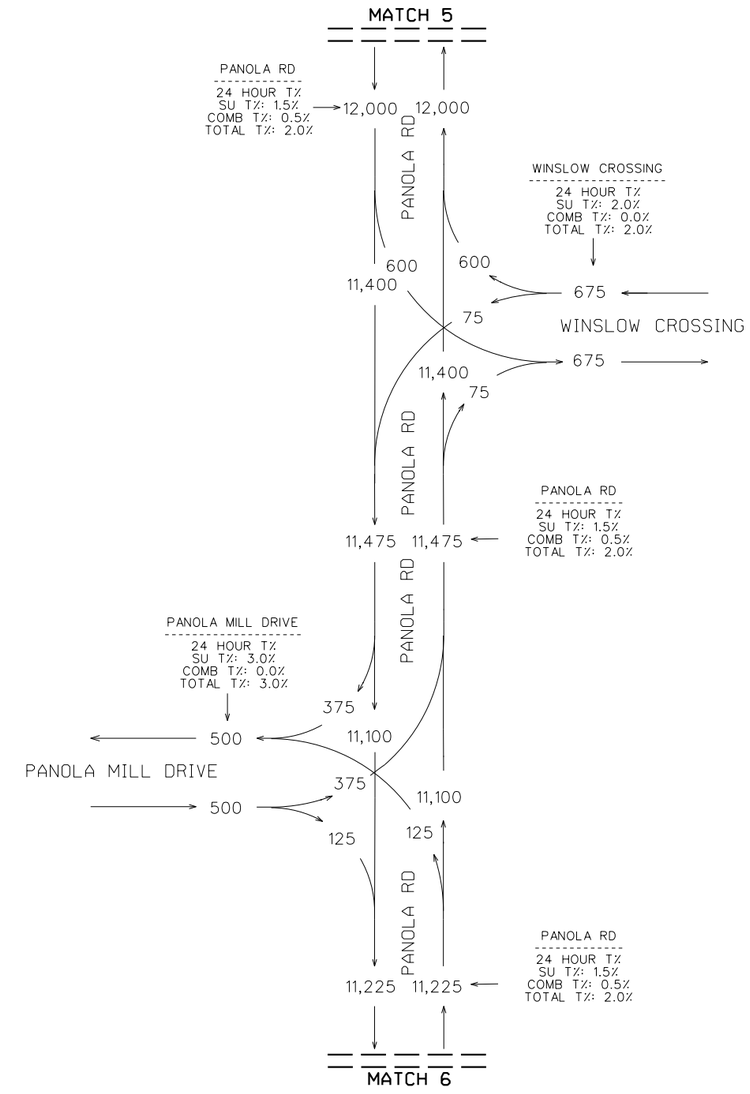
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 5 OF 14

DRAWING No.
10-0033

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		34	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

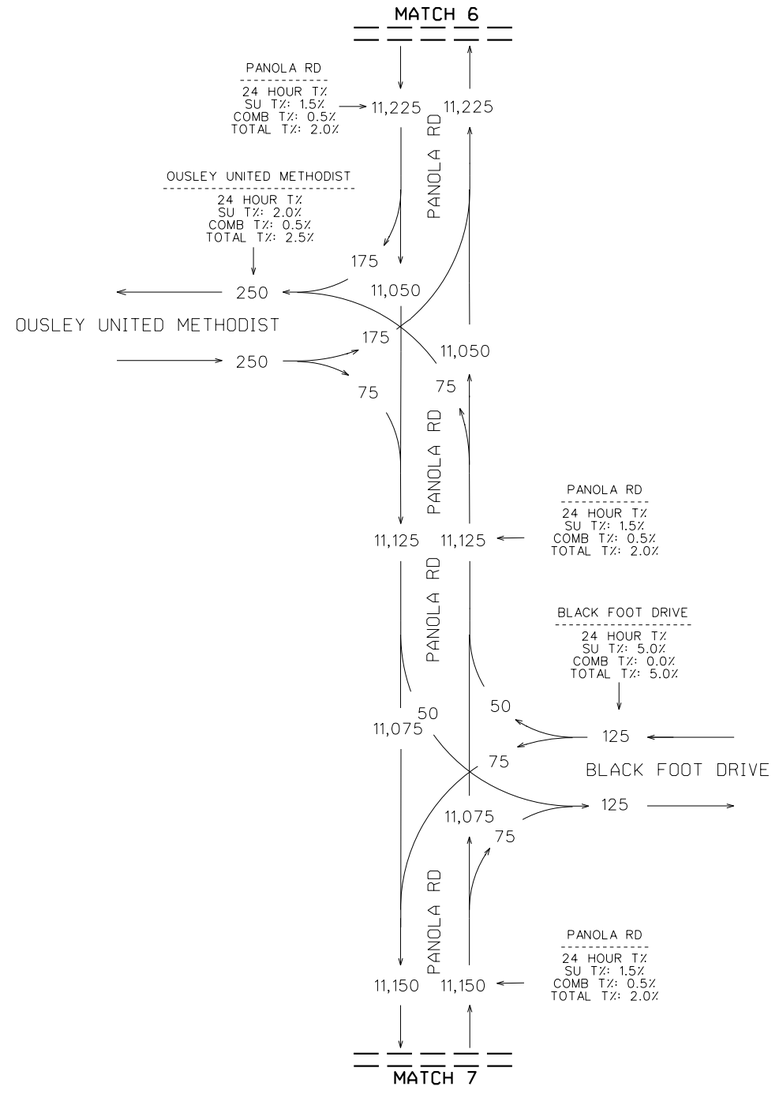
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 6 OF 14

DRAWING No.
10-0034

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		35	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

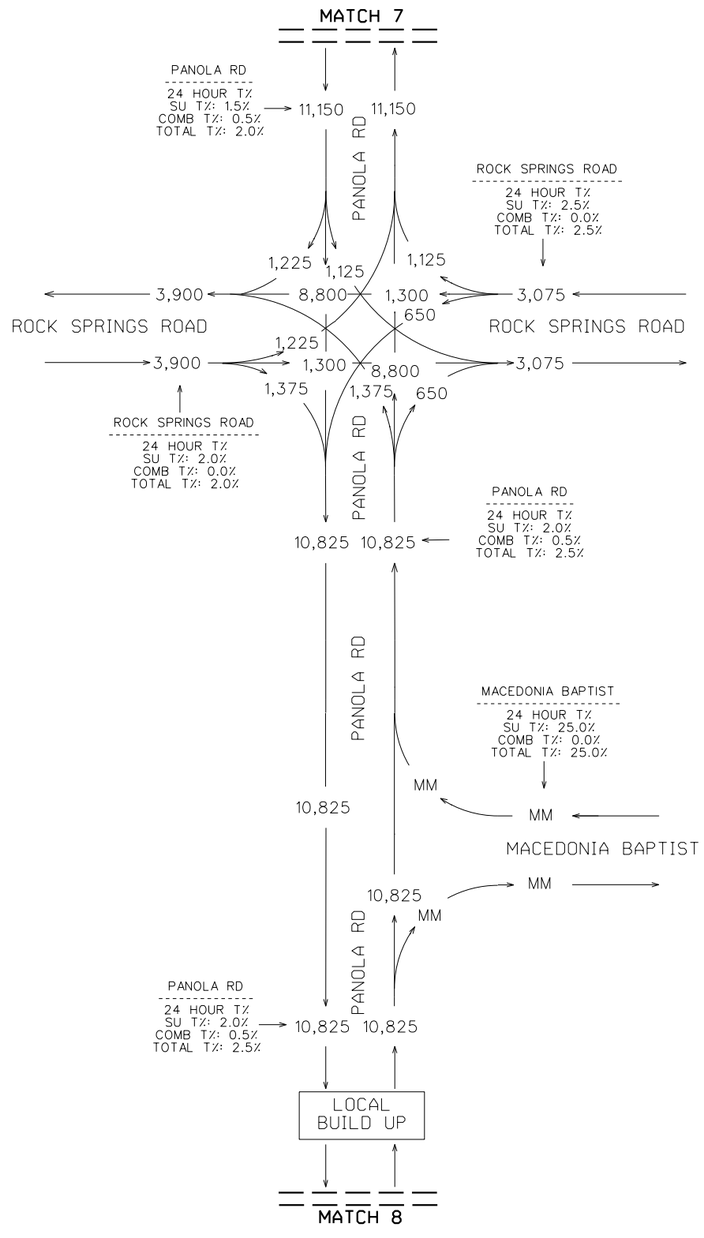
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 7 OF 14

DRAWING No.
10-0035

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		36	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

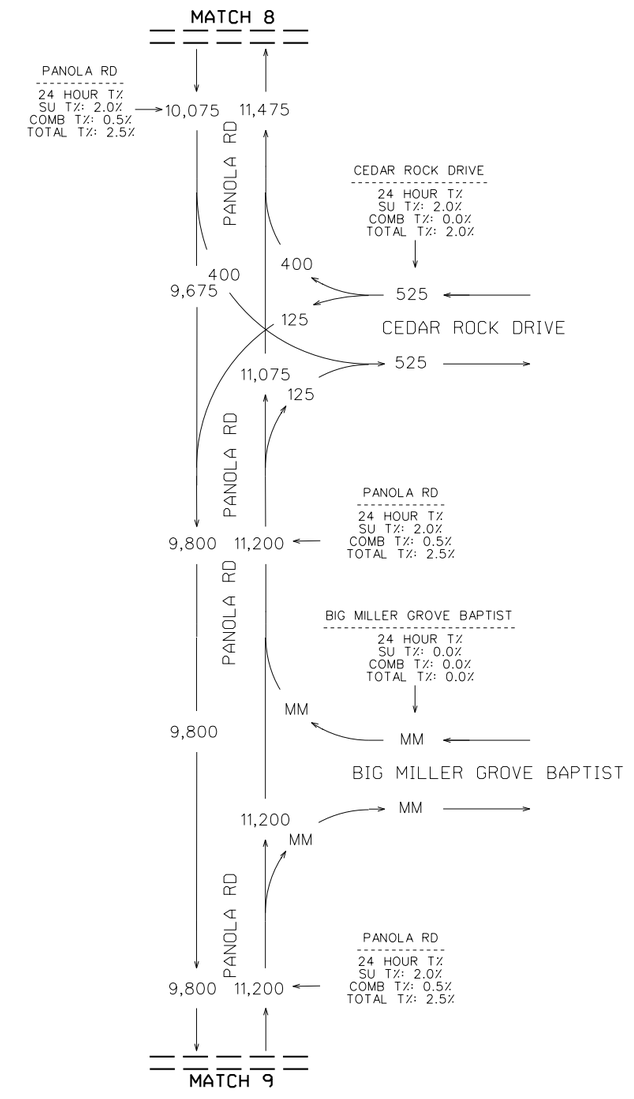
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 8 OF 14

DRAWING No.
10-0036

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		37	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

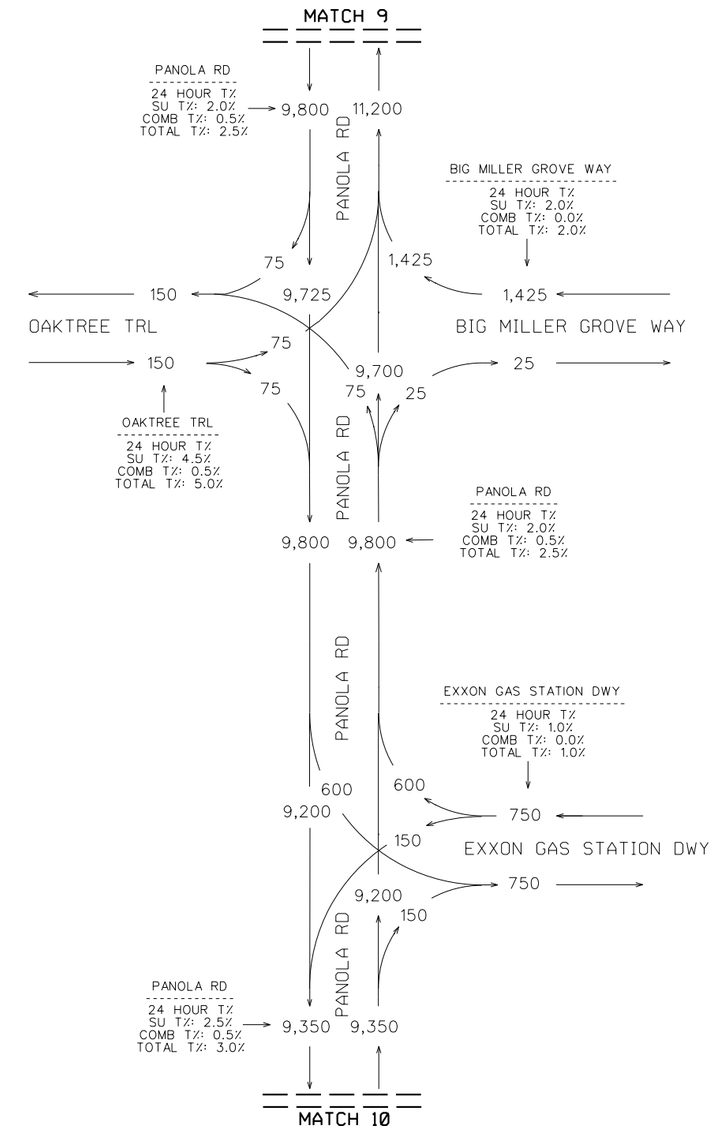
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 9 OF 14

DRAWING No.
10-0037

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		38	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

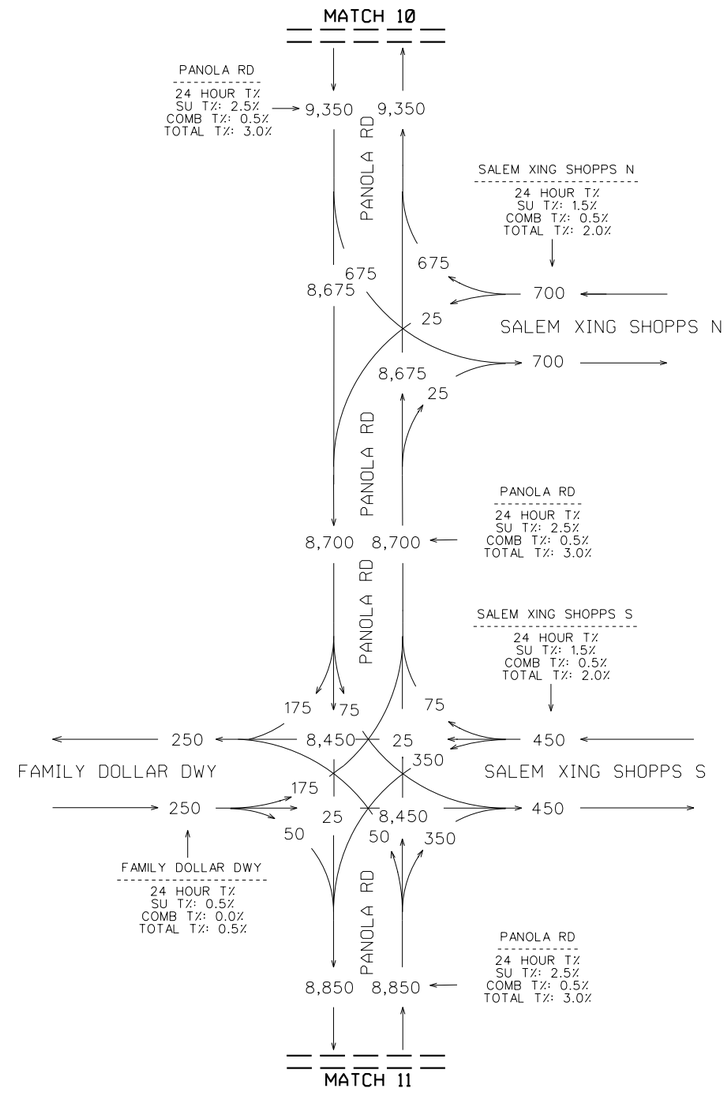
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 10 OF 14

DRAWING No.
10-0038

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		39	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

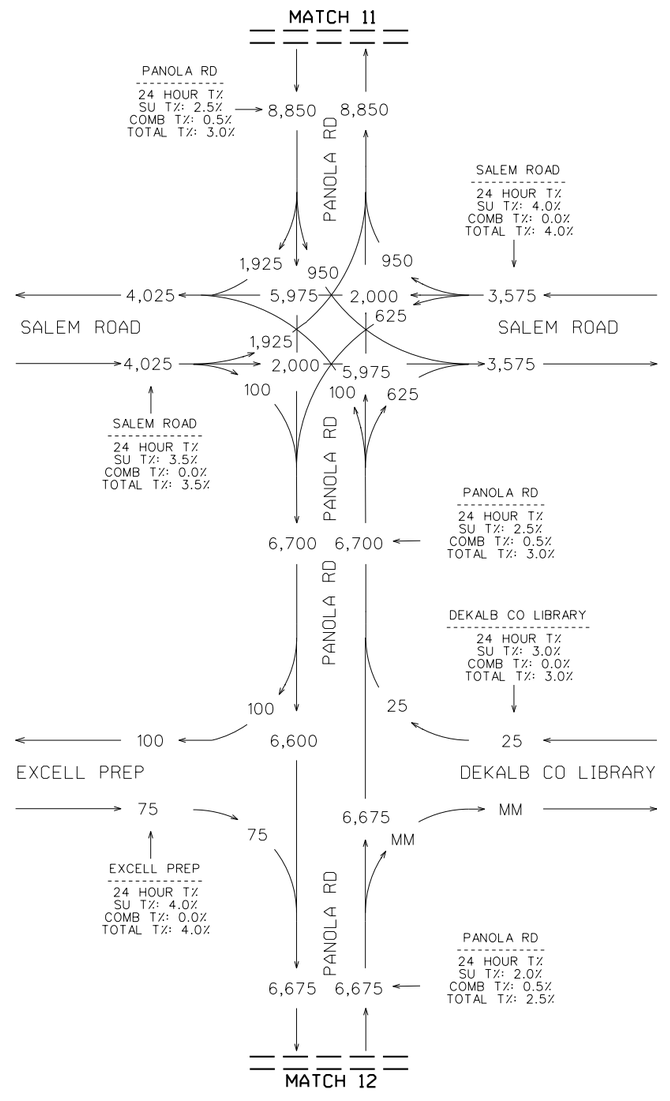
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 11 OF 14

DRAWING No.
10-0039

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		40	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

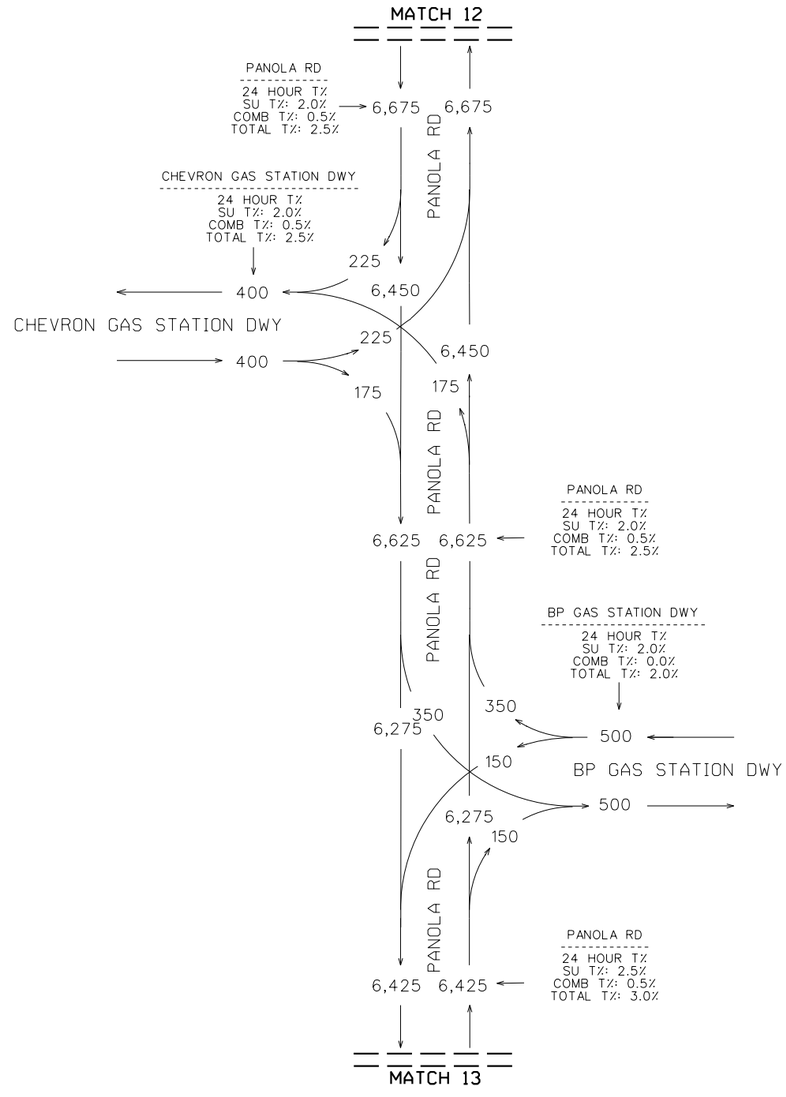
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD AADT
SHEET 12 OF 14

DRAWING No.
10-0040

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		41	84

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

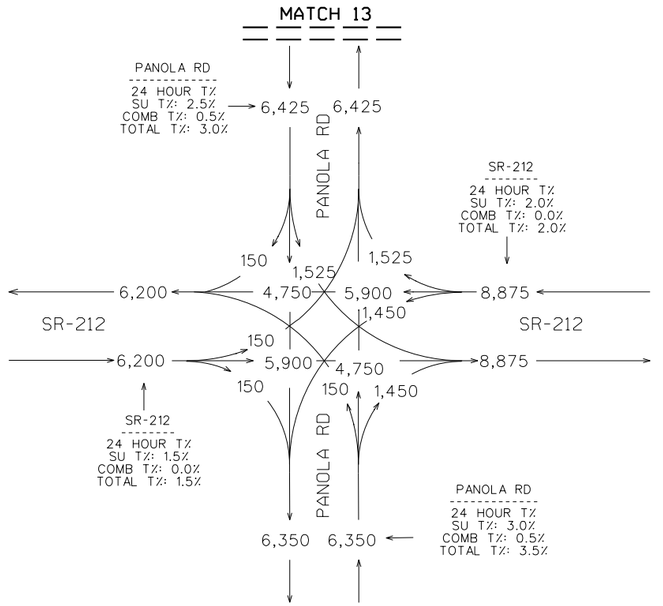
OPEN YEAR 2027 NO-BUILD AADT
SHEET 13 OF 14

DRAWING No.
10-0041

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		42	84

N

AADT VOLUMES
OPEN YEAR 2027
NO-BUILD
AADT = XXX



DeKalb County
GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

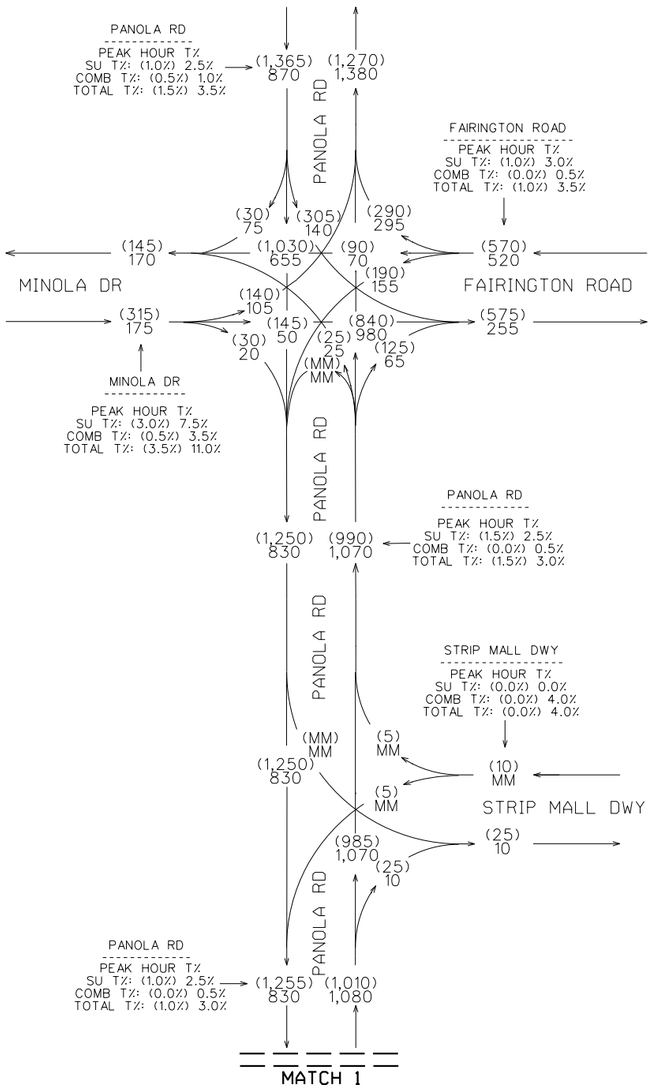
OPEN YEAR 2027 NO-BUILD AADT
SHEET 14 OF 14

DRAWING No.
10-0042

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		43	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

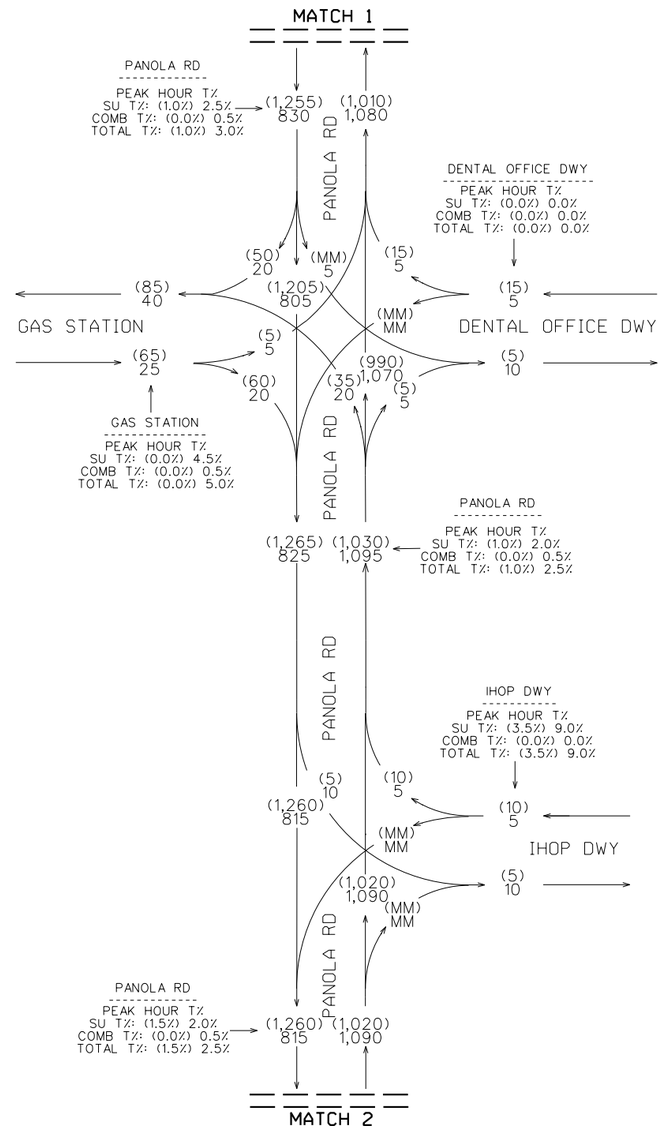
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 1 OF 14

DRAWING No.
10-0043

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		44	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

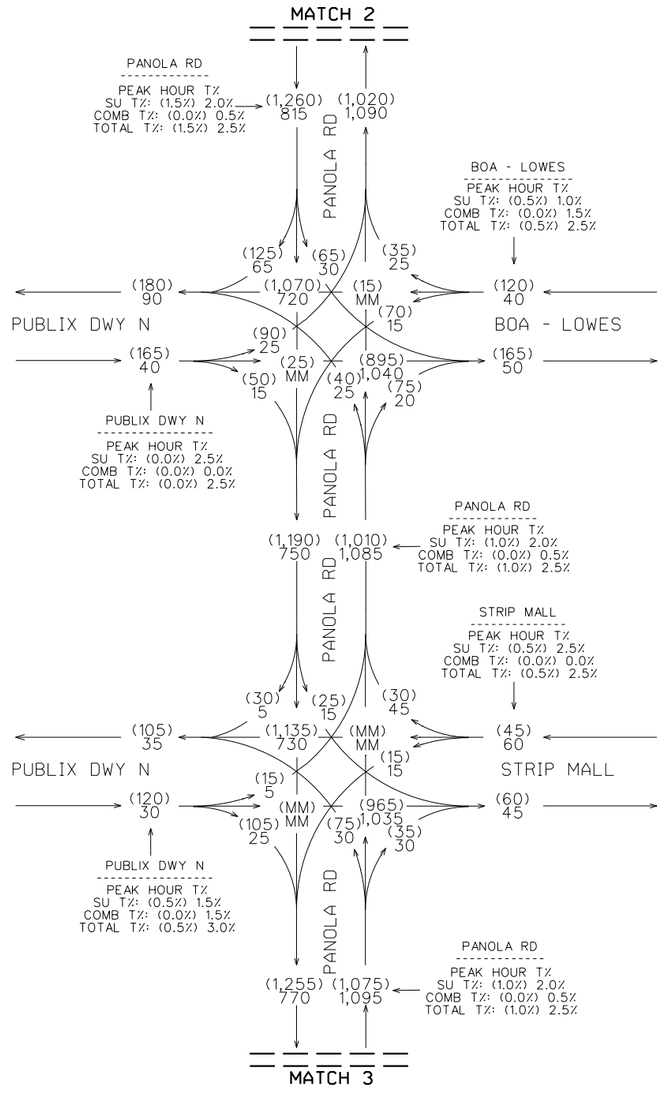
OPEN YEAR 2027 NO-BUILD DHV
SHEET 2 OF 14

DRAWING No.
10-0044

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		45	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



REVISION DATES		

DeKalb County GEORGIA

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DEKALB COUNTY

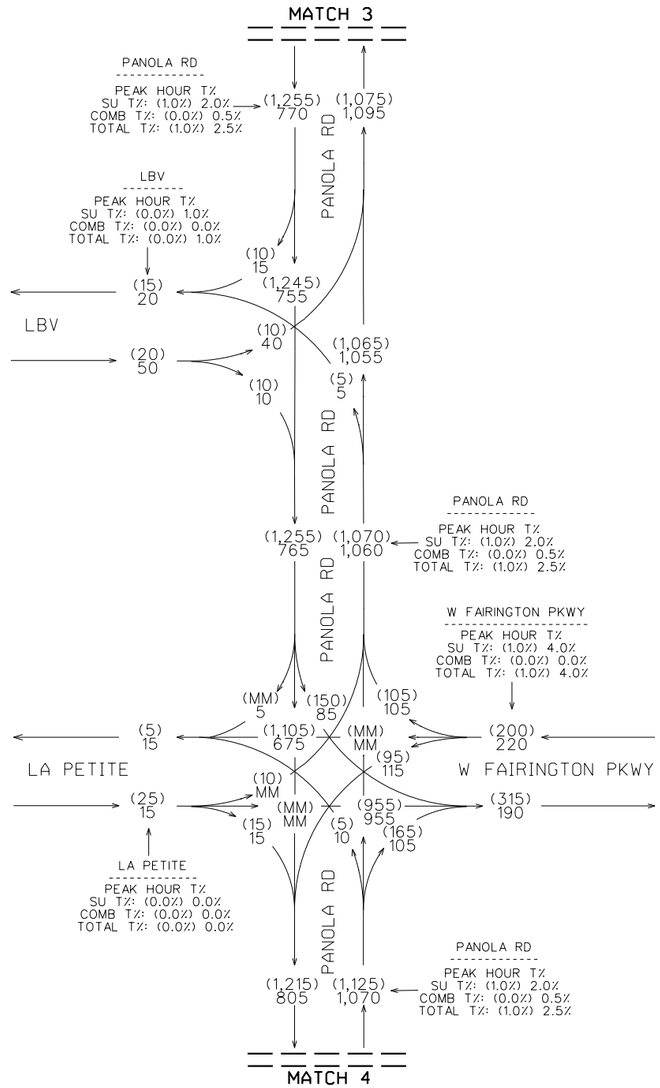
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 3 OF 14

DRAWING No.
10-0045

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		46	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



REVISION DATES		

DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

DEKALB COUNTY

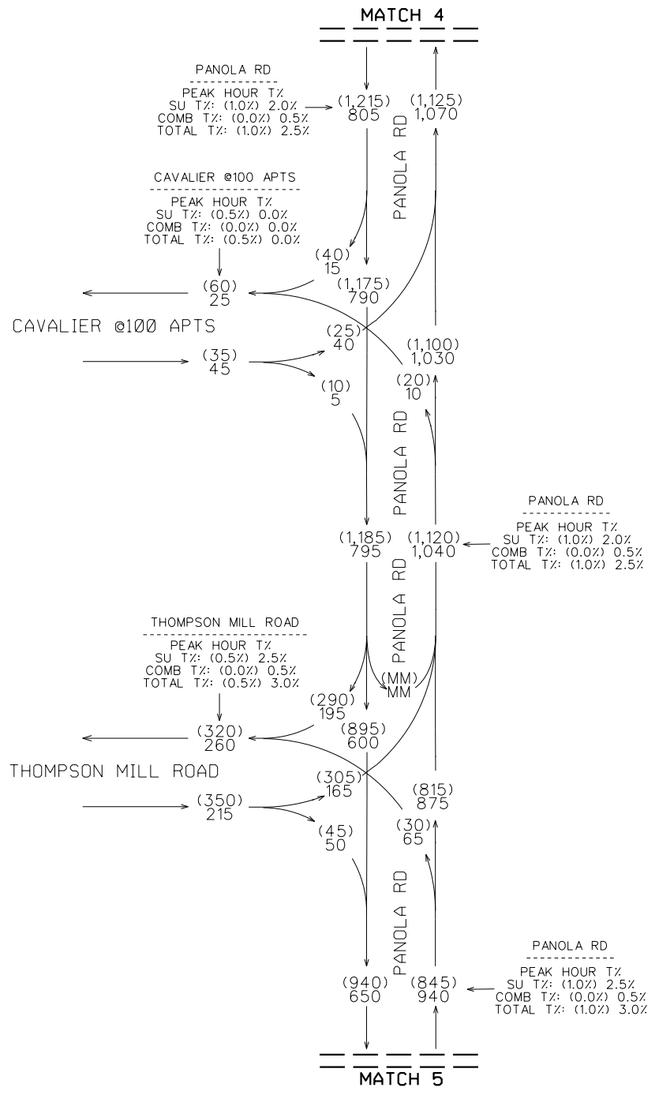
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 4 OF 14

DRAWING No.
10-0046

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		47	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

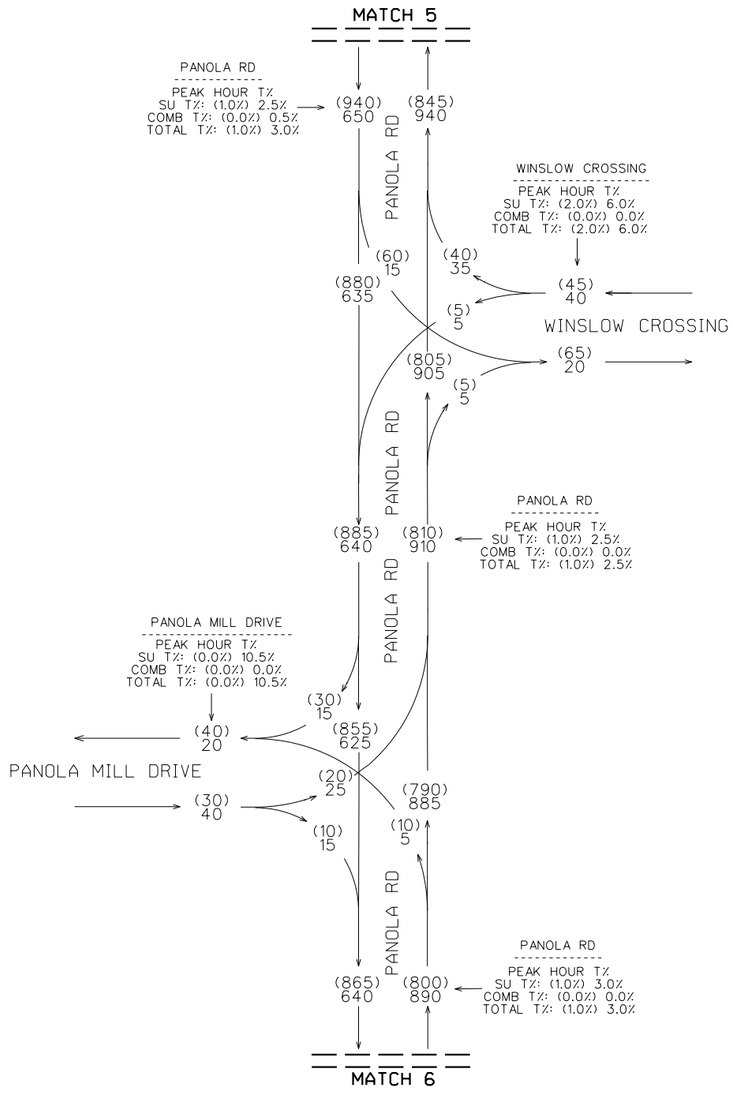
OPEN YEAR 2027 NO-BUILD DHV
SHEET 5 OF 14

DRAWING No. 10-0047

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		48	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

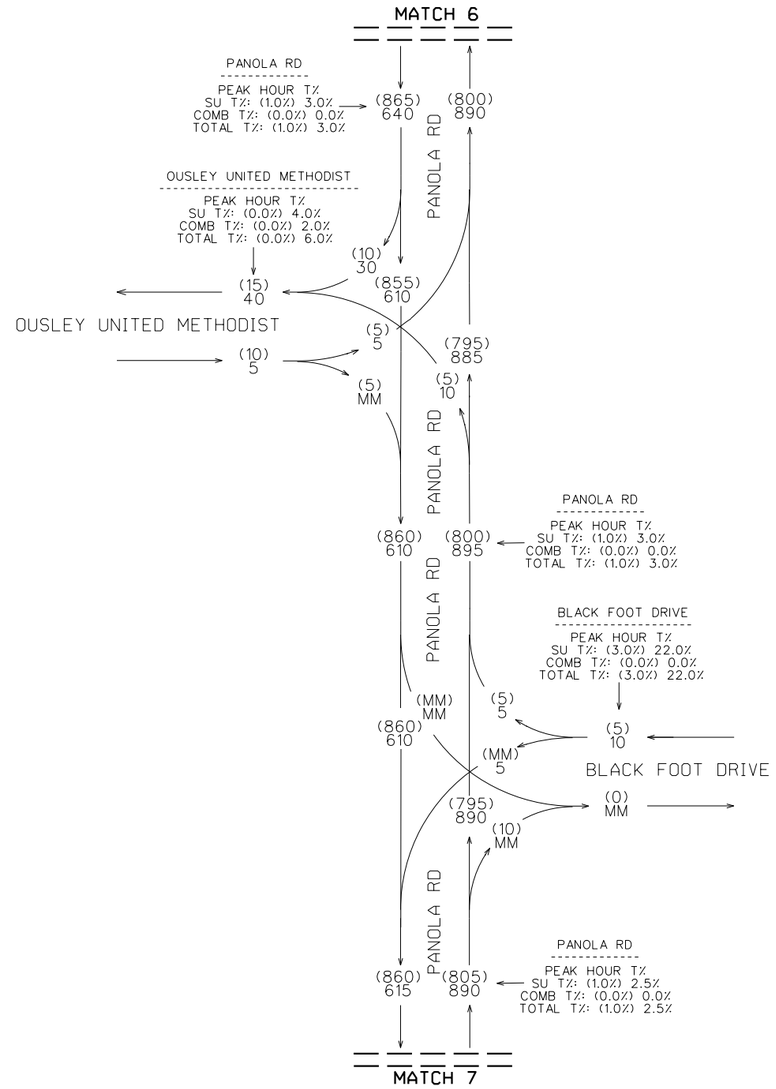
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 6 OF 14

DRAWING No.
10-0048

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		49	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

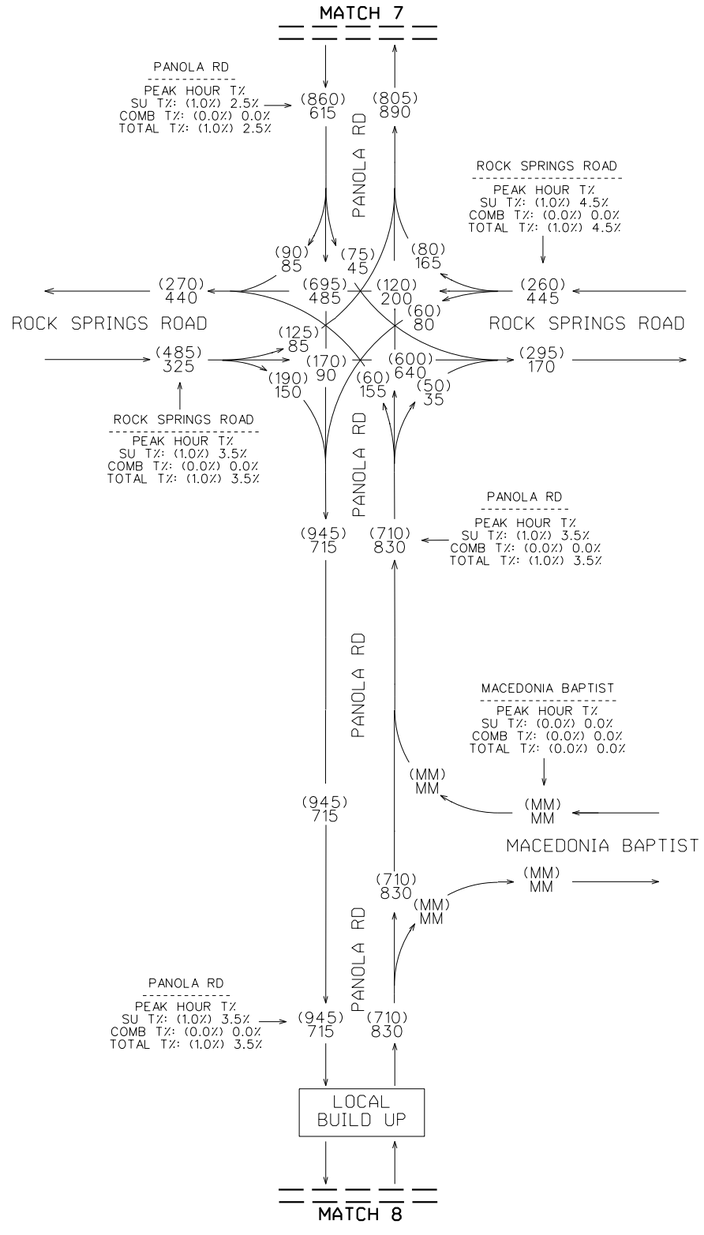
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 7 OF 14

DRAWING No.
10-0049

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		50	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

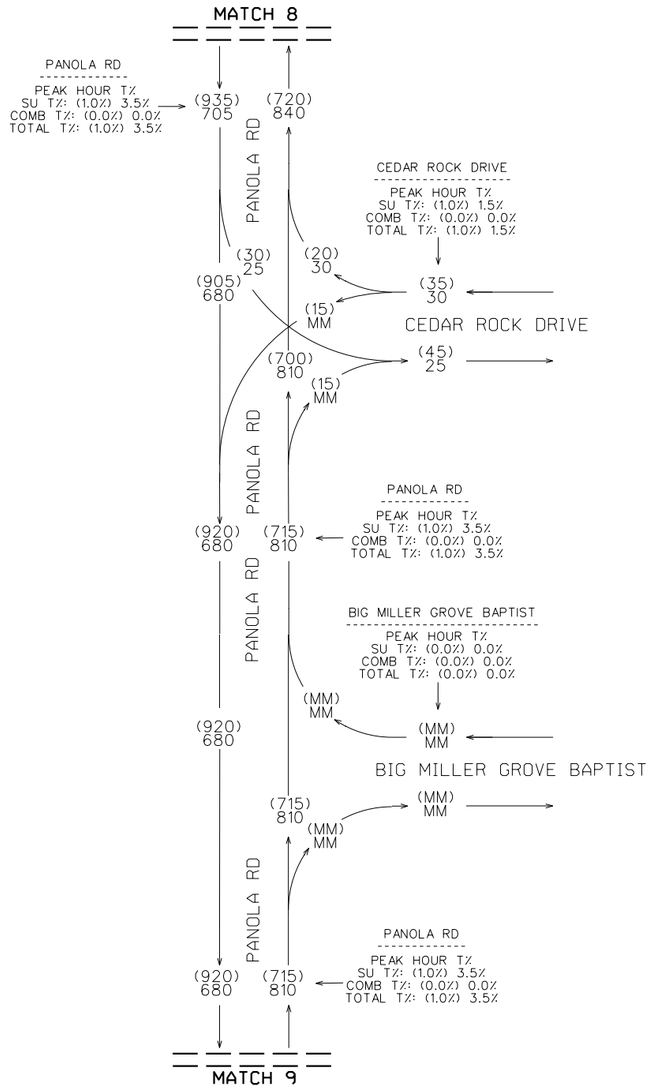
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 8 OF 14

DRAWING No.
10-0050

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		51	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

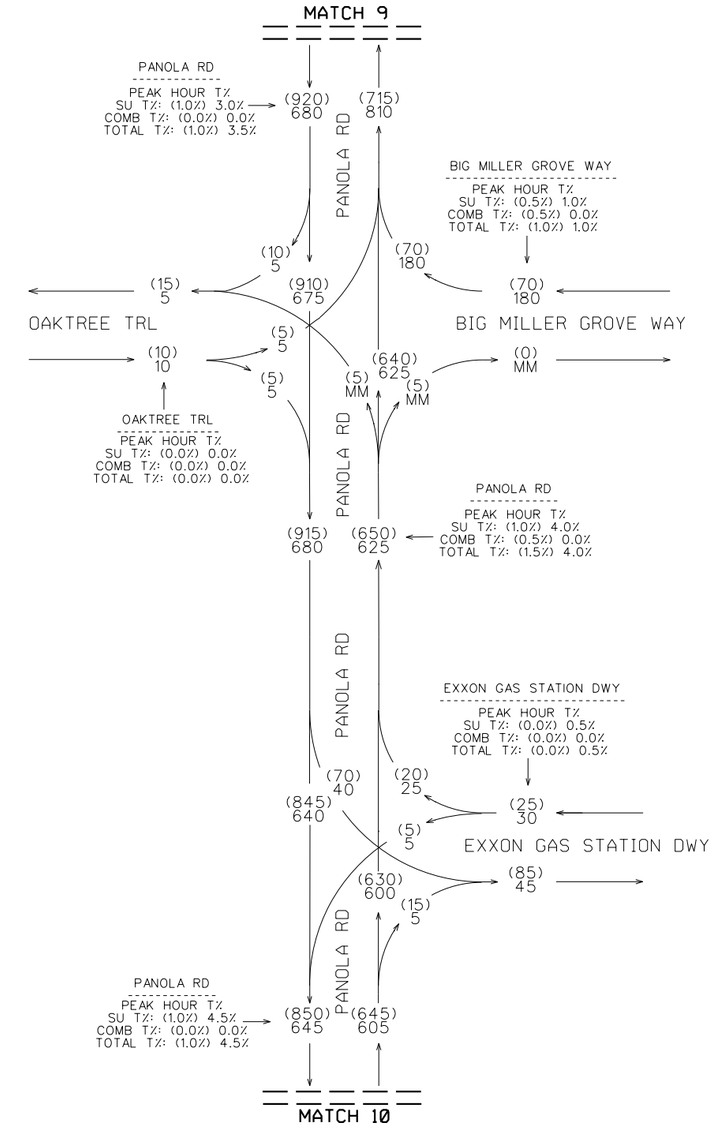
OPEN YEAR 2027 NO-BUILD DHV
SHEET 9 OF 14

DRAWING No.
10-0051

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		52	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

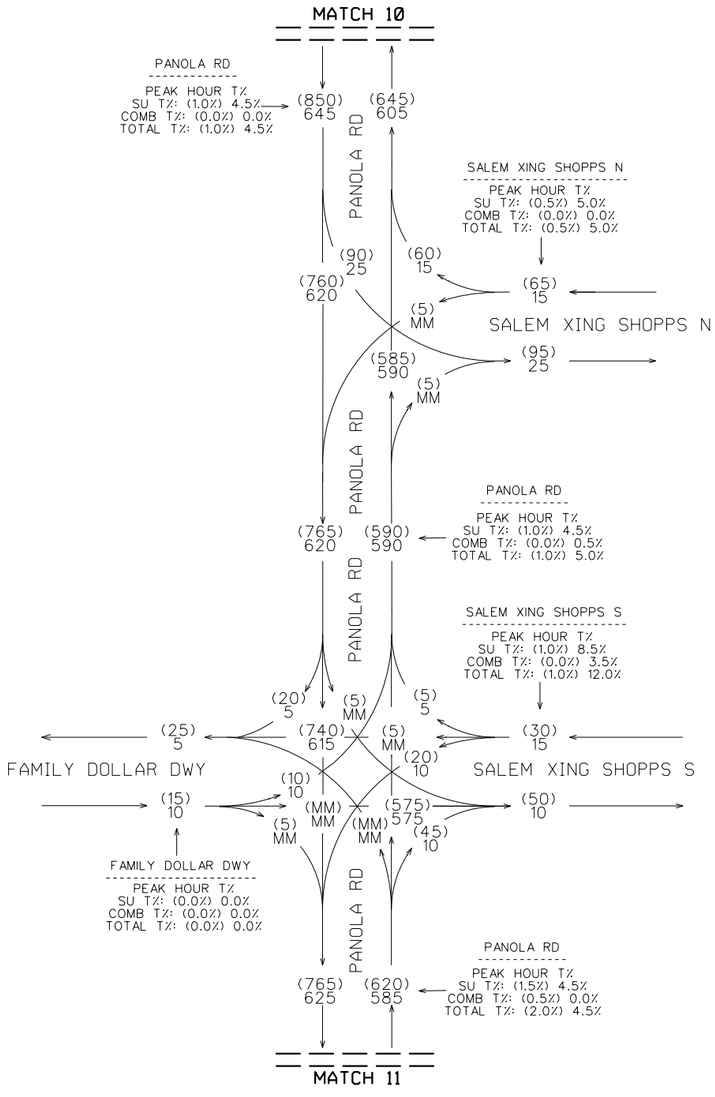
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 10 OF 14

DRAWING No.
10-0052

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		53	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

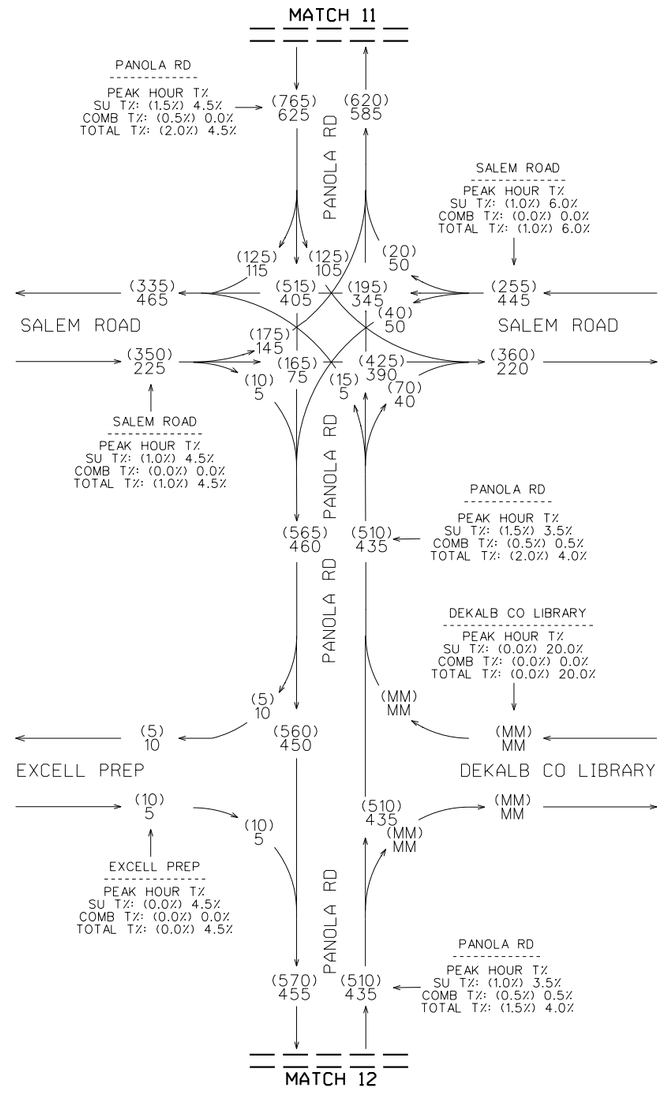
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 11 OF 14

DRAWING No.
10-0053

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		54	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

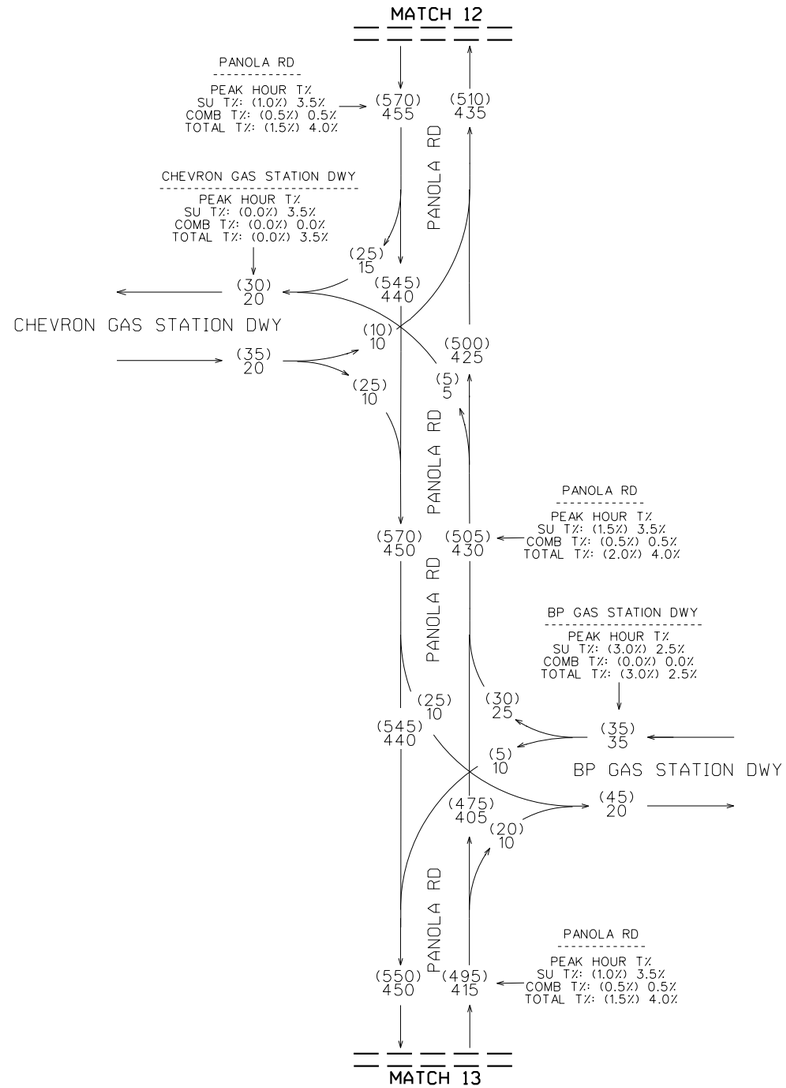
OPEN YEAR 2027 NO-BUILD DHV
SHEET 12 OF 14

DRAWING No.
10-0054

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		55	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

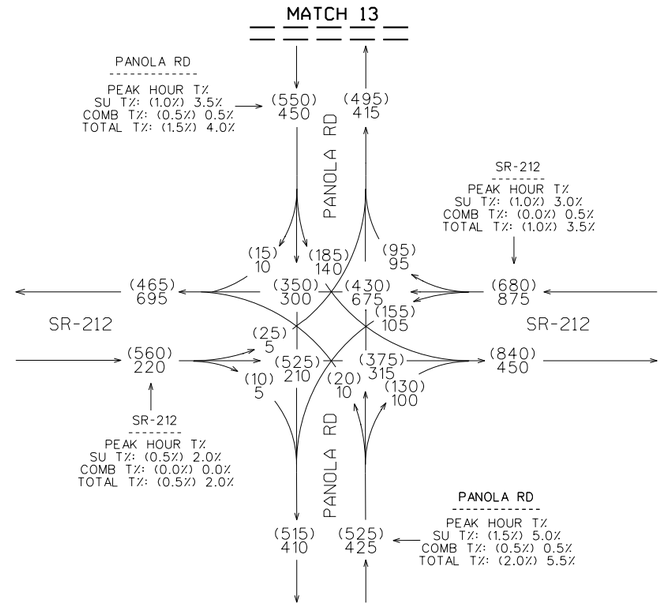
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

OPEN YEAR 2027 NO-BUILD DHV
SHEET 13 OF 14

DRAWING No.
10-0055

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		56	84

DHV VOLUMES
OPEN YEAR 2027
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

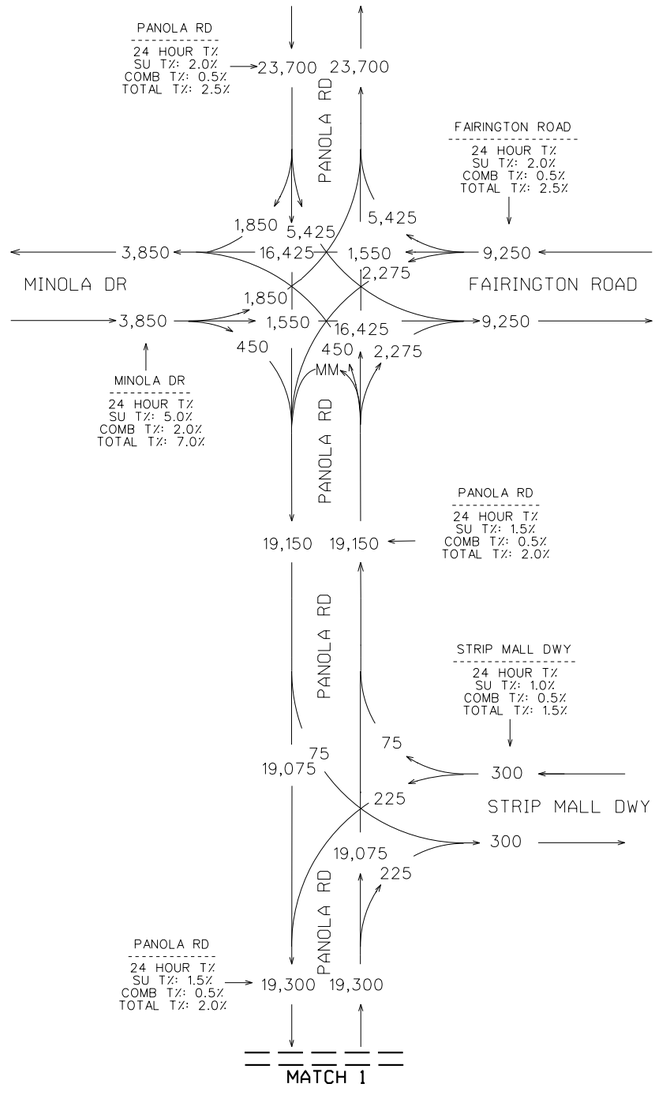
OPEN YEAR 2027 NO-BUILD DHV
SHEET 14 OF 14

DRAWING No.
10-0056

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		57	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX

N



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

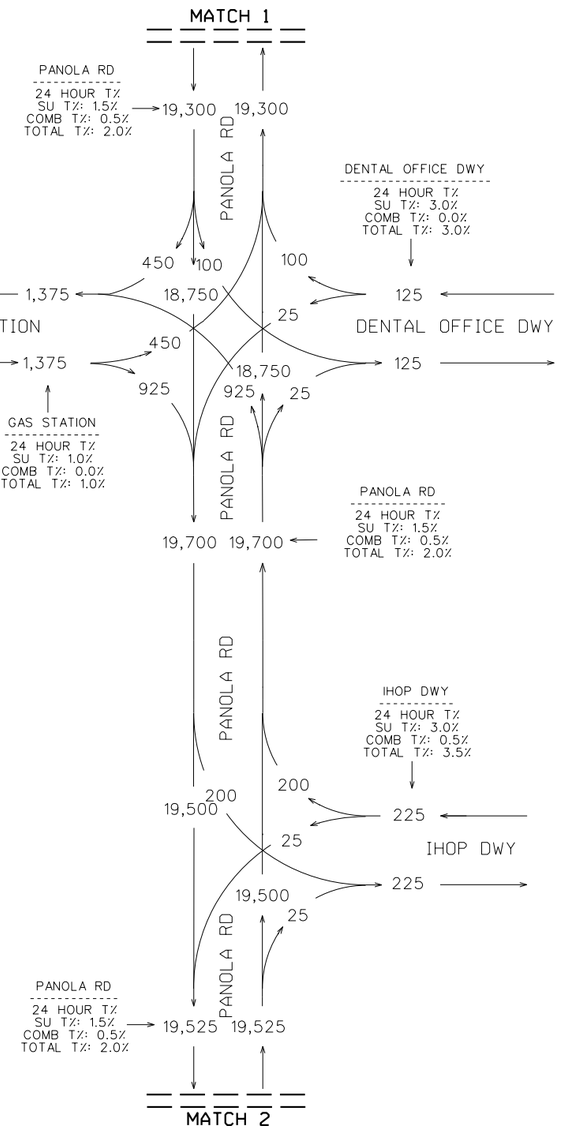
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD AADT
SHEET 1 OF 14

DRAWING No.
10-0057

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		58	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

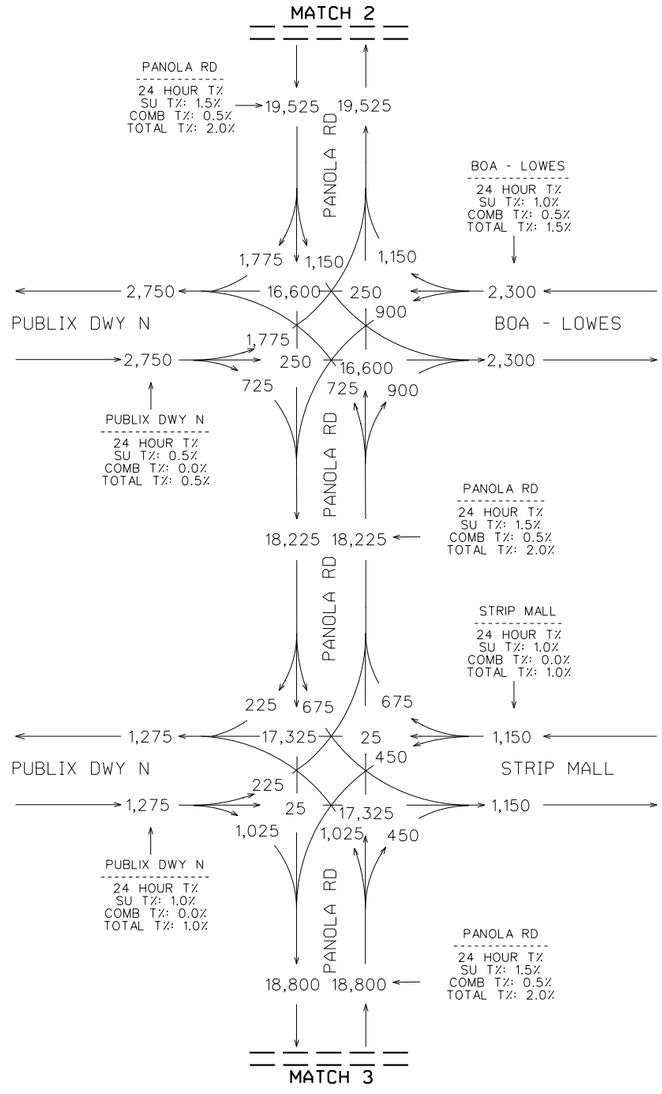
DESIGN YEAR 2047 NO-BUILD AADT
SHEET 2 OF 14

DRAWING No.
10-0058

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		59	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX

N



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

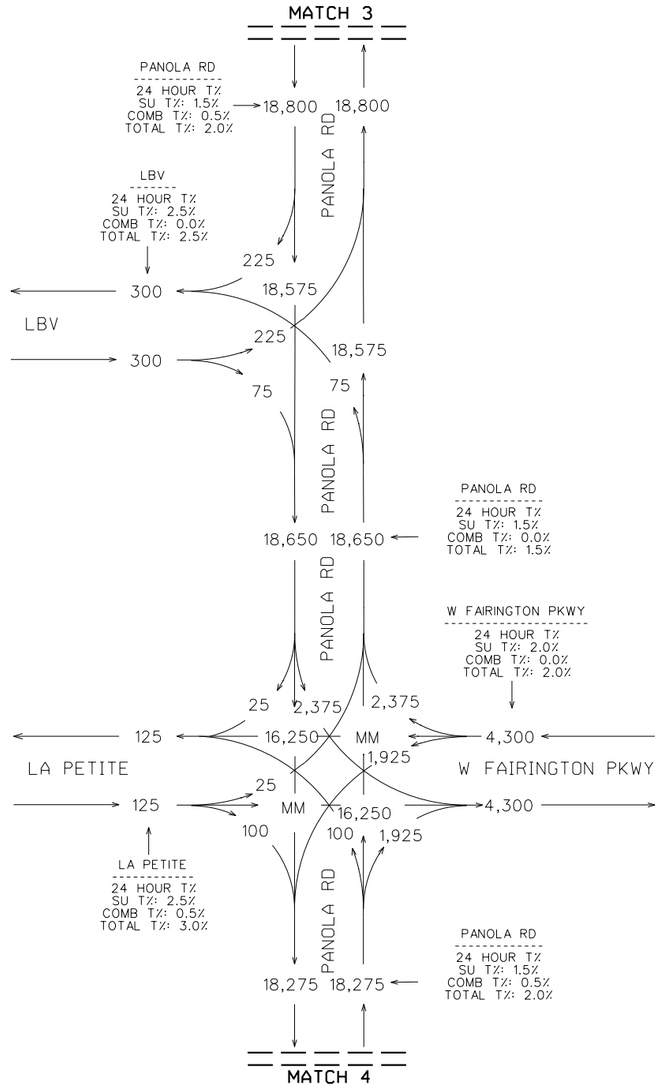
DESIGN YEAR 2047 NO-BUILD AADT
SHEET 3 OF 14

DRAWING No.
10-0059

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		60	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX

N



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

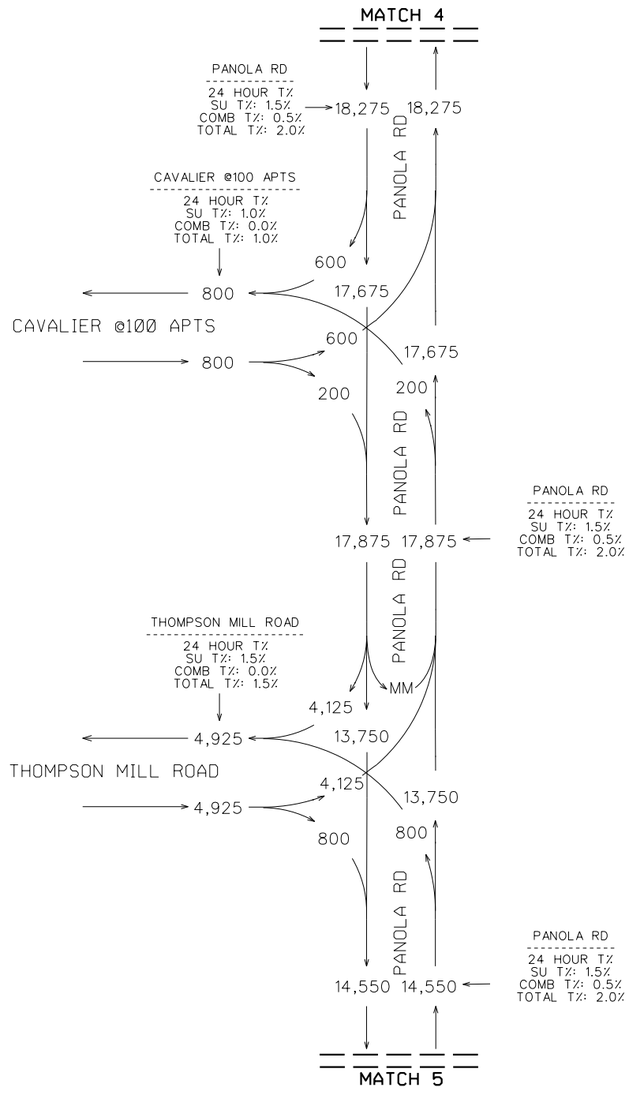
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD AADT
SHEET 4 OF 14

DRAWING No.
10-0060

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		61	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

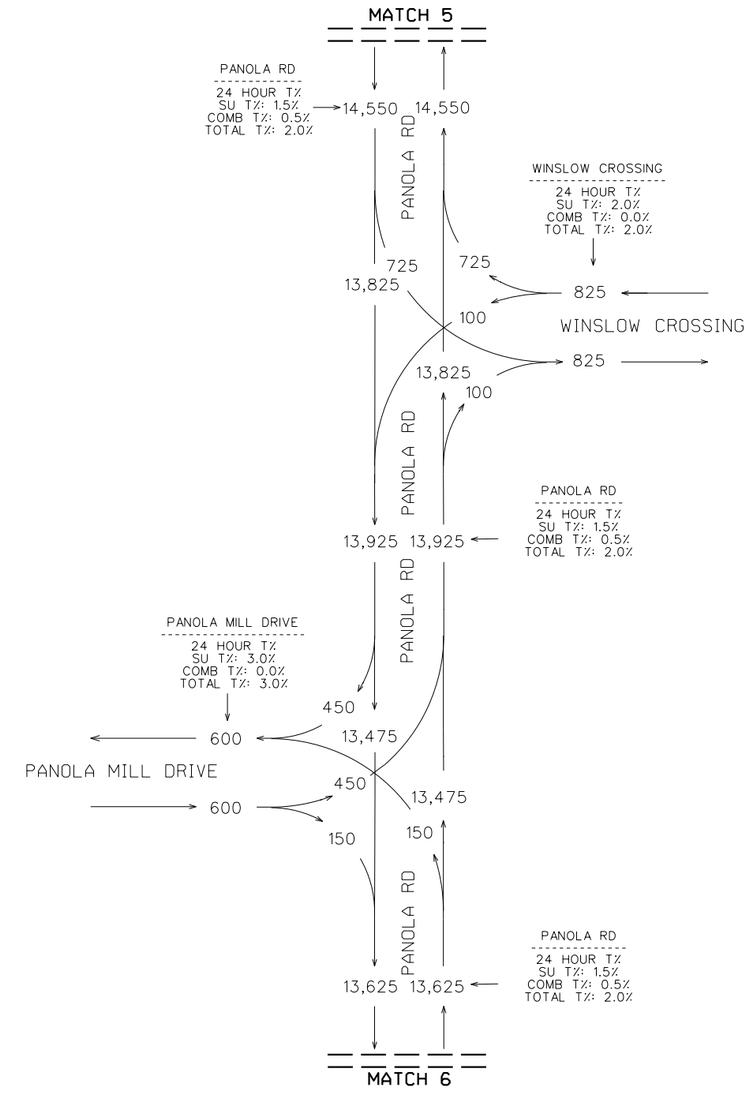
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD AADT
SHEET 5 OF 14

DRAWING No.
10-0061

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		62	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX



REVISION DATES		

DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

DEKALB COUNTY

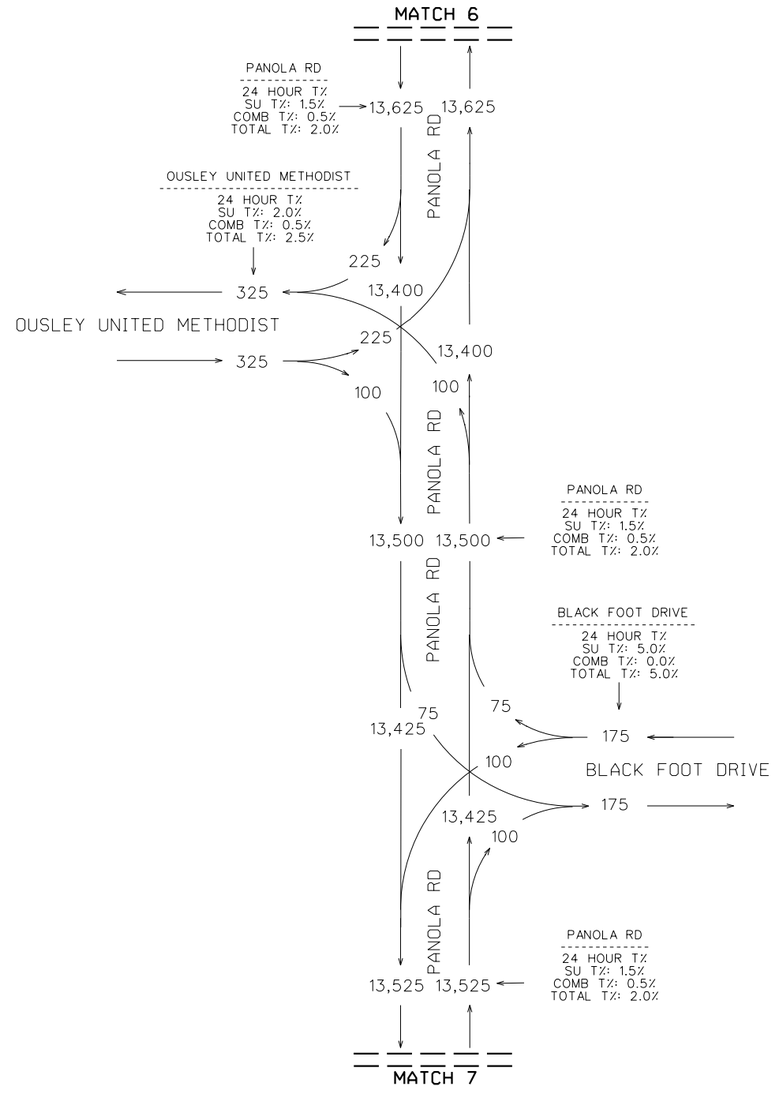
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD AADT
SHEET 6 OF 14

DRAWING No.
10-0062

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		63	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

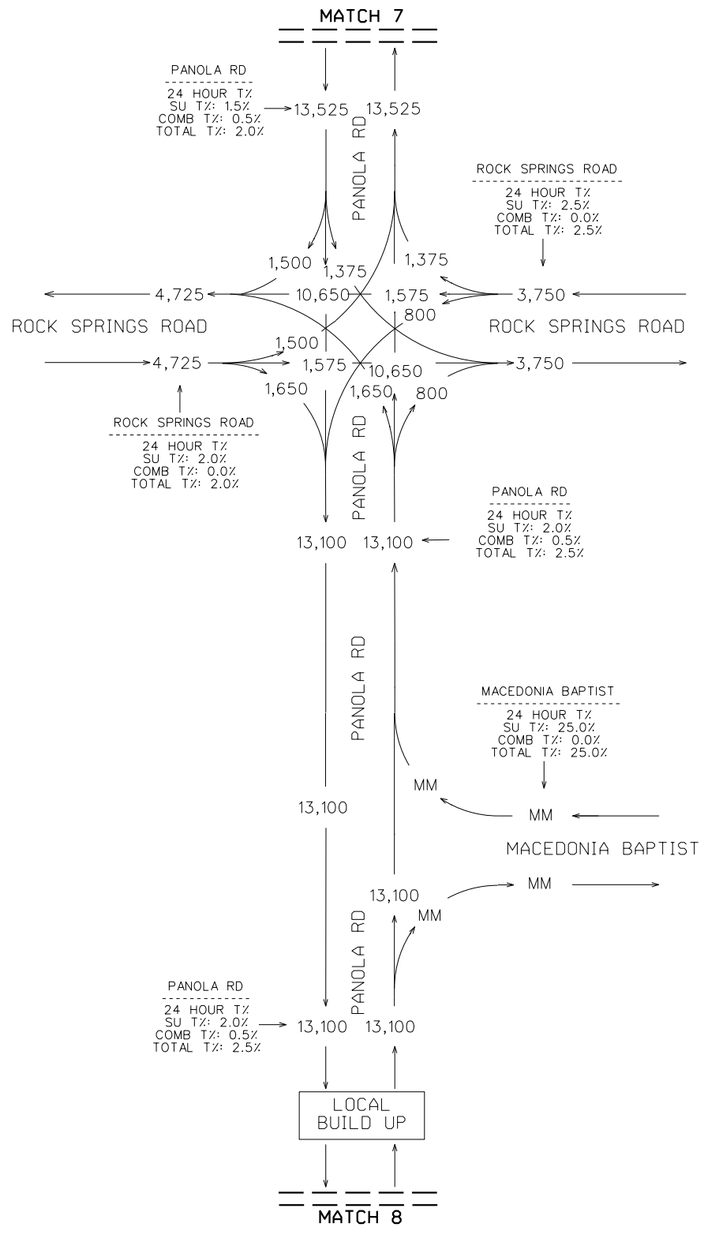
DESIGN YEAR 2047 NO-BUILD AADT
SHEET 7 OF 14

DRAWING No.
10-0063

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		64	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX

N



DeKalb County
GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

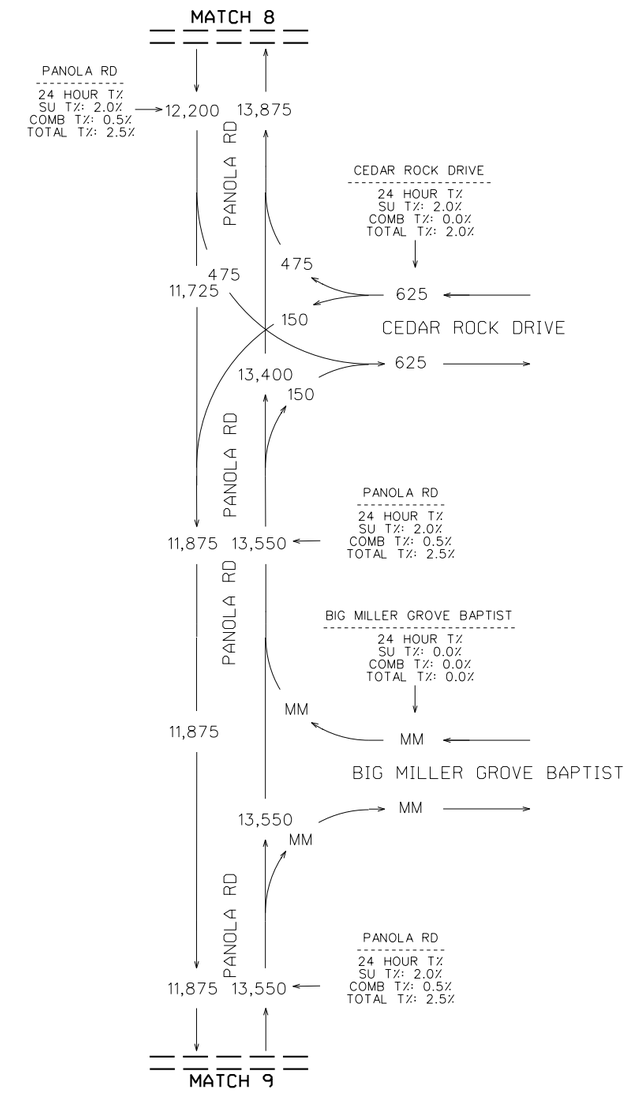
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD AADT
SHEET 8 OF 14

DRAWING No.
10-0064

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		65	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

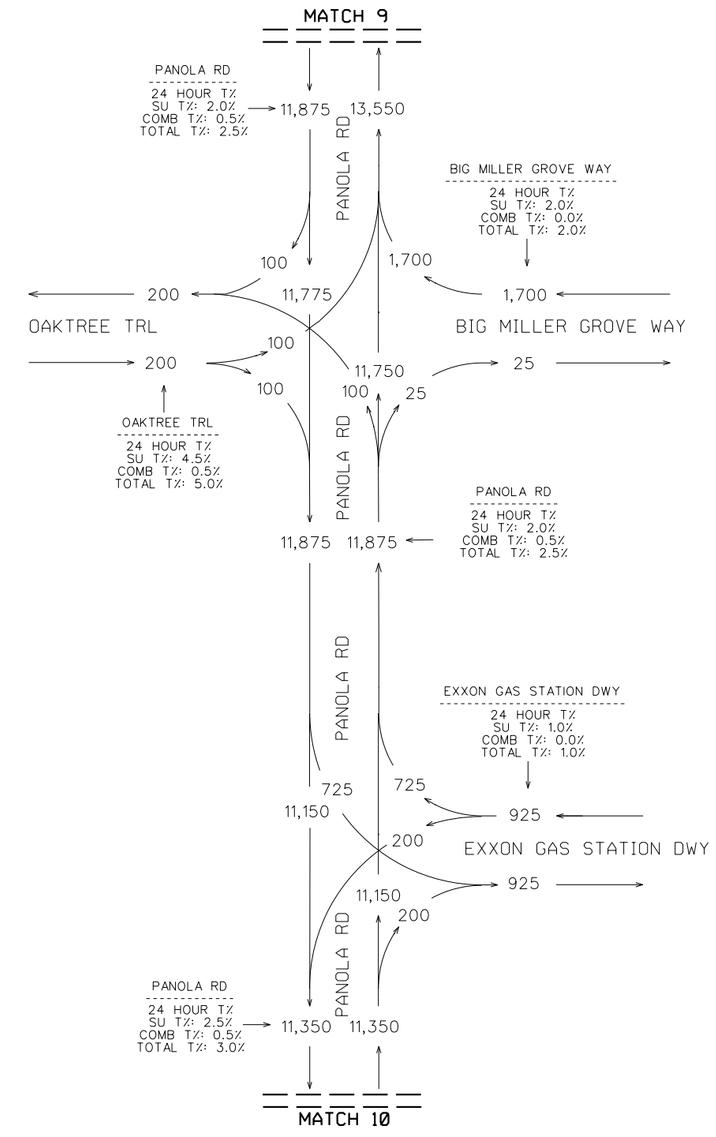
DESIGN YEAR 2047 NO-BUILD AADT
SHEET 9 OF 14

DRAWING No.
10-0065

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		66	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX

N



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

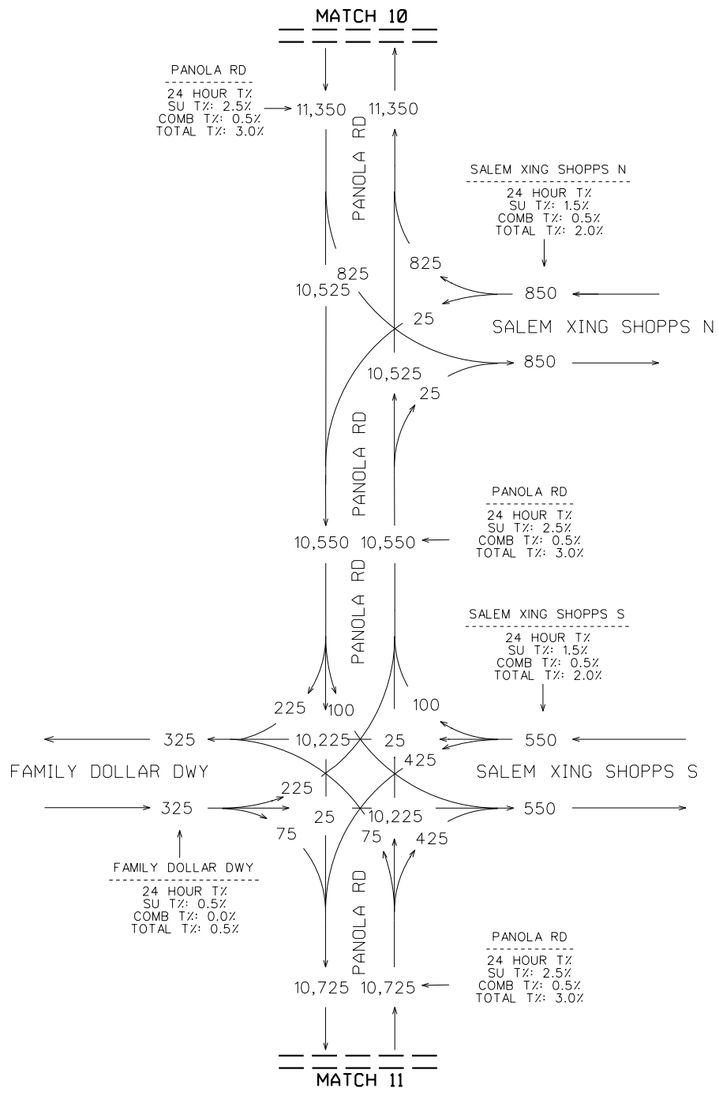
DESIGN YEAR 2047 NO-BUILD AADT
SHEET 10 OF 14

DRAWING No.
10-0066

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		67	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX

N



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

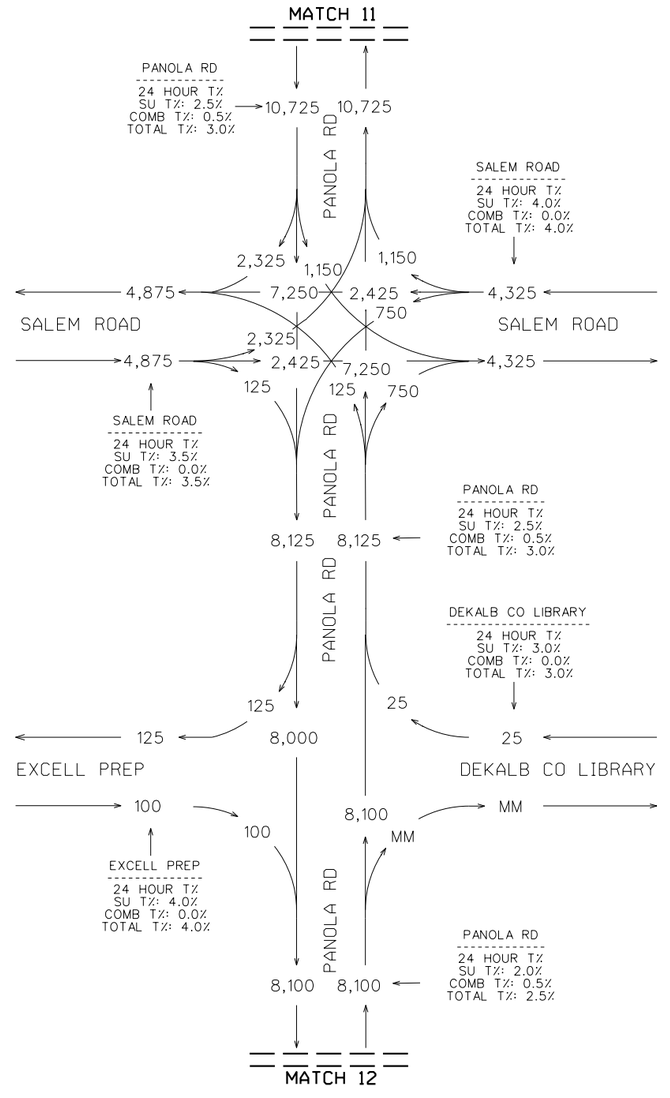
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD AADT
SHEET 11 OF 14

DRAWING No.
10-0067

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		68	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX



N

DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

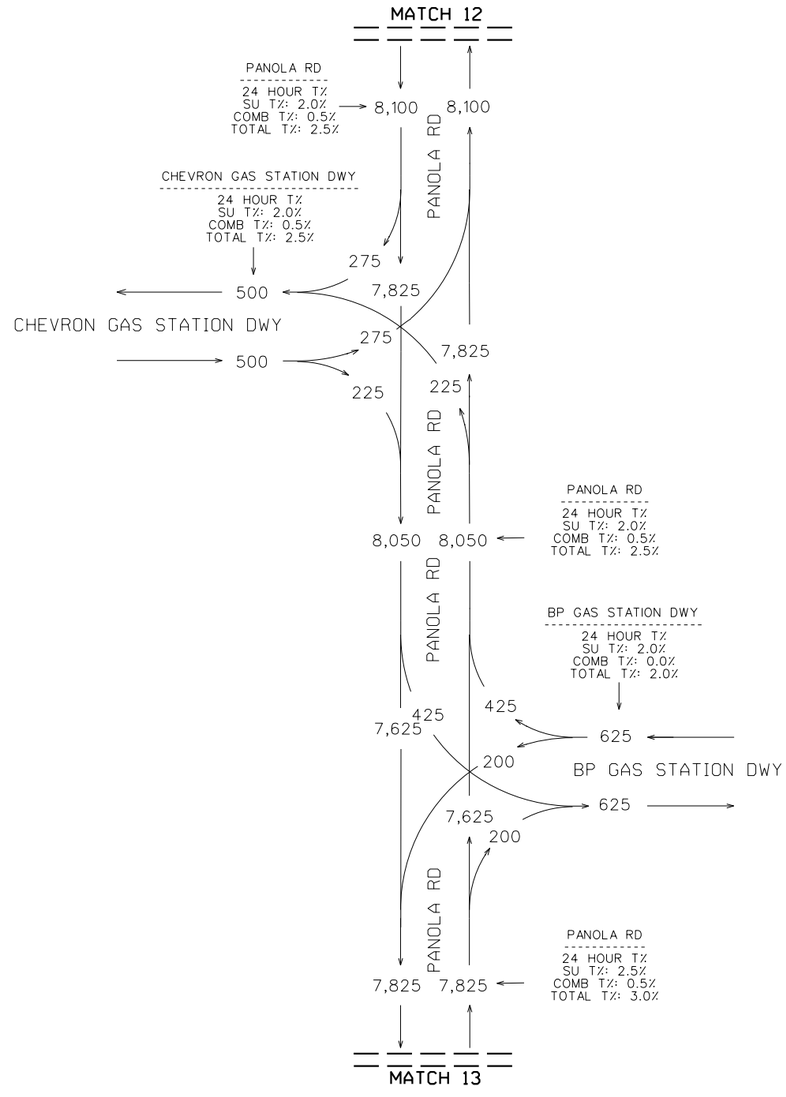
DESIGN YEAR 2047 NO-BUILD AADT
SHEET 12 OF 14

DRAWING No.
10-0068

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		69	84

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX

N



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

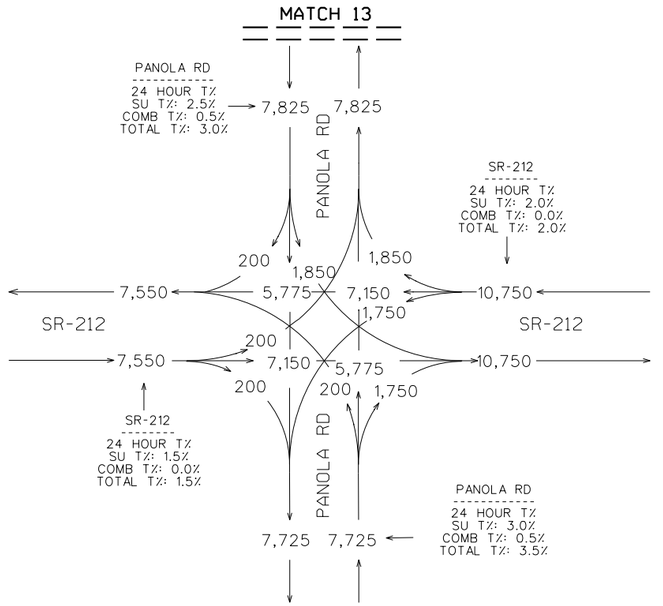
DESIGN YEAR 2047 NO-BUILD AADT
SHEET 13 OF 14

DRAWING No.
10-0069

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		70	84

N

AADT VOLUMES
DESIGN YEAR 2047
NO-BUILD
AADT = XXX



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

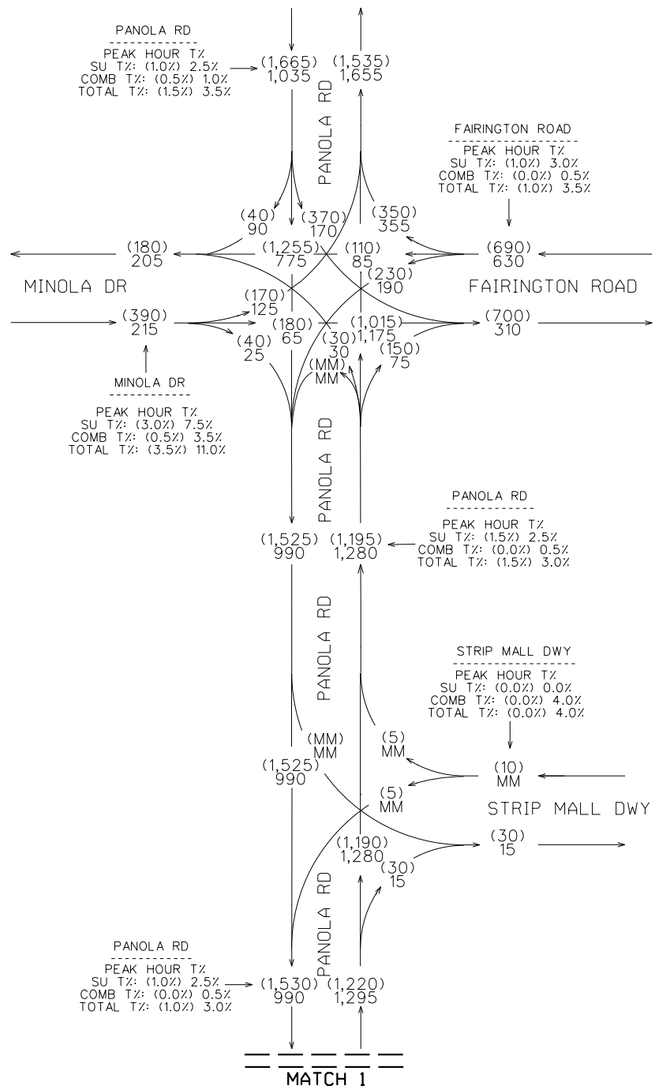
DESIGN YEAR 2047 NO-BUILD AADT
SHEET 14 OF 14

DRAWING No.
10-0070

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		71	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

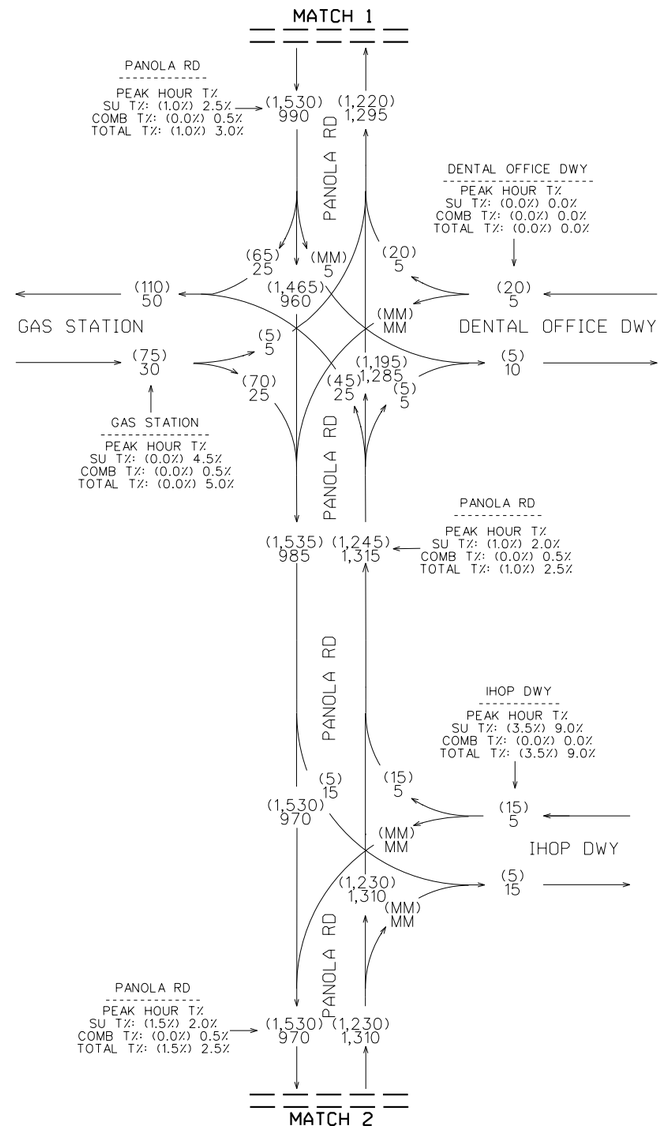
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 1 OF 14

DRAWING No.
10-0071

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		72	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

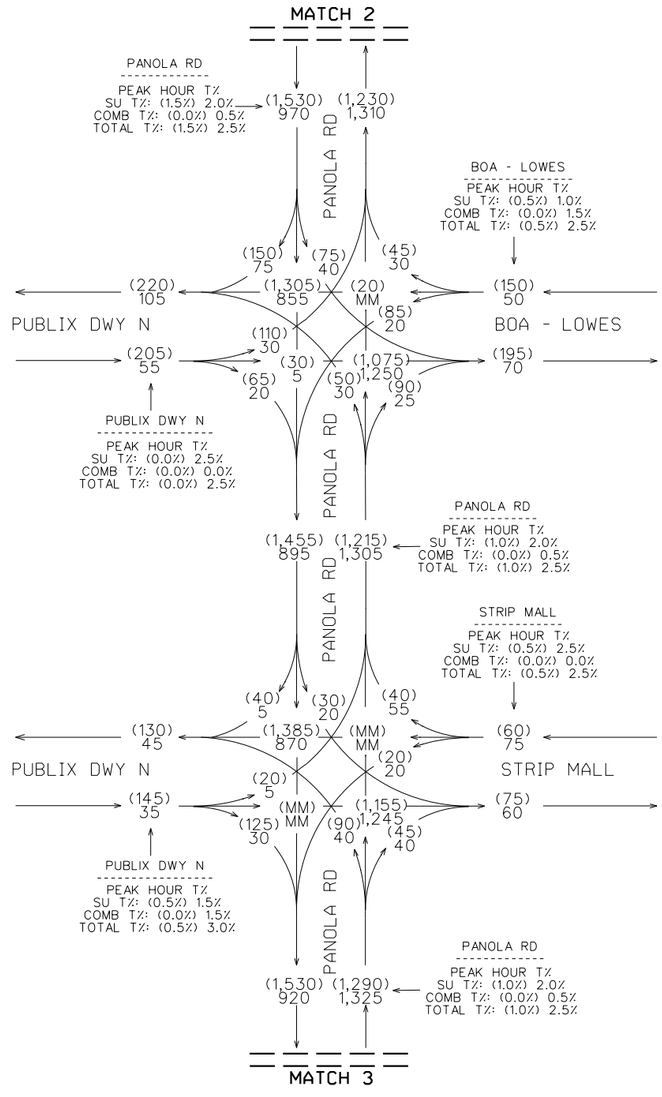
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 2 OF 14

DRAWING No.
10-0072

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		73	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

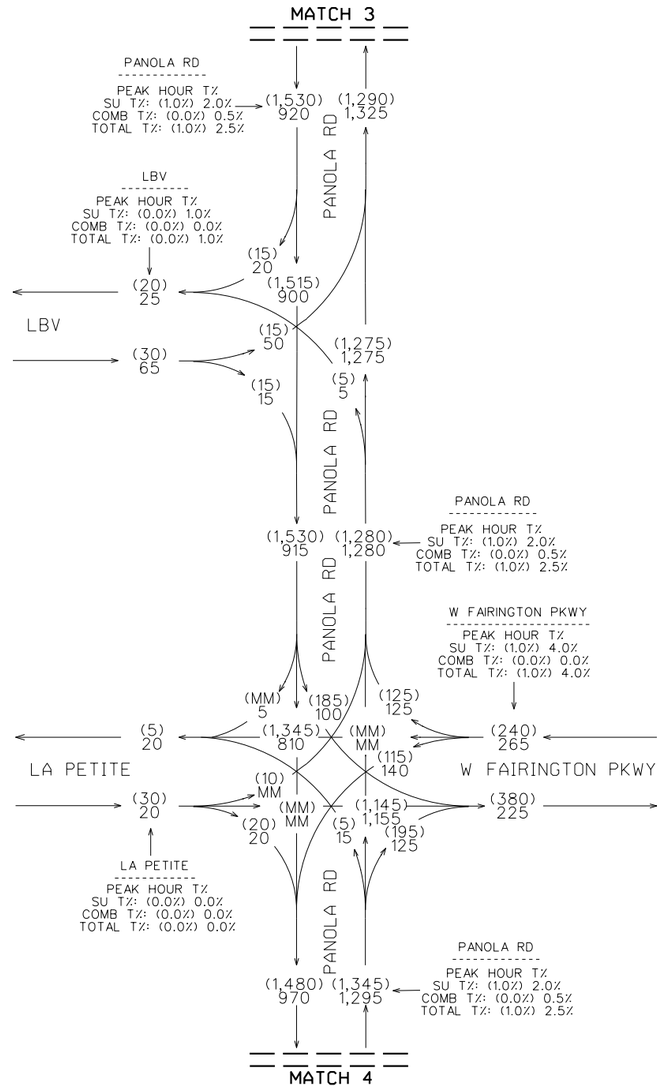
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 3 OF 14

DRAWING No.
10-0073

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		74	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

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DEKALB COUNTY

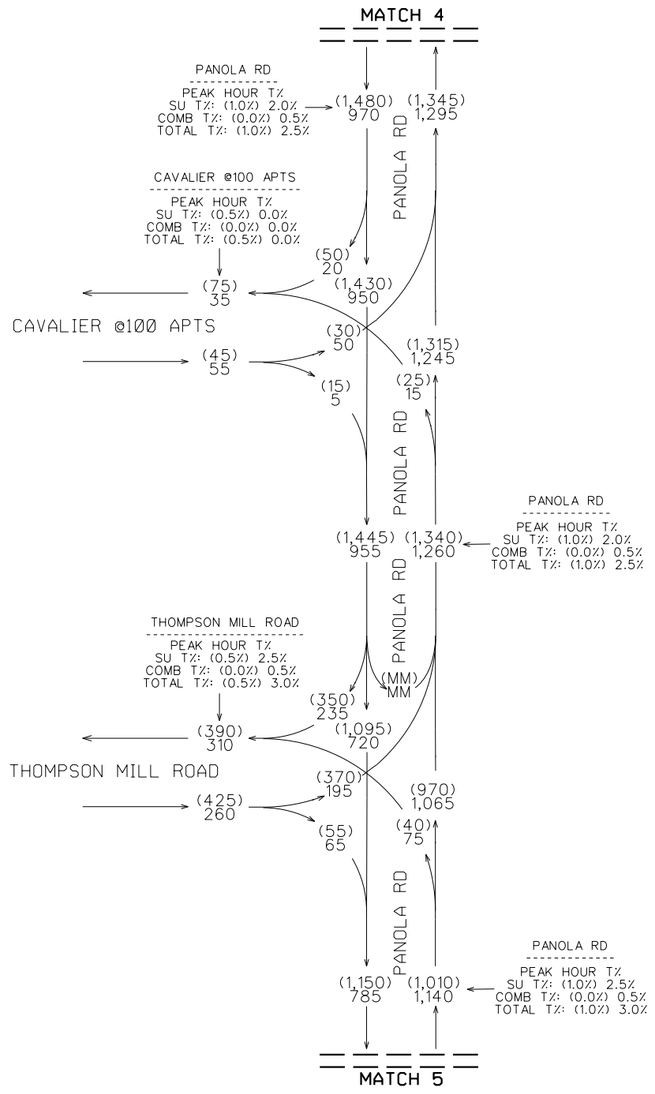
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD DHV
SHEET 4 OF 14

DRAWING No.
10-0074

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		75	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



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DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

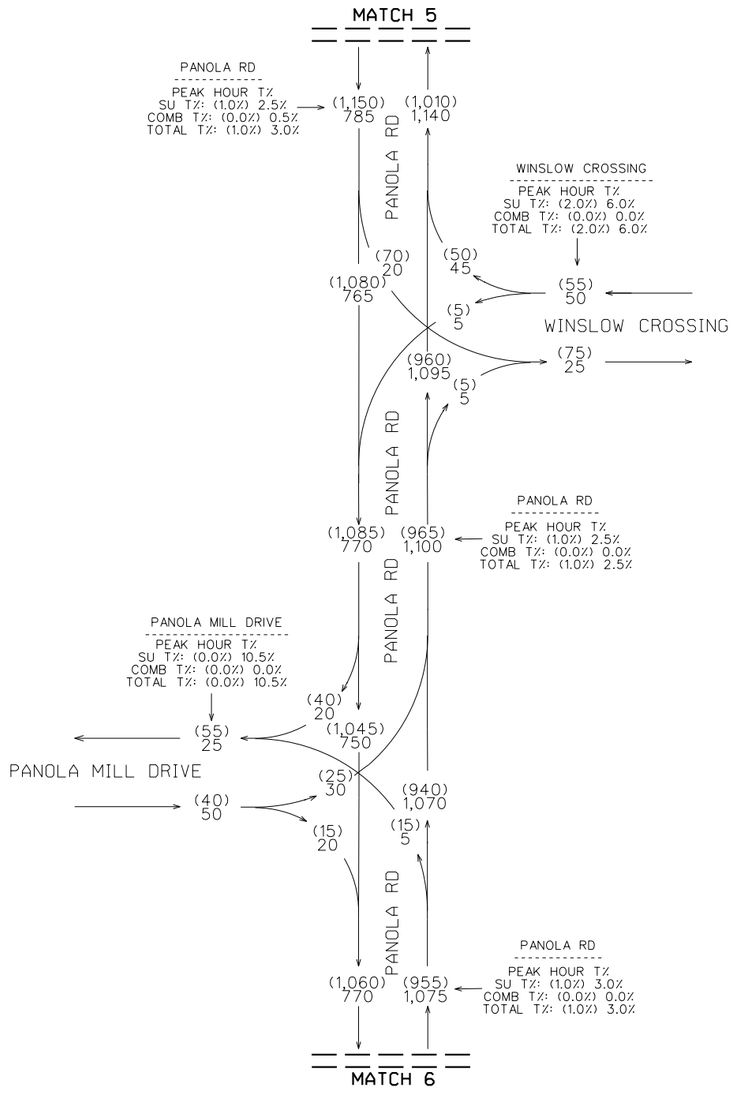
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 5 OF 14

DRAWING No.
10-0075

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		76	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County
GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

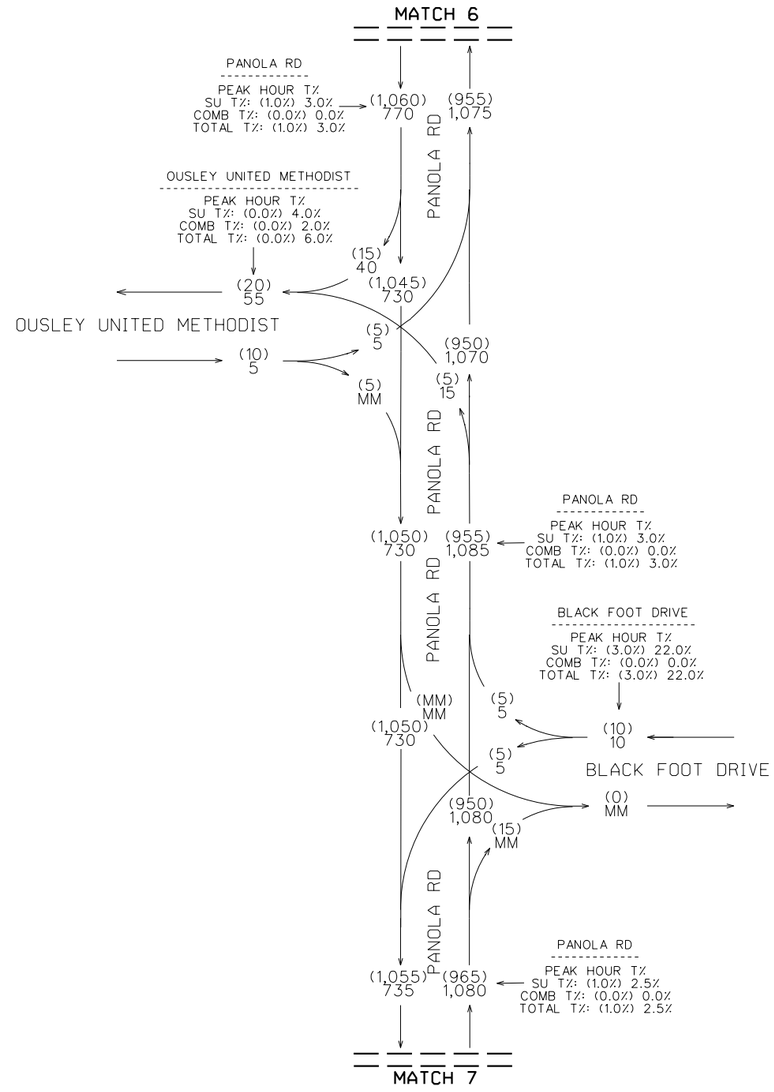
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 6 OF 14

DRAWING No.
10-0076

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		77	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



REVISION DATES		

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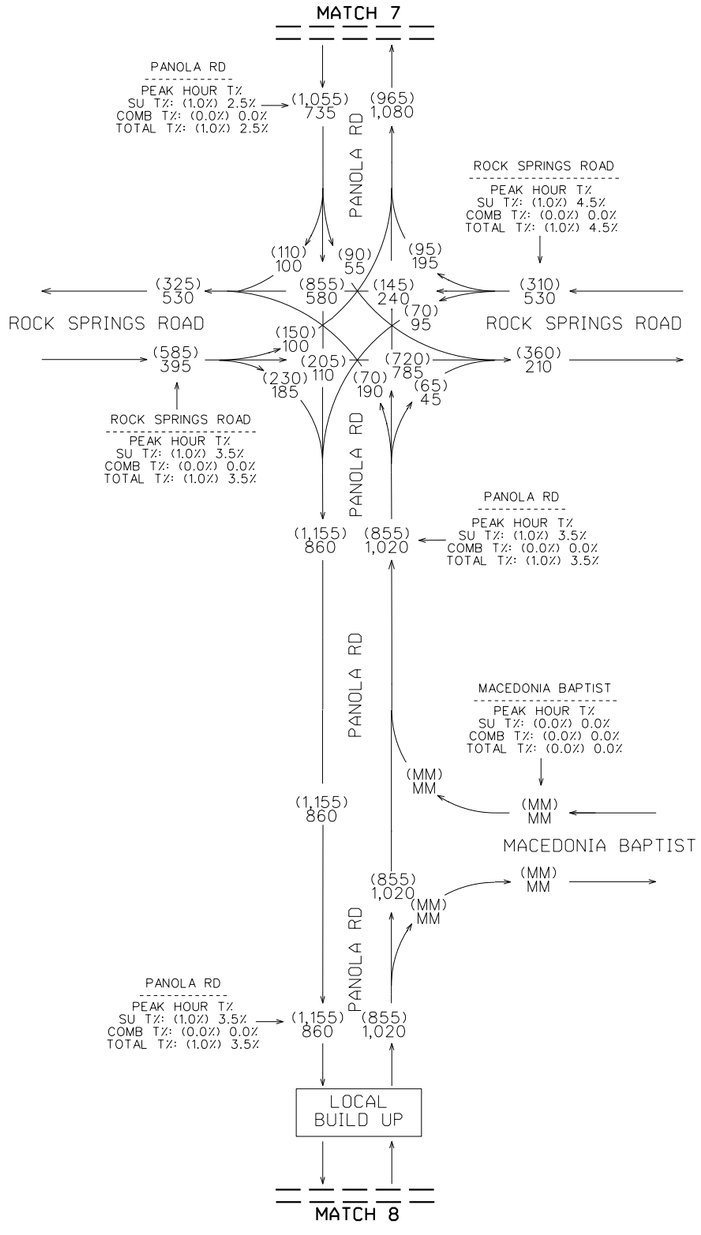
DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD DHV
SHEET 7 OF 14

DRAWING No.
10-0077

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		78	84



N

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

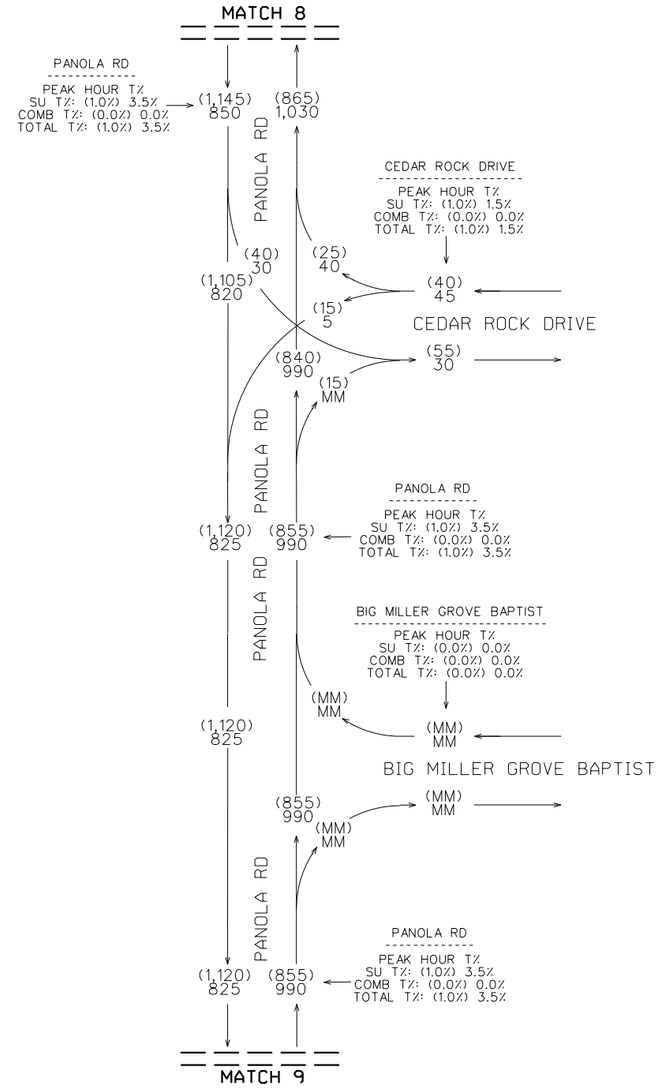
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD DHV
SHEET 8 OF 14

DRAWING No.
10-0078

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		79	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



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DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

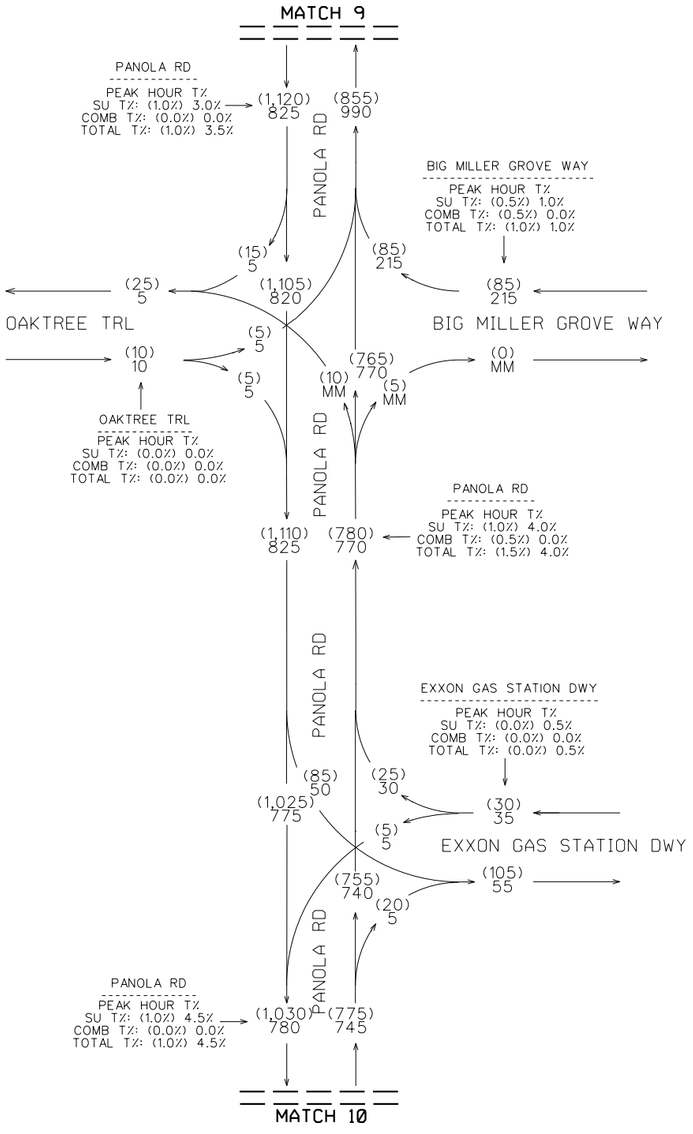
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 9 OF 14

DRAWING No.
10-0079

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		80	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



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DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

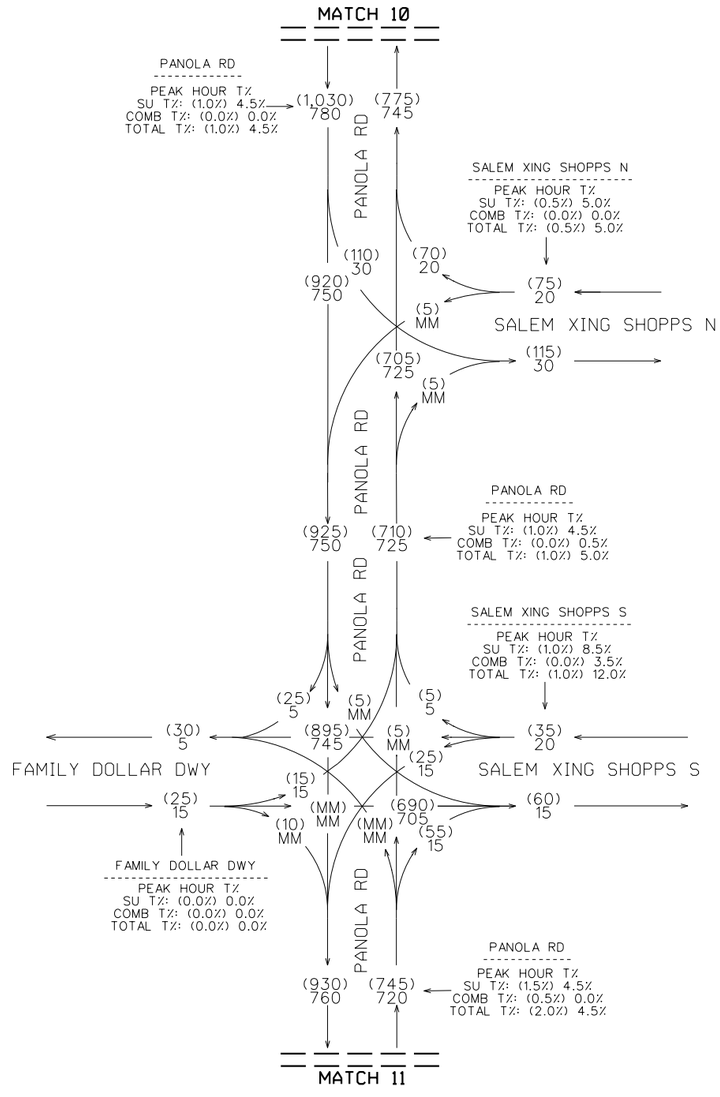
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 10 OF 14

DRAWING No.
10-0080

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
DEKALB	GA		81	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

ARCADIS Design & Consultancy for natural and built assets

REVISION DATES		

DEKALB COUNTY

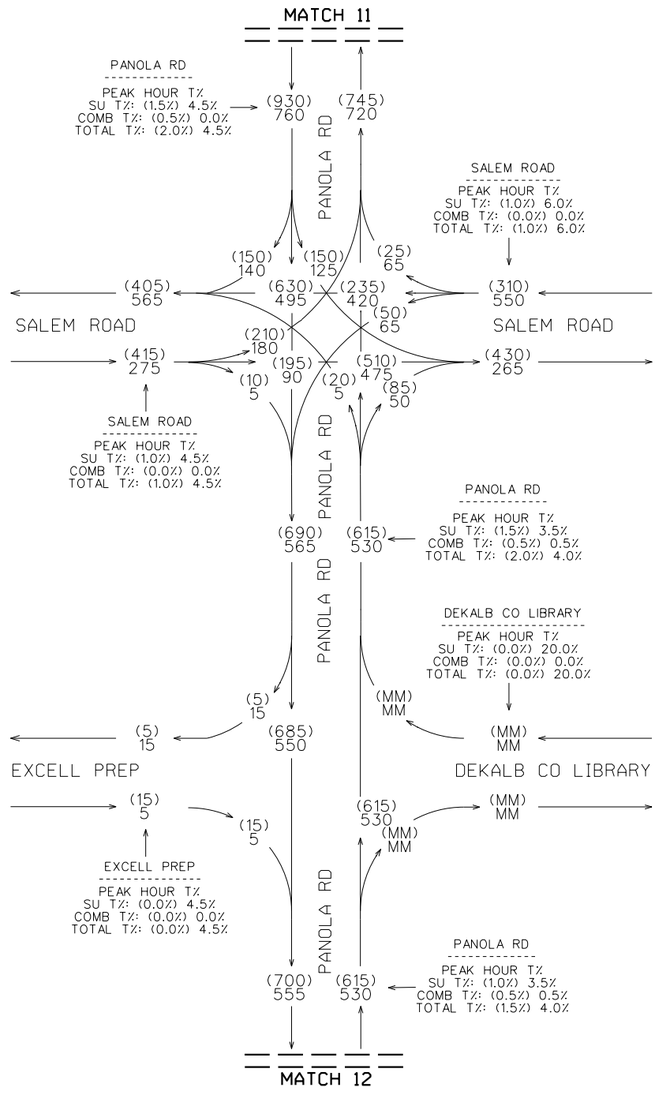
TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD DHV
SHEET 11 OF 14

DRAWING No.
10-0081

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		82	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

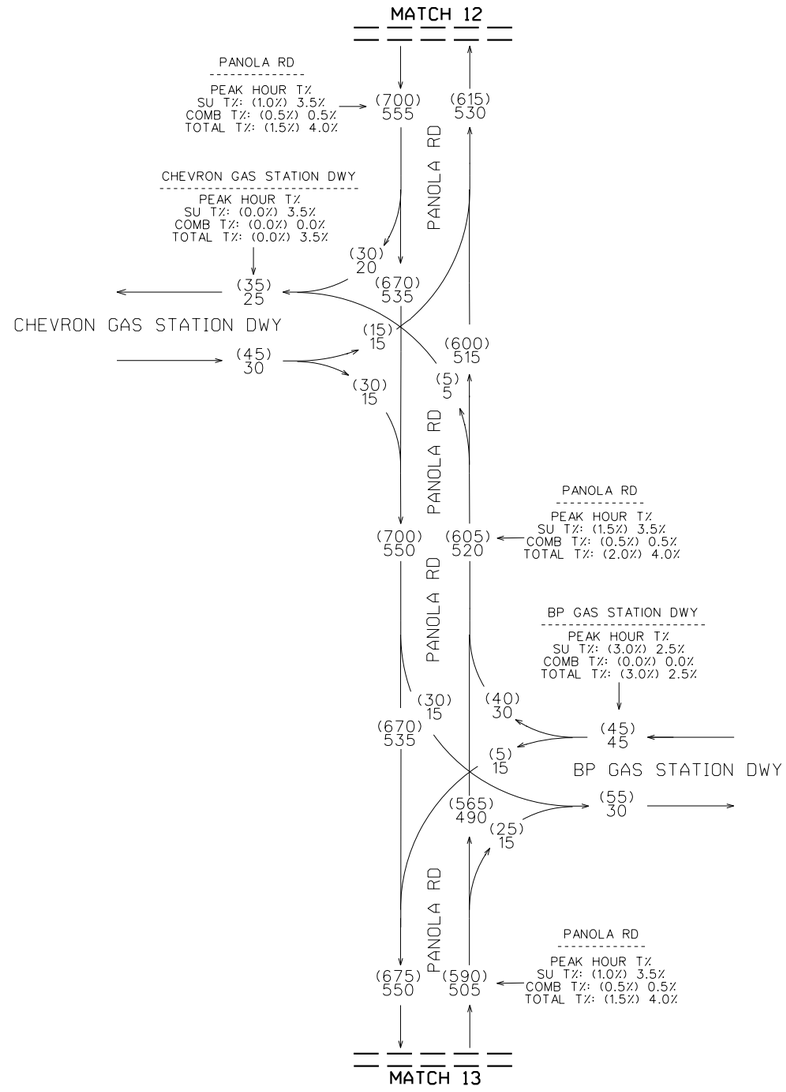
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 12 OF 14

DRAWING No.
10-0082

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		83	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County GEORGIA

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REVISION DATES		

DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

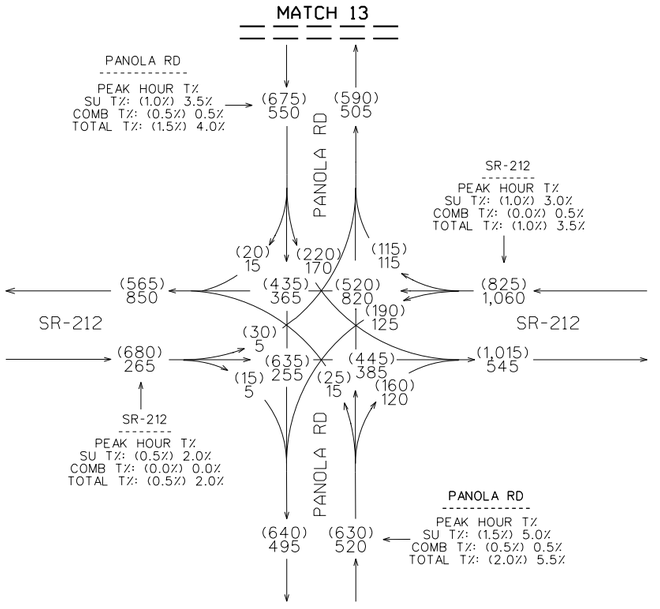
DESIGN YEAR 2047 NO-BUILD DHV
SHEET 13 OF 14

DRAWING No.
10-0083

			COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			DEKALB	GA		84	84

DHV VOLUMES
DESIGN YEAR 2047
NO-BUILD
PM PEAK = (XXX)
AM PEAK = XXX

N



DeKalb County
GEORGIA

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DEKALB COUNTY

TRAFFIC DIAGRAM
PANOLA ROAD SCOPING STUDY

DESIGN YEAR 2047 NO-BUILD DHV
SHEET 14 OF 14

DRAWING No.
10-0084

Appendix E

5 Year (2017-2021) Crash History by Intersection

Intersection 1: Panola Road/ Fairington Road /Minola Driveway

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	1	0	0	0	0	0	2	0	0	**3**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	2	0	0	0	0	**2**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	1	0	0	0	0	0	2	0	1	**4**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	1	0	0	**1**
Not a Collision with Motor Vehicle (Pedestrian)	0	1	0	0	0	0	0	1	0	0	**2**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**6**	**0**	**1**	**12**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	1	0	0	0	0	0	3	0	0	**4**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	2	0	0	0	0	**2**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	1	0	0	0	0	0	2	0	1	**4**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	1	0	0	**1**
Not a Collision with Motor Vehicle (Pedestrian)	0	1	0	0	0	0	0	1	0	0	**2**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**7**	**0**	**1**	**13**

Intersection 2: Panola Road/ Strip Mall Driveway

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection 3: Panola Road/ Dental Office Driveway

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	1	0	0	0	0	0	0	0	0	**1**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	1	**1**
Not a Collision with Motor Vehicle (Other)	0	1	0	0	0	0	0	0	0	0	**1**
Total	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	2	0	0	0	0	0	0	0	0	**2**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	1	**1**
Not a Collision with Motor Vehicle (Other)	0	1	0	0	0	0	0	0	0	0	**1**
Total	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**

Intersection 4: Panola Road/ IHOP Driveway

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	1	0	**1**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	1	0	**1**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**

Intersection 5: Panola Road/ BOA- LOWES

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	1	0	1	0	0	0	0	0	0	**2**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	1	0	1	0	0	0	0	0	0	**2**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**

Intersection 6: Panola Road/ Strip Mall

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	1	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	1	0	0	0	0	0	0	**1**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	3	0	0	**3**
Not a Collision with Motor Vehicle (Other)	0	1	0	0	0	0	0	0	0	0	**1**
Total	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**6**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	1	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	2	0	0	0	0	0	0	**2**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	3	0	0	**3**
Not a Collision with Motor Vehicle (Other)	0	1	0	0	0	0	0	0	0	0	**1**
Total	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**0**	**7**

Intersection 7: Panola Road/ LBV

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection 8: Panola Road/ W Fairington Parkway

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	1	0	2	0	0	0	0	**3**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	1	0	1	0	0	0	0	**2**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**5**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	1	0	2	0	0	0	0	**3**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	1	0	1	0	0	0	0	**2**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**5**

Intersection 9: Panola Road/ Cavalier @100 APTS

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	2	0	0	0	0	**2**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	1	**1**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	1	0	0	0	0	0	0	0	0	**1**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	1	0	0	0	1	**2**
Total	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**6**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	2	0	0	0	0	**2**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	1	**1**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	1	0	0	0	0	0	0	0	0	**1**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	1	0	0	0	1	**2**
Total	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**6**

Intersection 10: Panola Road/ Thompson Mill Road

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	1	0	0	0	0	0	1	0	2	**4**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	1	0	0	**1**
Head On	0	0	0	1	0	0	0	0	0	0	**1**
Rear End	0	0	0	0	0	1	0	1	0	0	**2**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	1	0	0	**1**
Total	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**4**	**0**	**2**	**9**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	3	0	0	0	0	0	1	0	4	**8**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	1	0	0	**1**
Head On	0	0	0	1	0	0	0	0	0	0	**1**
Rear End	0	0	0	0	0	1	0	1	0	0	**2**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	1	0	0	**1**
Total	**0**	**3**	**0**	**1**	**0**	**1**	**0**	**4**	**0**	**4**	**13**

Intersection 11: Panola Road/ Winslow Crossing

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	1	0	0	0	0	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	1	0	0	0	0	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Intersection 12: Panola Road/ Panola Mill Drive

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	1	0	**1**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	1	0	**1**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**

Intersection 13: Panola Road/ Ousley United Methodist

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	1	0	0	0	0	**1**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	1	0	0	0	0	**1**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**

Intersection 14: Panola Road/ Black Foot Drive

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection 15: Panola Road/ Rock Springs Road

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	1	0	0	0	0	0	1	0	0	**2**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	2	0	1	**3**
Rear End	0	1	0	0	0	0	0	1	0	0	**2**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	1	0	0	**1**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	1	**1**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**9**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	1	0	0	0	0	0	1	0	0	**2**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	2	0	1	**3**
Rear End	0	1	0	0	0	0	0	1	0	0	**2**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	2	0	0	**2**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	1	**1**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**2**	**10**

Intersection 16: Panola Road/ Macedonia Baptist

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection 17: Panola Road/ Cedar Rock Drive

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	1	0	1	**2**
Rear End	0	1	0	0	0	0	0	0	0	1	**2**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**4**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	4	0	2	**6**
Rear End	0	1	0	0	0	0	0	0	0	1	**2**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**3**	**8**

Intersection 18: Panola Road/ Big Miller Grove Baptist

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	1	**1**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	1	0	0	0	0	0	0	**1**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	2	**2**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	1	0	0	0	0	0	0	**1**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**3**

Intersection 19: Panola Road/ Big Miller Grove Way

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	2	0	0	**2**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	3	0	0	**3**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**

Intersection 20: Panola Road/ Exxon Gas Station Driveway

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	1	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	1	0	0	**1**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	1	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	4	0	0	**4**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**5**

Intersection 21: Panola Road/ Salem Xing Shopps N

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection 22: Panola Road/ Salem Xing Shopps S

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	1	0	0	0	0	0	0	0	0	**1**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	2	0	0	0	0	0	0	0	0	**2**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**

Intersection 23: Panola Road/ Salem Road

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	1	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	1	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**

Intersection 24: Panola Road/ Dekalb Co Library

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection 25: Panola Road/ Chevron Gas Station Driveway

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	1	0	0	0	0	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	1	0	0	0	0	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Intersection 26: Panola Road/ BP Gas Station Driveway

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Head On	0	0	0	0	0	0	0	0	0	0	**0**
Rear End	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection 27: Panola Road/ SR-212

Number of Crashes involving Fatalities and Injuries

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	1	0	0	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	1	0	0	**1**
Head On	0	0	0	1	0	0	0	0	0	0	**1**
Rear End	0	0	0	0	0	2	0	2	0	2	**6**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	1	0	0	0	0	0	0	**1**
Total	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**3**	**0**	**2**	**10**

Number of People Injured in Crashes

Manner of Collision	2017		2018		2019		2020		2021		Total
	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities	Injuries	
Left Angle Crash	0	0	0	0	0	1	0	0	0	0	**1**
Right Angle Crash	0	0	0	0	0	0	0	0	0	0	**0**
Angle (Other)	0	0	0	0	0	0	0	1	0	0	**1**
Head On	0	0	0	3	0	0	0	0	0	0	**3**
Rear End	0	0	0	0	0	2	0	3	0	2	**7**
Sideswipe-Opposite Direction	0	0	0	0	0	0	0	0	0	0	**0**
Sideswipe-Same Direction	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Pedestrian)	0	0	0	0	0	0	0	0	0	0	**0**
Not a Collision with Motor Vehicle (Other)	0	0	0	1	0	0	0	0	0	0	**1**
Total	**0**	**0**	**0**	**4**	**0**	**3**	**0**	**4**	**0**	**2**	**13**

Appendix F

Existing Year (2022) Operational Analysis Results

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	100	50	20	150	65	280	1	25	935	60	135	620
Future Volume (vph)	100	50	20	150	65	280	1	25	935	60	135	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.95		0.97	0.95
Frt	1.00	0.96		1.00	1.00	0.85		1.00	0.99		1.00	0.98
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1556	1721		1770	1863	1568		1632	3503		3303	3402
Flt Permitted	0.71	1.00		0.51	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1165	1721		958	1863	1568		1632	3503		3303	3402
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	108	54	22	161	70	301	1	27	1005	65	145	667
RTOR Reduction (vph)	0	16	0	0	0	208	0	0	4	0	0	7
Lane Group Flow (vph)	108	60	0	161	70	93	0	28	1066	0	145	735
Heavy Vehicles (%)	16%	5%	7%	2%	2%	3%	0%	11%	2%	4%	6%	3%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	16.9	9.3		23.9	12.8	12.8		4.7	52.2		9.4	56.9
Effective Green, g (s)	16.9	9.3		23.9	12.8	12.8		4.7	52.2		9.4	56.9
Actuated g/C Ratio	0.17	0.09		0.24	0.13	0.13		0.05	0.52		0.09	0.57
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	226	160		319	238	200		76	1828		310	1935
v/s Ratio Prot	0.04	0.03		c0.06	0.04			0.02	c0.30		c0.04	0.22
v/s Ratio Perm	0.04			c0.06		0.06						
v/c Ratio	0.48	0.37		0.50	0.29	0.47		0.37	0.58		0.47	0.38
Uniform Delay, d1	37.1	42.6		31.9	39.5	40.4		46.2	16.4		42.9	11.8
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.20	0.65		1.00	1.00
Incremental Delay, d2	1.6	1.5		1.3	0.7	1.7		2.9	1.3		1.1	0.6
Delay (s)	38.7	44.1		33.2	40.2	42.2		58.3	11.9		44.0	12.4
Level of Service	D	D		C	D	D		E	B		D	B
Approach Delay (s)		40.9			39.2				13.1			17.6
Approach LOS		D			D				B			B

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

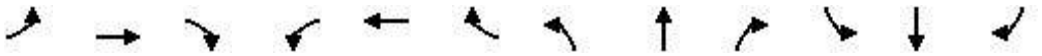
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	70
Future Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	75
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	18%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	1	1020	10	1	790
Future Volume (Veh/h)	1	1	1020	10	1	790
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	1	1159	11	1	898
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			547			197
pX, platoon unblocked	0.89	0.86			0.86	
vC, conflicting volume	1466	585			1170	
vC1, stage 1 conf vol	1164					
vC2, stage 2 conf vol	301					
vCu, unblocked vol	800	184			866	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	318	715			674	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3	SB 4
Volume Total	2	773	397	1	299	299	299
Volume Left	1	0	0	1	0	0	0
Volume Right	1	0	11	0	0	0	0
cSH	440	1700	1700	674	1700	1700	1700
Volume to Capacity	0.00	0.45	0.23	0.00	0.18	0.18	0.18
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	13.2	0.0	0.0	10.3	0.0	0.0	0.0
Lane LOS	B			B			
Approach Delay (s)	13.2	0.0		0.0			
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	20	1	0	5	20	1020	5	5	765	20
Future Volume (Veh/h)	5	0	20	1	0	5	20	1020	5	5	765	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	0	22	1	0	6	22	1133	6	6	850	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.91	0.91	0.89	0.91	0.91	0.86	0.89			0.86		
vC, conflicting volume	1478	2045	425	1636	2061	566	872			1139		
vC1, stage 1 conf vol	862	862		1177	1177							
vC2, stage 2 conf vol	616	1183		459	884							
vCu, unblocked vol	798	1419	113	970	1437	162	614			830		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	100	100	99	97			99		
cM capacity (veh/h)	379	264	824	255	262	738	870			695		

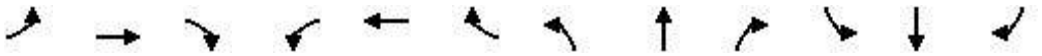
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	28	7	22	566	566	6	6	425	425	22
Volume Left	6	1	22	0	0	0	6	0	0	0
Volume Right	22	6	0	0	0	6	0	0	0	22
cSH	658	581	870	1700	1700	1700	695	1700	1700	1700
Volume to Capacity	0.04	0.01	0.03	0.33	0.33	0.00	0.01	0.25	0.25	0.01
Queue Length 95th (ft)	3	1	2	0	0	0	1	0	0	0
Control Delay (s)	10.7	11.3	9.2	0.0	0.0	0.0	10.2	0.0	0.0	0.0
Lane LOS	B	B	A				B			
Approach Delay (s)	10.7	11.3	0.2				0.1			
Approach LOS	B	B								

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	38.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	5	1040	1	10	775
Future Volume (Veh/h)	1	5	1040	1	10	775
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	1	6	1169	1	11	871
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (ft)			256			488
pX, platoon unblocked	0.91	0.86			0.86	
vC, conflicting volume	1626	584			1170	
vC1, stage 1 conf vol	1169					
vC2, stage 2 conf vol	458					
vCu, unblocked vol	976	177			861	
tC, single (s)	6.8	7.2			4.4	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.5			2.4	
p0 queue free %	100	99			98	
cM capacity (veh/h)	314	676			589	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	7	584	584	1	11	436	436
Volume Left	1	0	0	0	11	0	0
Volume Right	6	0	0	1	0	0	0
cSH	581	1700	1700	1700	589	1700	1700
Volume to Capacity	0.01	0.34	0.34	0.00	0.02	0.26	0.26
Queue Length 95th (ft)	1	0	0	0	1	0	0
Control Delay (s)	11.3	0.0	0.0	0.0	11.2	0.0	0.0
Lane LOS	B				B		
Approach Delay (s)	11.3	0.0			0.1		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1	15	15	1	25	25	990	20	30	685	60
Future Volume (vph)	25	1	15	15	1	25	25	990	20	30	685	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.86		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1632		1805	1497		1736	3539	1615	1703	3539	1568
Flt Permitted	0.95	1.00		0.95	1.00		0.34	1.00	1.00	0.22	1.00	1.00
Satd. Flow (perm)	1805	1632		1805	1497		625	3539	1615	398	3539	1568
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	1	16	16	1	27	27	1088	22	33	753	66
RTOR Reduction (vph)	0	15	0	0	25	0	0	0	7	0	0	21
Lane Group Flow (vph)	27	2	0	16	3	0	27	1088	15	33	753	45
Heavy Vehicles (%)	0%	0%	0%	0%	50%	7%	4%	2%	0%	6%	2%	3%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	4.4	9.1		1.1	5.8		71.7	68.0	68.0	71.9	68.1	68.1
Effective Green, g (s)	4.4	9.1		1.1	5.8		71.7	68.0	68.0	71.9	68.1	68.1
Actuated g/C Ratio	0.04	0.09		0.01	0.06		0.72	0.68	0.68	0.72	0.68	0.68
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	79	148		19	86		489	2406	1098	335	2410	1067
v/s Ratio Prot	c0.01	c0.00		0.01	c0.00		0.00	c0.31		c0.00	0.21	
v/s Ratio Perm							0.04		0.01	0.07		0.03
v/c Ratio	0.34	0.02		0.84	0.03		0.06	0.45	0.01	0.10	0.31	0.04
Uniform Delay, d1	46.4	41.4		49.4	44.4		4.2	7.4	5.2	4.6	6.5	5.2
Progression Factor	1.00	1.00		1.00	1.00		0.42	0.39	1.00	0.82	0.69	0.70
Incremental Delay, d2	2.6	0.0		131.7	0.1		0.0	0.6	0.0	0.1	0.3	0.1
Delay (s)	49.0	41.4		181.1	44.6		1.8	3.5	5.2	3.9	4.8	3.8
Level of Service	D	D		F	D		A	A	A	A	A	A
Approach Delay (s)		46.1			94.2			3.5			4.7	
Approach LOS		D			F			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	25	15	1	45	30	985	30	15	695	5
Future Vol, veh/h	5	1	25	15	1	45	30	985	30	15	695	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	20	-	0	50	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	4	0	2	0	0	2	0
Mvmt Flow	6	1	28	17	1	50	33	1094	33	17	772	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1420	1999	386	1581	1972	547	778	0	0	1127	0	0
Stage 1	806	806	-	1160	1160	-	-	-	-	-	-	-
Stage 2	614	1193	-	421	812	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	98	61	618	75	63	476	848	-	-	627	-	-
Stage 1	346	398	-	211	272	-	-	-	-	-	-	-
Stage 2	451	263	-	586	395	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	57	618	67	59	476	848	-	-	627	-	-
Mov Cap-2 Maneuver	82	57	-	67	59	-	-	-	-	-	-	-
Stage 1	333	387	-	203	261	-	-	-	-	-	-	-
Stage 2	386	253	-	543	384	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.9	36.1	0.3	0.2
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	848	-	-	261	182	627	-	-
HCM Lane V/C Ratio	0.039	-	-	0.132	0.372	0.027	-	-
HCM Control Delay (s)	9.4	-	-	20.9	36.1	10.9	-	-
HCM Lane LOS	A	-	-	C	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.6	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	10	5	1005	720	15
Future Vol, veh/h	40	10	5	1005	720	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	10	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	0	0	2	2	0
Mvmt Flow	44	11	6	1117	800	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1268	409	817	0	-	0
Stage 1	809	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Critical Hdwy	6.35	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	-	-	-	-
Follow-up Hdwy	3.7	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	186	597	820	-	-	-
Stage 1	381	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	185	597	820	-	-	-
Mov Cap-2 Maneuver	285	-	-	-	-	-
Stage 1	378	-	-	-	-	-
Stage 2	561	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	820	-	318	-	-
HCM Lane V/C Ratio	0.007	-	0.175	-	-
HCM Control Delay (s)	9.4	-	18.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	38

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	15	110	1	100	10	910	100	80	645	5
Future Vol, veh/h	1	1	15	110	1	100	10	910	100	80	645	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	50	-	140	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	4	0	5	0	1	3	5	2	0
Mvmt Flow	1	1	17	124	1	112	11	1022	112	90	725	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1442	2064	366	1587	1955	511	731	0	0	1134	0	0
Stage 1	908	908	-	1044	1044	-	-	-	-	-	-	-
Stage 2	534	1156	-	543	911	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.58	6.5	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.58	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.58	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.54	4	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	95	55	637	~ 71	65	500	883	-	-	595	-	-
Stage 1	301	357	-	241	309	-	-	-	-	-	-	-
Stage 2	503	273	-	486	356	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	64	46	637	~ 59	55	500	883	-	-	595	-	-
Mov Cap-2 Maneuver	64	46	-	~ 59	55	-	-	-	-	-	-	-
Stage 1	297	303	-	238	305	-	-	-	-	-	-	-
Stage 2	384	270	-	400	302	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	$ 349.4	0.1	1.3
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	883	-	-	279	59	463	595	-	-
HCM Lane V/C Ratio	0.013	-	-	0.068	2.095	0.245	0.151	-	-
HCM Control Delay (s)	9.1	-	-	18.8	$ 656.2	15.3	12.1	-	-
HCM Lane LOS	A	-	-	C	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	12	1	0.5	-	-

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

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	5	10	980	755	15
Future Vol, veh/h	40	5	10	980	755	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	130
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	44	5	11	1077	830	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1391	415	846	0	-	0
Stage 1	830	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	136	592	800	-	-	-
Stage 1	394	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	134	592	800	-	-	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	388	-	-	-	-	-
Stage 2	540	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	800	-	282	-	-
HCM Lane V/C Ratio	0.014	-	0.175	-	-
HCM Control Delay (s)	9.6	-	20.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	155	50	60	835	1	575	185
Future Volume (vph)	155	50	60	835	1	575	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	1.00	0.95	
Frt	0.97		1.00	1.00	1.00	0.96	
Flt Protected	0.96		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1741		1719	3539	1805	3410	
Flt Permitted	0.96		0.28	1.00	0.95	1.00	
Satd. Flow (perm)	1741		514	3539	1805	3410	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	54	65	908	1	625	201
RTOR Reduction (vph)	13	0	0	0	0	22	0
Lane Group Flow (vph)	209	0	65	908	1	804	0
Heavy Vehicles (%)	1%	4%	5%	2%	0%	2%	2%
Turn Type	Prot		pm+pt	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases			2				
Actuated Green, G (s)	17.2		73.6	68.1	1.2	63.8	
Effective Green, g (s)	17.2		73.6	68.1	1.2	63.8	
Actuated g/C Ratio	0.17		0.74	0.68	0.01	0.64	
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	299		444	2410	21	2175	
v/s Ratio Prot	c0.12		c0.01	c0.26	0.00	0.24	
v/s Ratio Perm			0.10				
v/c Ratio	0.70		0.15	0.38	0.05	0.37	
Uniform Delay, d1	39.0		4.3	6.8	48.8	8.6	
Progression Factor	1.00		1.76	1.91	1.14	0.79	
Incremental Delay, d2	6.9		0.1	0.4	0.9	0.5	
Delay (s)	45.9		7.8	13.4	56.4	7.2	
Level of Service	D		A	B	E	A	
Approach Delay (s)	45.9			13.1		7.3	
Approach LOS	D			B		A	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	35	860	5	15	610
Future Vol, veh/h	5	35	860	5	15	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	25	2	2	40	10	3
Mvmt Flow	5	36	896	5	16	635

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1249	899	0	0	901	0
Stage 1	899	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Critical Hdwy	6.975	6.23	-	-	4.25	-
Critical Hdwy Stg 1	5.775	-	-	-	-	-
Critical Hdwy Stg 2	6.175	-	-	-	-	-
Follow-up Hdwy	3.7375	3.319	-	-	2.295	-
Pot Cap-1 Maneuver	153	337	-	-	712	-
Stage 1	350	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	150	337	-	-	712	-
Mov Cap-2 Maneuver	150	-	-	-	-	-
Stage 1	350	-	-	-	-	-
Stage 2	616	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	292	712	-
HCM Lane V/C Ratio	-	-	0.143	0.022	-
HCM Control Delay (s)	-	-	19.4	10.2	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	15	5	840	600	15
Future Vol, veh/h	25	15	5	840	600	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	12	0	2	3	7
Mvmt Flow	26	16	5	884	632	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1526	632	648	0	-	0
Stage 1	632	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Critical Hdwy	6.46	6.32	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.408	2.2	-	-	-
Pot Cap-1 Maneuver	127	463	947	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	126	463	947	-	-	-
Mov Cap-2 Maneuver	126	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	393	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.4	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	947	-	173	-	-
HCM Lane V/C Ratio	0.006	-	0.243	-	-
HCM Control Delay (s)	8.8	0	32.4	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	10	840	585	30
Future Vol, veh/h	5	1	10	840	585	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	50	0	2	3	6
Mvmt Flow	5	1	10	875	609	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1520	625	640	0	-	0
Stage 1	625	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.4	6.7	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	2.2	-	-	-
Pot Cap-1 Maneuver	132	408	954	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	129	408	954	-	-	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	526	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.8	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	954	-	146	-	-
HCM Lane V/C Ratio	0.011	-	0.043	-	-
HCM Control Delay (s)	8.8	0	30.8	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

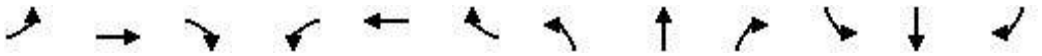
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	845	1	1	585
Future Vol, veh/h	5	5	845	1	1	585
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	38	2	0	0	3
Mvmt Flow	5	5	909	1	1	629

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1541	910	0	0	910	0
Stage 1	910	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Critical Hdwy	6.4	6.58	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.642	-	-	2.2	-
Pot Cap-1 Maneuver	128	287	-	-	757	-
Stage 1	396	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	128	287	-	-	757	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	533	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	177	757	-
HCM Lane V/C Ratio	-	-	0.061	0.001	-
HCM Control Delay (s)	-	-	26.7	9.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	85	145	75	190	155	150	610	35	45	465	80
Future Volume (veh/h)	80	85	145	75	190	155	150	610	35	45	465	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1767	1826	1722	1870	1870	1885	1870	1678	1900	1856	1870
Adj Flow Rate, veh/h	86	91	0	81	204	167	161	656	38	48	500	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	9	5	12	2	2	1	2	15	0	3	2
Cap, veh/h	109	241		101	252	213	541	1094	832	414	1047	
Arrive On Green	0.06	0.14	0.00	0.06	0.13	0.13	0.06	0.59	0.59	0.04	0.56	0.00
Sat Flow, veh/h	1711	1767	1547	1640	1870	1585	1795	1870	1422	1810	1856	1585
Grp Volume(v), veh/h	86	91	0	81	204	167	161	656	38	48	500	0
Grp Sat Flow(s),veh/h/ln	1711	1767	1547	1640	1870	1585	1795	1870	1422	1810	1856	1585
Q Serve(g_s), s	5.0	4.7	0.0	4.9	10.6	10.2	3.7	22.4	1.1	1.1	16.1	0.0
Cycle Q Clear(g_c), s	5.0	4.7	0.0	4.9	10.6	10.2	3.7	22.4	1.1	1.1	16.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	241		101	252	213	541	1094	832	414	1047	
V/C Ratio(X)	0.79	0.38		0.80	0.81	0.78	0.30	0.60	0.05	0.12	0.48	
Avail Cap(c_a), veh/h	163	327		156	346	293	602	1094	832	438	1047	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.2	39.3	0.0	46.3	42.0	41.9	9.4	13.3	8.8	10.4	13.0	0.0
Incr Delay (d2), s/veh	14.3	1.0	0.0	15.0	9.8	9.1	0.3	2.4	0.1	0.1	1.6	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	2.5	2.1	0.0	2.4	5.5	4.4	1.3	9.2	0.4	0.4	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	40.3	0.0	61.3	51.9	50.9	9.7	15.7	8.9	10.5	14.6	0.0
LnGrp LOS	E	D		E	D	D	A	B	A	B	B	
Approach Vol, veh/h		177			452			855			548	
Approach Delay, s/veh		50.1			53.2			14.3			14.2	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	63.0	10.7	18.1	10.3	60.9	10.9	17.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	49.0	9.5	18.5	9.2	44.8	9.5	18.5
Max Q Clear Time (g_c+I1), s	3.1	24.4	6.9	6.7	5.7	18.1	7.0	12.6
Green Ext Time (p_c), s	0.0	4.8	0.0	0.3	0.1	3.3	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	795	1	0	685
Future Vol, veh/h	0	1	795	1	0	685
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	846	1	0	729

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	847	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	365	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	365	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	365	-
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	14.9	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	30	775	1	25	650
Future Vol, veh/h	1	30	775	1	25	650
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	4	5
Mvmt Flow	1	32	816	1	26	684

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1552	816	0	0	817	0
Stage 1	816	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.14	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.236	-
Pot Cap-1 Maneuver	126	380	-	-	802	-
Stage 1	438	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	119	380	-	-	802	-
Mov Cap-2 Maneuver	119	-	-	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	452	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	355	802	-
HCM Lane V/C Ratio	-	-	0.092	0.033	-
HCM Control Delay (s)	-	-	16.2	9.6	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	775	1	0	650
Future Vol, veh/h	0	1	775	1	0	650
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	824	1	0	691

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	0	5	0	0	170	1	605	1	0	645	5
Future Vol, veh/h	1	0	5	0	0	170	1	605	1	0	645	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	2	0	3	0	0	5	0
Mvmt Flow	1	0	5	0	0	183	1	651	1	0	694	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1442	1350	697	-	-	652	699	0	0	-	-	0
Stage 1	697	697	-	-	-	-	-	-	-	-	-	-
Stage 2	745	653	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.22	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.318	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	111	152	444	0	0	468	907	-	-	0	-	-
Stage 1	435	446	-	0	0	-	-	-	-	0	-	-
Stage 2	409	467	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	67	152	444	-	-	468	907	-	-	-	-	-
Mov Cap-2 Maneuver	67	152	-	-	-	-	-	-	-	-	-	-
Stage 1	434	446	-	-	-	-	-	-	-	-	-	-
Stage 2	249	466	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	21.2	17.5	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWT	SWR
Capacity (veh/h)	907	-	- 468	229	-	-
HCM Lane V/C Ratio	0.001	-	- 0.391	0.028	-	-
HCM Control Delay (s)	9	0	- 17.5	21.2	-	-
HCM Lane LOS	A	A	- C	C	-	-
HCM 95th %tile Q(veh)	0	-	- 1.8	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	25	580	5	40	610
Future Vol, veh/h	5	25	580	5	40	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	5	0
Mvmt Flow	5	27	630	5	43	663

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1382	633	0	0	635	0
Stage 1	633	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	160	483	-	-	934	-
Stage 1	533	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	483	-	-	934	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	16.3	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	351	934	-
HCM Lane V/C Ratio	-	-	0.093	0.047	-
HCM Control Delay (s)	-	-	16.3	9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	570	1	25	590	1	15
Future Vol, veh/h	570	1	25	590	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	0	5	0	0	6
Mvmt Flow	600	1	26	621	1	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	601	0	1274	601
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	673	-
Critical Hdwy	-	-	4.15	-	6.4	6.26
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.354
Pot Cap-1 Maneuver	-	-	962	-	186	493
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	511	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	962	-	178	493
Mov Cap-2 Maneuver	-	-	-	-	178	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	490	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	13.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	444	-	-	962	-
HCM Lane V/C Ratio	0.038	-	-	0.027	-
HCM Control Delay (s)	13.4	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

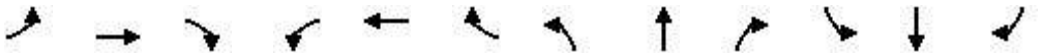
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	1	10	1	5	1	555	10	1	585	5
Future Vol, veh/h	10	1	1	10	1	5	1	555	10	1	585	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	33	0	3	11	0	5	0
Mvmt Flow	10	1	1	10	1	5	1	578	10	1	609	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1199	1201	609	1200	1201	583	614	0	0	588	0	0
Stage 1	611	611	-	585	585	-	-	-	-	-	-	-
Stage 2	588	590	-	615	616	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.53	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.597	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	164	186	499	163	186	459	975	-	-	997	-	-
Stage 1	484	487	-	501	501	-	-	-	-	-	-	-
Stage 2	499	498	-	482	485	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	161	185	499	162	185	459	975	-	-	997	-	-
Mov Cap-2 Maneuver	161	185	-	162	185	-	-	-	-	-	-	-
Stage 1	483	486	-	500	500	-	-	-	-	-	-	-
Stage 2	491	497	-	479	484	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.4	24.1	0	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	975	-	-	173	205	997	-	-
HCM Lane V/C Ratio	0.001	-	-	0.072	0.081	0.001	-	-
HCM Control Delay (s)	8.7	0	-	27.4	24.1	8.6	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	70	1	50	330	50	5	375	40	100	385	110
Future Volume (veh/h)	140	70	1	50	330	50	5	375	40	100	385	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1307	1841	1856	1841	1900	1856	1767	1693	1856	1826
Adj Flow Rate, veh/h	149	74	1	53	351	0	5	399	43	106	410	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	6	40	4	3	4	0	3	9	14	3	5
Cap, veh/h	173	86	1	59	391		12	691	557	306	781	651
Arrive On Green	0.15	0.15	0.15	0.24	0.24	0.00	0.00	0.12	0.12	0.05	0.42	0.42
Sat Flow, veh/h	1165	579	8	242	1602	1560	1810	1856	1497	1612	1856	1547
Grp Volume(v), veh/h	224	0	0	404	0	0	5	399	43	106	410	117
Grp Sat Flow(s),veh/h/ln	1751	0	0	1843	0	1560	1810	1856	1497	1612	1856	1547
Q Serve(g_s), s	12.5	0.0	0.0	21.2	0.0	0.0	0.3	20.3	2.5	3.9	16.4	4.7
Cycle Q Clear(g_c), s	12.5	0.0	0.0	21.2	0.0	0.0	0.3	20.3	2.5	3.9	16.4	4.7
Prop In Lane	0.67		0.00	0.13		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	0	0	450	0		12	691	557	306	781	651
V/C Ratio(X)	0.86	0.00	0.00	0.90	0.00		0.43	0.58	0.08	0.35	0.53	0.18
Avail Cap(c_a), veh/h	324	0	0	525	0		90	691	557	306	781	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	0.0	0.0	36.6	0.0	0.0	49.7	36.4	28.7	19.2	21.5	18.2
Incr Delay (d2), s/veh	17.1	0.0	0.0	16.5	0.0	0.0	22.6	3.5	0.3	0.7	2.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	0.0	11.5	0.0	0.0	0.2	10.7	0.9	1.4	7.4	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	0.0	0.0	53.1	0.0	0.0	72.3	39.9	28.9	19.9	24.1	18.8
LnGrp LOS	E	A	A	D	A		E	D	C	B	C	B
Approach Vol, veh/h		224			404			447			633	
Approach Delay, s/veh		58.7			53.1			39.2			22.4	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	41.7		19.4	5.1	46.6		28.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	29.5		18.5	5.0	30.0		28.5				
Max Q Clear Time (g_c+I1), s	5.9	22.3		14.5	2.3	18.4		23.2				
Green Ext Time (p_c), s	0.0	1.4		0.4	0.0	2.2		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			38.8									
HCM 6th LOS			D									

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	1	0	420	1	0	425	10
Future Vol, veh/h	0	0	5	0	0	1	0	420	1	0	425	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	0	0	50	0	0	0	3	0	0	4	0
Mvmt Flow	0	0	5	0	0	1	0	457	1	0	462	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	237	-	-	457	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	771	0	0	608	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	771	-	-	608	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	10.9	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	771	608	-	-
HCM Lane V/C Ratio	-	-	0.007	0.002	-	-
HCM Control Delay (s)	-	-	9.7	10.9	-	-
HCM Lane LOS	-	-	A	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	5	410	415	15
Future Vol, veh/h	10	10	5	410	415	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	17	3	4	7
Mvmt Flow	11	11	6	471	477	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	960	477	494	0	-	0
Stage 1	477	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.27	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.353	-	-	-
Pot Cap-1 Maneuver	287	592	996	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	285	592	996	-	-	-
Mov Cap-2 Maneuver	285	-	-	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	625	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	996	-	385	-	-
HCM Lane V/C Ratio	0.006	-	0.06	-	-
HCM Control Delay (s)	8.6	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

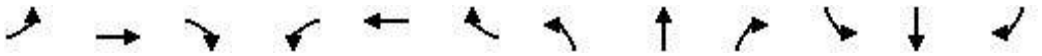
Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	25	390	10	10	415
Future Vol, veh/h	10	25	390	10	10	415
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	4	8	9	3
Mvmt Flow	11	28	443	11	11	472

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	707	449	0	0	454	0
Stage 1	449	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.235	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2855	-
Pot Cap-1 Maneuver	389	614	-	-	1063	-
Stage 1	647	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	384	614	-	-	1063	-
Mov Cap-2 Maneuver	384	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	756	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	524	1063	-
HCM Lane V/C Ratio	-	-	0.076	0.011	-
HCM Control Delay (s)	-	-	12.4	8.4	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	200	5	100	645	90	10	305	95	135	280	10
Future Volume (veh/h)	5	200	5	100	645	90	10	305	95	135	280	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1648	1737	1870	1885	1900	1841	1781	1885	1841	1900
Adj Flow Rate, veh/h	5	220	5	110	709	99	11	335	104	148	308	11
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	17	11	2	1	0	4	8	1	4	0
Cap, veh/h	12	712	16	496	711	99	24	410	127	262	631	23
Arrive On Green	0.01	0.39	0.39	0.06	0.44	0.44	0.01	0.30	0.30	0.02	0.12	0.12
Sat Flow, veh/h	1810	1807	41	1654	1606	224	1810	1347	418	1795	1766	63
Grp Volume(v), veh/h	5	0	225	110	0	808	11	0	439	148	0	319
Grp Sat Flow(s),veh/h/ln	1810	0	1848	1654	0	1830	1810	0	1765	1795	0	1829
Q Serve(g_s), s	0.3	0.0	8.4	3.8	0.0	44.0	0.6	0.0	23.0	5.4	0.0	16.3
Cycle Q Clear(g_c), s	0.3	0.0	8.4	3.8	0.0	44.0	0.6	0.0	23.0	5.4	0.0	16.3
Prop In Lane	1.00		0.02	1.00		0.12	1.00		0.24	1.00		0.03
Lane Grp Cap(c), veh/h	12	0	729	496	0	811	24	0	538	262	0	654
V/C Ratio(X)	0.43	0.00	0.31	0.22	0.00	1.00	0.46	0.00	0.82	0.57	0.00	0.49
Avail Cap(c_a), veh/h	92	0	793	513	0	811	92	0	538	262	0	654
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	20.9	15.7	0.0	27.8	49.0	0.0	32.2	25.1	0.0	35.5
Incr Delay (d2), s/veh	22.6	0.0	0.2	0.2	0.0	30.7	13.3	0.0	12.9	2.8	0.0	2.6
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	0.2	0.0	3.7	1.3	0.0	24.1	0.4	0.0	11.4	2.5	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	0.0	21.1	15.9	0.0	58.5	62.3	0.0	45.1	27.9	0.0	38.1
LnGrp LOS	E	A	C	B	A	E	E	A	D	C	A	D
Approach Vol, veh/h		230			918			450			467	
Approach Delay, s/veh		22.2			53.4			45.5			34.9	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	35.0	10.0	43.9	5.8	40.2	5.1	48.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.6	26.0	6.5	42.9	5.1	27.5	5.1	44.3
Max Q Clear Time (g_c+I1), s	7.4	25.0	5.8	10.4	2.6	18.3	2.3	46.0
Green Ext Time (p_c), s	0.0	0.3	0.0	1.5	0.0	1.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	135	140	30	180	85	275	1	25	800	120	290	995
Future Volume (vph)	135	140	30	180	85	275	1	25	800	120	290	995
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.95		0.97	0.95
Frt	1.00	0.97		1.00	1.00	0.85		1.00	0.98		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	1757		1805	1863	1599		1691	3470		3467	3554
Flt Permitted	0.70	1.00		0.36	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1330	1757		680	1863	1599		1691	3470		3467	3554
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	139	144	31	186	88	284	1	26	825	124	299	1026
RTOR Reduction (vph)	0	8	0	0	0	235	0	0	11	0	0	2
Lane Group Flow (vph)	139	167	0	186	88	49	0	27	938	0	299	1055
Heavy Vehicles (%)	0%	6%	2%	0%	2%	1%	0%	7%	2%	2%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	22.8	14.3		28.8	17.3	17.3		4.1	43.0		13.2	52.1
Effective Green, g (s)	22.8	14.3		28.8	17.3	17.3		4.1	43.0		13.2	52.1
Actuated g/C Ratio	0.23	0.14		0.29	0.17	0.17		0.04	0.43		0.13	0.52
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	343	251		325	322	276		69	1492		457	1851
v/s Ratio Prot	0.03	0.10		c0.07	0.05			0.02	c0.27		c0.09	0.30
v/s Ratio Perm	0.06			c0.10		0.03						
v/c Ratio	0.41	0.67		0.57	0.27	0.18		0.39	0.63		0.65	0.57
Uniform Delay, d1	32.3	40.6		28.6	35.9	35.3		46.7	22.3		41.2	16.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.11	0.83		1.00	1.00
Incremental Delay, d2	0.8	6.5		2.4	0.5	0.3		3.4	1.9		3.4	1.3
Delay (s)	33.1	47.1		31.0	36.4	35.6		55.3	20.3		44.6	17.6
Level of Service	C	D		C	D	D		E	C		D	B
Approach Delay (s)		40.9			34.2				21.3			23.5
Approach LOS		D			C				C			C

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

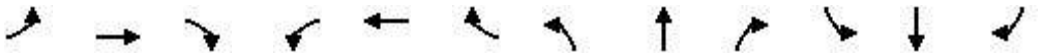
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	30
Future Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	5	940	25	1	1205
Future Volume (Veh/h)	1	5	940	25	1	1205
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	5	989	26	1	1268
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			547			197
pX, platoon unblocked	0.88	0.87			0.87	
vC, conflicting volume	1427	508			1015	
vC1, stage 1 conf vol	1002					
vC2, stage 2 conf vol	425					
vCu, unblocked vol	266	146			727	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	616	769			773	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3	SB 4
Volume Total	6	659	356	1	423	423	423
Volume Left	1	0	0	1	0	0	0
Volume Right	5	0	26	0	0	0	0
cSH	739	1700	1700	773	1700	1700	1700
Volume to Capacity	0.01	0.39	0.21	0.00	0.25	0.25	0.25
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	9.9	0.0	0.0	9.7	0.0	0.0	0.0
Lane LOS	A			A			
Approach Delay (s)	9.9	0.0		0.0			
Approach LOS	A						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	36.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	55	1	0	15	35	945	5	1	1155	50
Future Volume (Veh/h)	5	0	55	1	0	15	35	945	5	1	1155	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	0	57	1	0	16	36	984	5	1	1203	52
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.86	0.86	0.80	0.86	0.86	0.87	0.80			0.87		
vC, conflicting volume	1785	2266	602	1716	2313	492	1255			989		
vC1, stage 1 conf vol	1205	1205		1056	1056							
vC2, stage 2 conf vol	580	1061		660	1257							
vCu, unblocked vol	928	1485	2	849	1539	125	819			694		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	93	100	100	98	95			100		
cM capacity (veh/h)	284	252	871	289	228	793	655			794		

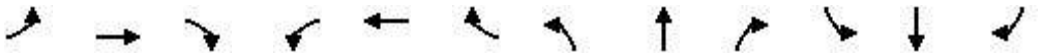
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	62	17	36	492	492	5	1	602	602	52
Volume Left	5	1	36	0	0	0	1	0	0	0
Volume Right	57	16	0	0	0	5	0	0	0	52
cSH	746	719	655	1700	1700	1700	794	1700	1700	1700
Volume to Capacity	0.08	0.02	0.05	0.29	0.29	0.00	0.00	0.35	0.35	0.03
Queue Length 95th (ft)	7	2	5	0	0	0	0	0	0	0
Control Delay (s)	10.3	10.1	10.8	0.0	0.0	0.0	9.5	0.0	0.0	0.0
Lane LOS	B	B	B				A			
Approach Delay (s)	10.3	10.1	0.4				0.0			
Approach LOS	B	B								

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	43.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	10	975	1	5	1205
Future Volume (Veh/h)	1	10	975	1	5	1205
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	11	1026	1	5	1268
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (ft)			256			488
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1670	513			1027	
vC1, stage 1 conf vol	1026					
vC2, stage 2 conf vol	644					
vCu, unblocked vol	785	138			729	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			99	
cM capacity (veh/h)	373	775			768	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	513	513	1	5	634	634
Volume Left	1	0	0	0	5	0	0
Volume Right	11	0	0	1	0	0	0
cSH	711	1700	1700	1700	768	1700	1700
Volume to Capacity	0.02	0.30	0.30	0.00	0.01	0.37	0.37
Queue Length 95th (ft)	1	0	0	0	1	0	0
Control Delay (s)	10.1	0.0	0.0	0.0	9.7	0.0	0.0
Lane LOS	B				A		
Approach Delay (s)	10.1	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	25	50	65	15	35	40	855	70	60	1025	120
Future Volume (vph)	85	25	50	65	15	35	40	855	70	60	1025	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.90		1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1709		1805	1678		1805	3505	1615	1719	3574	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.22	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	1805	1709		1805	1678		417	3505	1615	477	3574	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	26	53	68	16	37	42	900	74	63	1079	126
RTOR Reduction (vph)	0	49	0	0	35	0	0	0	28	0	0	42
Lane Group Flow (vph)	89	30	0	68	18	0	42	900	46	63	1079	84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	3%	0%	5%	1%	1%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	8.4	6.7		7.6	5.9		66.1	62.1	62.1	69.3	63.7	63.7
Effective Green, g (s)	8.4	6.7		7.6	5.9		66.1	62.1	62.1	69.3	63.7	63.7
Actuated g/C Ratio	0.08	0.07		0.08	0.06		0.66	0.62	0.62	0.69	0.64	0.64
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	151	114		137	99		331	2176	1002	400	2276	1018
v/s Ratio Prot	c0.05	c0.02		0.04	0.01		0.01	0.26		c0.01	c0.30	
v/s Ratio Perm							0.08		0.03	0.10		0.05
v/c Ratio	0.59	0.26		0.50	0.18		0.13	0.41	0.05	0.16	0.47	0.08
Uniform Delay, d1	44.1	44.3		44.4	44.8		6.5	9.7	7.4	5.5	9.4	7.0
Progression Factor	1.00	1.00		1.00	1.00		0.65	0.52	0.68	0.63	0.47	0.17
Incremental Delay, d2	5.8	1.2		2.8	0.9		0.2	0.6	0.1	0.2	0.6	0.1
Delay (s)	49.9	45.5		47.2	45.7		4.4	5.6	5.1	3.6	5.0	1.3
Level of Service	D	D		D	D		A	A	A	A	A	A
Approach Delay (s)		47.8			46.5			5.5			4.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	1	100	15	1	30	70	920	35	25	1085	30
Future Vol, veh/h	15	1	100	15	1	30	70	920	35	25	1085	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	20	-	0	50	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	5	0	0	2	0	0	1	0
Mvmt Flow	16	1	106	16	1	32	74	979	37	27	1154	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1846	2372	577	1759	2367	490	1186	0	0	1016	0	0
Stage 1	1208	1208	-	1127	1127	-	-	-	-	-	-	-
Stage 2	638	1164	-	632	1240	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.6	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4.05	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	47	35	462	55	33	529	596	-	-	691	-	-
Stage 1	197	258	-	221	272	-	-	-	-	-	-	-
Stage 2	436	271	-	440	240	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	38	29	462	36	28	529	596	-	-	691	-	-
Mov Cap-2 Maneuver	38	29	-	36	28	-	-	-	-	-	-	-
Stage 1	173	248	-	194	238	-	-	-	-	-	-	-
Stage 2	357	237	-	324	231	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	60	84.9	0.8	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	596	-	-	180	90	691	-	-
HCM Lane V/C Ratio	0.125	-	-	0.686	0.544	0.038	-	-
HCM Control Delay (s)	11.9	-	-	60	84.9	10.4	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	4.1	2.4	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	5	1015	1190	10
Future Vol, veh/h	10	10	5	1015	1190	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	10	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	11	11	5	1091	1280	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1732	646	1291	0	-	0
Stage 1	1286	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Critical Hdwy	6.25	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	104	419	544	-	-	-
Stage 1	222	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	419	544	-	-	-
Mov Cap-2 Maneuver	180	-	-	-	-	-
Stage 1	220	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	544	-	252	-	-
HCM Lane V/C Ratio	0.01	-	0.085	-	-
HCM Control Delay (s)	11.7	-	20.6	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	39.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	15	90	1	100	5	910	155	145	1055	1
Future Vol, veh/h	10	1	15	90	1	100	5	910	155	145	1055	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	50	-	140	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	0	4	0	2	1	0	1	0
Mvmt Flow	11	1	16	96	1	106	5	968	165	154	1122	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1926	2574	562	1848	2409	484	1123	0	0	1133	0	0
Stage 1	1431	1431	-	978	978	-	-	-	-	-	-	-
Stage 2	495	1143	-	870	1431	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.52	6.5	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.52	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.52	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.51	4	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	41	26	475	~ 47	33	523	629	-	-	624	-	-
Stage 1	144	202	-	271	331	-	-	-	-	-	-	-
Stage 2	530	277	-	315	202	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	19	475	~ 35	25	523	629	-	-	624	-	-
Mov Cap-2 Maneuver	25	19	-	~ 35	25	-	-	-	-	-	-	-
Stage 1	143	152	-	269	328	-	-	-	-	-	-	-
Stage 2	417	275	-	228	152	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	127.5	$ 492.2	0.1	1.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	629	-	-	54	35	437	624	-	-
HCM Lane V/C Ratio	0.008	-	-	0.512	2.736	0.246	0.247	-	-
HCM Control Delay (s)	10.8	-	-	127.5	$ 1026.7	15.9	12.7	-	-
HCM Lane LOS	B	-	-	F	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	2	10.9	1	1	-	-

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	10	20	1045	1120	40
Future Vol, veh/h	25	10	20	1045	1120	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	130
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	26	11	21	1100	1179	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1771	590	1221	0	-	0
Stage 1	1179	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	76	456	578	-	-	-
Stage 1	259	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	73	456	578	-	-	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	250	-	-	-	-	-
Stage 2	521	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	578	-	220	-	-
HCM Lane V/C Ratio	0.036	-	0.167	-	-
HCM Control Delay (s)	11.5	-	24.6	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	290	45	30	775	1	855	275
Future Volume (vph)	290	45	30	775	1	855	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	1.00	0.95	
Frt	0.98		1.00	1.00	1.00	0.96	
Flt Protected	0.96		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1768		1805	3539	1805	3444	
Flt Permitted	0.96		0.16	1.00	0.95	1.00	
Satd. Flow (perm)	1768		302	3539	1805	3444	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	305	47	32	816	1	900	289
RTOR Reduction (vph)	6	0	0	0	0	25	0
Lane Group Flow (vph)	346	0	32	816	1	1164	0
Heavy Vehicles (%)	1%	2%	0%	2%	0%	1%	1%
Turn Type	Prot		pm+pt	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases			2				
Actuated Green, G (s)	24.5		64.5	60.9	1.1	58.4	
Effective Green, g (s)	24.5		64.5	60.9	1.1	58.4	
Actuated g/C Ratio	0.24		0.64	0.61	0.01	0.58	
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	433		248	2155	19	2011	
v/s Ratio Prot	c0.20		c0.00	0.23	0.00	c0.34	
v/s Ratio Perm			0.08				
v/c Ratio	0.80		0.13	0.38	0.05	0.58	
Uniform Delay, d1	35.4		8.6	9.9	48.9	13.1	
Progression Factor	1.00		1.66	1.80	1.10	0.70	
Incremental Delay, d2	9.9		0.2	0.5	1.1	1.2	
Delay (s)	45.4		14.5	18.3	54.8	10.3	
Level of Service	D		B	B	D	B	
Approach Delay (s)	45.4			18.2		10.4	
Approach LOS	D			B		B	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	765	5	55	845
Future Vol, veh/h	5	40	765	5	55	845
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	2	0	3	1
Mvmt Flow	5	43	814	5	59	899

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1385	817	0	0	819	0
Stage 1	817	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.6	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	148	374	-	-	802	-
Stage 1	438	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	137	374	-	-	802	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	496	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.5	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	314	802	-
HCM Lane V/C Ratio	-	-	0.152	0.073	-
HCM Control Delay (s)	-	-	18.5	9.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	10	10	750	820	30
Future Vol, veh/h	20	10	10	750	820	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	22	11	11	815	891	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1728	891	924	0	-	0
Stage 1	891	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	98	344	748	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	95	344	748	-	-	-
Mov Cap-2 Maneuver	95	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	428	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	43.7	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	748	-	125	-	-
HCM Lane V/C Ratio	0.015	-	0.261	-	-
HCM Control Delay (s)	9.9	0	43.7	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	755	820	10
Future Vol, veh/h	5	5	5	755	820	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	5	5	5	821	891	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1728	897	902	0	-	0
Stage 1	897	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	98	341	762	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	97	341	762	-	-	-
Mov Cap-2 Maneuver	97	-	-	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	431	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.7	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	762	-	151	-	-
HCM Lane V/C Ratio	0.007	-	0.072	-	-
HCM Control Delay (s)	9.8	0	30.7	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

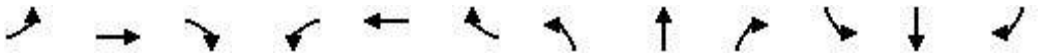
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	5	755	10	1	820
Future Vol, veh/h	1	5	755	10	1	820
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	25	2	0	0	1
Mvmt Flow	1	5	830	11	1	901

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1739	836	0	0	841	0
Stage 1	836	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Critical Hdwy	6.4	6.45	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.525	-	-	2.2	-
Pot Cap-1 Maneuver	97	334	-	-	803	-
Stage 1	429	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	97	334	-	-	803	-
Mov Cap-2 Maneuver	97	-	-	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	398	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	237	803	-
HCM Lane V/C Ratio	-	-	0.028	0.001	-
HCM Control Delay (s)	-	-	20.6	9.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	160	180	55	115	75	55	570	50	70	665	85
Future Volume (veh/h)	120	160	180	55	115	75	55	570	50	70	665	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1885	1885	1885	1900	1885	1870	1870	1900	1885	1885	1885
Adj Flow Rate, veh/h	125	167	0	57	120	78	57	594	52	73	693	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	1	1	1	0	1	2	2	0	1	1	1
Cap, veh/h	154	251		74	165	139	426	1126	970	480	1142	
Arrive On Green	0.09	0.13	0.00	0.04	0.09	0.09	0.04	0.60	0.60	0.04	0.61	0.00
Sat Flow, veh/h	1767	1885	1598	1795	1900	1598	1781	1870	1610	1795	1885	1598
Grp Volume(v), veh/h	125	167	0	57	120	78	57	594	52	73	693	0
Grp Sat Flow(s),veh/h/ln	1767	1885	1598	1795	1900	1598	1781	1870	1610	1795	1885	1598
Q Serve(g_s), s	6.9	8.4	0.0	3.1	6.2	4.7	1.2	18.5	1.3	1.5	22.9	0.0
Cycle Q Clear(g_c), s	6.9	8.4	0.0	3.1	6.2	4.7	1.2	18.5	1.3	1.5	22.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	251		74	165	139	426	1126	970	480	1142	
V/C Ratio(X)	0.81	0.66		0.77	0.73	0.56	0.13	0.53	0.05	0.15	0.61	
Avail Cap(c_a), veh/h	203	392		156	342	288	444	1126	970	493	1142	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.8	41.2	0.0	47.5	44.5	43.8	9.4	11.6	8.2	8.4	12.3	0.0
Incr Delay (d2), s/veh	16.5	3.0	0.0	15.6	5.9	3.5	0.1	1.8	0.1	0.1	2.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	4.1	0.0	1.7	3.1	2.0	0.4	7.5	0.5	0.5	9.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	44.2	0.0	63.0	50.4	47.3	9.5	13.4	8.3	8.6	14.7	0.0
LnGrp LOS	E	D		E	D	D	A	B	A	A	B	
Approach Vol, veh/h		292			255			703			766	
Approach Delay, s/veh		51.5			52.3			12.7			14.1	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	64.7	8.6	17.8	8.5	65.1	13.2	13.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	47.4	8.7	20.8	5.0	47.5	11.5	18.0
Max Q Clear Time (g_c+I1), s	3.5	20.5	5.1	10.4	3.2	24.9	8.9	8.2
Green Ext Time (p_c), s	0.0	4.3	0.0	0.6	0.0	4.9	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	675	1	0	900
Future Vol, veh/h	0	1	675	1	0	900
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	696	1	0	928

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	697	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	444	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	444	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	444	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	13.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	20	665	10	30	860
Future Vol, veh/h	15	20	665	10	30	860
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	1	8	0	1
Mvmt Flow	15	20	679	10	31	878

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1619	679	0	0	689	0
Stage 1	679	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	115	455	-	-	915	-
Stage 1	507	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	107	455	-	-	915	-
Mov Cap-2 Maneuver	107	-	-	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	358	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.3	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	190	915	-
HCM Lane V/C Ratio	-	-	0.188	0.033	-
HCM Control Delay (s)	-	-	28.3	9.1	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	675	1	0	875
Future Vol, veh/h	0	1	675	1	0	875
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	682	1	0	884

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	65	5	605	5	0	865	10
Future Vol, veh/h	5	0	5	0	0	65	5	605	5	0	865	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	1	0	2	0	0	1	0
Mvmt Flow	5	0	5	0	0	66	5	611	5	0	874	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1533	1500	879	-	-	614	884	0	0	-	-	0
Stage 1	879	879	-	-	-	-	-	-	-	-	-	-
Stage 2	654	621	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.21	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.309	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	96	123	350	0	0	494	774	-	-	0	-	-
Stage 1	345	368	-	0	0	-	-	-	-	0	-	-
Stage 2	459	482	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	83	122	350	-	-	494	774	-	-	-	-	-
Mov Cap-2 Maneuver	83	122	-	-	-	-	-	-	-	-	-	-
Stage 1	342	368	-	-	-	-	-	-	-	-	-	-
Stage 2	394	477	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	34	13.4	0.1	0
HCM LOS	D	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWT	SWR
Capacity (veh/h)	774	-	-	494	134	-	-
HCM Lane V/C Ratio	0.007	-	-	0.133	0.075	-	-
HCM Control Delay (s)	9.7	0	-	13.4	34	-	-
HCM Lane LOS	A	A	-	B	D	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	20	595	15	65	805
Future Vol, veh/h	5	20	595	15	65	805
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	5	21	613	15	67	830

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1585	621	0	0	628	0
Stage 1	621	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	120	491	-	-	964	-
Stage 1	540	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	105	491	-	-	964	-
Mov Cap-2 Maneuver	105	-	-	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	325	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	19	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	283	964	-
HCM Lane V/C Ratio	-	-	0.091	0.07	-
HCM Control Delay (s)	-	-	19	9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	555	1	85	725	1	55
Future Vol, veh/h	555	1	85	725	1	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	0	1	0	0	1
Mvmt Flow	578	1	89	755	1	57

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	579	0	1512	579
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	933	-
Critical Hdwy	-	-	4.11	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	1000	-	134	517
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	386	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1000	-	113	517
Mov Cap-2 Maneuver	-	-	-	-	113	-
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	327	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	13.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	486	-	-	1000	-
HCM Lane V/C Ratio	0.12	-	-	0.089	-
HCM Control Delay (s)	13.4	-	-	8.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

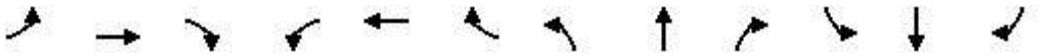
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	1	20	1	5	1	540	45	1	705	20
Future Vol, veh/h	10	1	1	20	1	5	1	540	45	1	705	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	2	0
Mvmt Flow	11	1	1	21	1	5	1	574	48	1	750	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1355	1376	750	1364	1373	598	771	0	0	622	0	0
Stage 1	752	752	-	600	600	-	-	-	-	-	-	-
Stage 2	603	624	-	764	773	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	128	146	415	126	147	506	853	-	-	969	-	-
Stage 1	405	421	-	491	493	-	-	-	-	-	-	-
Stage 2	489	481	-	399	412	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	145	415	125	146	506	853	-	-	969	-	-
Mov Cap-2 Maneuver	126	145	-	125	146	-	-	-	-	-	-	-
Stage 1	404	420	-	490	492	-	-	-	-	-	-	-
Stage 2	482	480	-	396	411	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.4	35.1	0	0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	853	-	-	135	147	969	-	-
HCM Lane V/C Ratio	0.001	-	-	0.095	0.188	0.001	-	-
HCM Control Delay (s)	9.2	0	-	34.4	35.1	8.7	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.7	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	155	10	40	185	20	15	400	65	120	485	120
Future Volume (veh/h)	165	155	10	40	185	20	15	400	65	120	485	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1900	1737	1900	1885	1900	1900	1870	1900	1870	1870	1900
Adj Flow Rate, veh/h	176	165	11	43	197	0	16	426	69	128	516	128
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	0	11	0	1	0	0	2	0	2	2	0
Cap, veh/h	196	183	12	50	230		32	761	655	338	823	708
Arrive On Green	0.21	0.21	0.21	0.15	0.15	0.00	0.01	0.13	0.13	0.05	0.44	0.44
Sat Flow, veh/h	922	864	58	335	1534	1610	1810	1870	1610	1781	1870	1610
Grp Volume(v), veh/h	352	0	0	240	0	0	16	426	69	128	516	128
Grp Sat Flow(s),veh/h/ln	1844	0	0	1868	0	1610	1810	1870	1610	1781	1870	1610
Q Serve(g_s), s	18.6	0.0	0.0	12.5	0.0	0.0	0.9	21.3	3.8	4.1	21.3	4.8
Cycle Q Clear(g_c), s	18.6	0.0	0.0	12.5	0.0	0.0	0.9	21.3	3.8	4.1	21.3	4.8
Prop In Lane	0.50		0.03	0.18		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	391	0	0	280	0		32	761	655	338	823	708
V/C Ratio(X)	0.90	0.00	0.00	0.86	0.00		0.49	0.56	0.11	0.38	0.63	0.18
Avail Cap(c_a), veh/h	439	0	0	346	0		90	761	655	338	823	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	0.0	0.0	41.5	0.0	0.0	49.3	34.9	27.3	18.2	21.7	17.0
Incr Delay (d2), s/veh	19.8	0.0	0.0	16.1	0.0	0.0	11.1	3.0	0.3	0.7	3.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	0.0	0.0	7.0	0.0	0.0	0.5	11.2	1.5	1.7	9.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	0.0	0.0	57.5	0.0	0.0	60.4	37.9	27.6	18.9	25.3	17.6
LnGrp LOS	E	A	A	E	A		E	D	C	B	C	B
Approach Vol, veh/h		352			240			511			772	
Approach Delay, s/veh		58.1			57.5			37.2			22.9	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	45.2		25.7	6.3	48.5		19.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	34.6		23.8	5.0	34.7		18.5				
Max Q Clear Time (g_c+I1), s	6.1	23.3		20.6	2.9	23.3		14.5				
Green Ext Time (p_c), s	0.0	2.1		0.6	0.0	2.8		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		37.9	
HCM 6th LOS		D	

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	10	0	0	1	0	480	1	0	530	5
Future Vol, veh/h	0	0	10	0	0	1	0	480	1	0	530	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	0	0	11	0	0	1	0	527	1	0	582	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	294	-	-	527	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	708	0	0	555	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	708	-	-	555	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	11.5	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	708	555	-	-
HCM Lane V/C Ratio	-	-	0.016	0.002	-	-
HCM Control Delay (s)	-	-	10.2	11.5	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	25	5	470	515	25
Future Vol, veh/h	10	25	5	470	515	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	11	27	5	505	554	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1069	554	581	0	-	0
Stage 1	554	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	247	536	1003	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	245	536	1003	-	-	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	576	-	-	-	-	-
Stage 2	604	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1003	-	400	-	-
HCM Lane V/C Ratio	0.005	-	0.094	-	-
HCM Control Delay (s)	8.6	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	30	445	20	25	515
Future Vol, veh/h	5	30	445	20	25	515
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	2	0	4	1
Mvmt Flow	5	32	478	22	27	554

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	820	489	0	0	500	0
Stage 1	489	-	-	-	-	-
Stage 2	331	-	-	-	-	-
Critical Hdwy	6.6	6.23	-	-	4.16	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.319	-	-	2.238	-
Pot Cap-1 Maneuver	332	578	-	-	1050	-
Stage 1	621	-	-	-	-	-
Stage 2	706	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	320	578	-	-	1050	-
Mov Cap-2 Maneuver	320	-	-	-	-	-
Stage 1	621	-	-	-	-	-
Stage 2	680	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	518	1050	-
HCM Lane V/C Ratio	-	-	0.073	0.026	-
HCM Control Delay (s)	-	-	12.5	8.5	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	500	10	150	410	90	20	350	125	175	330	15
Future Volume (veh/h)	25	500	10	150	410	90	20	350	125	175	330	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1841	1885	1870	1900	1856	1885	1885	1885	1900
Adj Flow Rate, veh/h	26	521	10	156	427	94	21	365	130	182	344	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	4	1	2	0	3	1	1	1	0
Cap, veh/h	47	558	11	233	528	116	40	473	168	319	750	35
Arrive On Green	0.03	0.30	0.30	0.08	0.35	0.35	0.02	0.36	0.36	0.03	0.14	0.14
Sat Flow, veh/h	1810	1858	36	1753	1496	329	1810	1306	465	1795	1787	83
Grp Volume(v), veh/h	26	0	531	156	0	521	21	0	495	182	0	360
Grp Sat Flow(s),veh/h/ln	1810	0	1894	1753	0	1826	1810	0	1772	1795	0	1870
Q Serve(g_s), s	1.4	0.0	27.3	5.9	0.0	25.8	1.1	0.0	24.7	6.0	0.0	17.7
Cycle Q Clear(g_c), s	1.4	0.0	27.3	5.9	0.0	25.8	1.1	0.0	24.7	6.0	0.0	17.7
Prop In Lane	1.00		0.02	1.00		0.18	1.00		0.26	1.00		0.04
Lane Grp Cap(c), veh/h	47	0	569	233	0	644	40	0	641	319	0	784
V/C Ratio(X)	0.56	0.00	0.93	0.67	0.00	0.81	0.53	0.00	0.77	0.57	0.00	0.46
Avail Cap(c_a), veh/h	92	0	596	245	0	644	100	0	641	329	0	784
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	34.0	24.8	0.0	29.3	48.4	0.0	28.2	21.8	0.0	32.6
Incr Delay (d2), s/veh	10.1	0.0	21.4	6.5	0.0	7.6	10.3	0.0	8.7	2.2	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	15.8	2.7	0.0	11.9	0.6	0.0	11.6	2.7	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	0.0	55.4	31.3	0.0	36.9	58.6	0.0	37.0	24.1	0.0	34.6
LnGrp LOS	E	A	E	C	A	D	E	A	D	C	A	C
Approach Vol, veh/h		557			677			516			542	
Approach Delay, s/veh		55.5			35.6			37.9			31.0	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	40.7	12.3	34.6	6.7	46.4	7.1	39.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	33.5	8.5	31.5	5.5	36.5	5.1	34.9
Max Q Clear Time (g_c+I1), s	8.0	26.7	7.9	29.3	3.1	19.7	3.4	27.8
Green Ext Time (p_c), s	0.0	1.7	0.0	0.8	0.0	1.9	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

Appendix G

Future Year (2027 and 2047) No-Build Analysis Results

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	105	50	20	155	70	295	24	25	980	65	140	655
Future Volume (vph)	105	50	20	155	70	295	24	25	980	65	140	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	0.88		1.00	0.91		0.97	0.95
Frt	1.00	0.96		1.00	1.00	0.85		1.00	0.99		1.00	0.98
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1556	1721		1770	1863	2760		1709	5032		3303	3400
Flt Permitted	0.71	1.00		0.55	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1160	1721		1028	1863	2760		1709	5032		3303	3400
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	54	22	167	75	317	26	27	1054	70	151	704
RTOR Reduction (vph)	0	17	0	0	0	197	0	0	6	0	0	7
Lane Group Flow (vph)	113	59	0	167	75	120	0	53	1118	0	151	778
Heavy Vehicles (%)	16%	5%	7%	2%	2%	3%	0%	11%	2%	4%	6%	3%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8	1	5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	17.2	7.8		21.6	10.0	19.9		7.4	52.7		9.9	55.2
Effective Green, g (s)	17.2	7.8		21.6	10.0	19.9		7.4	52.7		9.9	55.2
Actuated g/C Ratio	0.17	0.08		0.22	0.10	0.20		0.07	0.53		0.10	0.55
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	236	134		308	186	673		126	2651		326	1876
v/s Ratio Prot	0.04	0.03		c0.06	0.04	0.02		0.03	0.22		c0.05	c0.23
v/s Ratio Perm	0.04			c0.05		0.03						
v/c Ratio	0.48	0.44		0.54	0.40	0.18		0.42	0.42		0.46	0.41
Uniform Delay, d1	37.0	44.0		34.0	42.2	33.3		44.3	14.4		42.5	13.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.16	0.81		1.00	1.00
Incremental Delay, d2	1.5	2.3		1.9	1.4	0.1		2.1	0.5		1.0	0.7
Delay (s)	38.5	46.4		35.9	43.6	33.4		53.2	12.1		43.6	13.7
Level of Service	D	D		D	D	C		D	B		D	B
Approach Delay (s)		41.7			35.5				13.9			18.5
Approach LOS		D			D				B			B

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

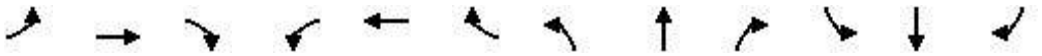
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	75
Future Volume (vph)	75
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	81
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	18%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1092	11	0	854
Future Volume (Veh/h)	0	2	1092	11	0	854
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2	1241	12	0	970
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			547			197
pX, platoon unblocked	0.87					
vC, conflicting volume	1732	316			1253	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1545	316			1253	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	94	685			562	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	2	355	355	355	189	485	485
Volume Left	0	0	0	0	0	0	0
Volume Right	2	0	0	0	12	0	0
cSH	685	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.21	0.21	0.21	0.11	0.29	0.29
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	10.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.3	0.0				0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	25	0	0	6	0	1097	10	0	813	40
Future Volume (Veh/h)	0	0	25	0	0	6	0	1097	10	0	813	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	28	0	0	7	0	1219	11	0	903	44
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.94	0.94	0.88	0.94	0.94	0.88	0.88			0.88		
vC, conflicting volume	1316	2133	452	1698	2166	406	947			1230		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	464	1336	100	872	1371	0	664			804		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	100	100	99	100			100		
cM capacity (veh/h)	452	145	828	224	138	965	821			733		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	28	7	406	406	406	11	452	452	44
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	28	7	0	0	0	11	0	0	44
cSH	828	965	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.01	0.24	0.24	0.24	0.01	0.27	0.27	0.03
Queue Length 95th (ft)	3	1	0	0	0	0	0	0	0
Control Delay (s)	9.5	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A							
Approach Delay (s)	9.5	8.8	0.0				0.0		
Approach LOS	A	A							

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	32.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	6	1101	11	0	837
Future Volume (Veh/h)	0	6	1101	11	0	837
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	7	1237	12	0	940
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			256			488
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	1472	618			1249	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1191	180			927	
tC, single (s)	6.8	7.2			4.4	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.4	
p0 queue free %	100	99			100	
cM capacity (veh/h)	155	664			546	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	7	618	618	12	235	235	235	235
Volume Left	0	0	0	0	0	0	0	0
Volume Right	7	0	0	12	0	0	0	0
cSH	664	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.36	0.36	0.01	0.14	0.14	0.14	0.14
Queue Length 95th (ft)	1	0	0	0	0	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.5	0.0			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	25	1	15	15	1	25	25	1040	20	21	30	720
Future Volume (vph)	25	1	15	15	1	25	25	1040	20	21	30	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00		1.00	0.95
Frt	1.00	0.86		1.00	0.86		1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1632		1805	1497		1736	3539	1615		1730	3539
Flt Permitted	0.95	1.00		0.95	1.00		0.34	1.00	1.00		0.20	1.00
Satd. Flow (perm)	1805	1632		1805	1497		614	3539	1615		367	3539
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91
Adj. Flow (vph)	27	1	16	16	1	27	27	1143	22	23	33	791
RTOR Reduction (vph)	0	15	0	0	26	0	0	0	7	0	0	0
Lane Group Flow (vph)	27	2	0	16	2	0	27	1143	15	0	56	791
Heavy Vehicles (%)	0%	0%	0%	0%	50%	7%	4%	2%	0%	2%	6%	2%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases							2		2	1	6	
Actuated Green, G (s)	3.9	6.7		2.2	5.0		71.6	67.9	67.9		74.6	69.4
Effective Green, g (s)	3.9	6.7		2.2	5.0		71.6	67.9	67.9		74.6	69.4
Actuated g/C Ratio	0.04	0.07		0.02	0.05		0.72	0.68	0.68		0.75	0.69
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	70	109		39	74		481	2402	1096		344	2456
v/s Ratio Prot	c0.01	0.00		0.01	c0.00		0.00	c0.32			c0.01	0.22
v/s Ratio Perm							0.04		0.01		0.11	
v/c Ratio	0.39	0.02		0.41	0.03		0.06	0.48	0.01		0.16	0.32
Uniform Delay, d1	46.9	43.6		48.3	45.2		4.2	7.6	5.2		4.3	6.0
Progression Factor	1.00	1.00		1.00	1.00		0.42	0.38	1.00		0.80	0.64
Incremental Delay, d2	3.5	0.1		6.9	0.2		0.0	0.7	0.0		0.2	0.3
Delay (s)	50.4	43.7		55.1	45.4		1.8	3.5	5.2		3.7	4.2
Level of Service	D	D		E	D		A	A	A		A	A
Approach Delay (s)		47.8			48.9			3.5				4.1
Approach LOS		D			D			A				A

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	65
Future Volume (vph)	65
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	71
RTOR Reduction (vph)	22
Lane Group Flow (vph)	49
Heavy Vehicles (%)	3%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	69.4
Effective Green, g (s)	69.4
Actuated g/C Ratio	0.69
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1088
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.05
Uniform Delay, d1	4.8
Progression Factor	0.56
Incremental Delay, d2	0.1
Delay (s)	2.8
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	25	15	1	45	30	1035	30	15	730	5
Future Vol, veh/h	5	1	25	15	1	45	30	1035	30	15	730	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	20	-	0	50	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	4	0	2	0	0	2	0
Mvmt Flow	6	1	28	17	1	50	33	1150	33	17	811	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1487	2094	406	1656	2067	575	817	0	0	1183	0	0
Stage 1	845	845	-	1216	1216	-	-	-	-	-	-	-
Stage 2	642	1249	-	440	851	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	88	53	600	66	55	456	820	-	-	597	-	-
Stage 1	328	382	-	195	256	-	-	-	-	-	-	-
Stage 2	434	247	-	571	379	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	73	49	600	59	51	456	820	-	-	597	-	-
Mov Cap-2 Maneuver	73	49	-	59	51	-	-	-	-	-	-	-
Stage 1	315	371	-	187	246	-	-	-	-	-	-	-
Stage 2	369	237	-	527	368	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.8	41.6	0.3	0.2
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	820	-	-	237	164	597	-	-
HCM Lane V/C Ratio	0.041	-	-	0.145	0.413	0.028	-	-
HCM Control Delay (s)	9.6	-	-	22.8	41.6	11.2	-	-
HCM Lane LOS	A	-	-	C	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1.8	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	10	5	1055	755	15
Future Vol, veh/h	40	10	5	1055	755	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	10	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	0	0	2	2	0
Mvmt Flow	44	11	6	1172	839	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1329	428	856	0	-	0
Stage 1	848	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Critical Hdwy	6.35	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	-	-	-	-
Follow-up Hdwy	3.7	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	171	581	793	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	170	581	793	-	-	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	360	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	793	-	302	-	-
HCM Lane V/C Ratio	0.007	-	0.184	-	-
HCM Control Delay (s)	9.6	-	19.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Intersection	
Int Delay, s/veh	49.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	15	115	1	105	10	955	105	85	675	5
Future Vol, veh/h	1	1	15	115	1	105	10	955	105	85	675	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	50	-	140	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	4	0	5	0	1	3	5	2	0
Mvmt Flow	1	1	17	129	1	118	11	1073	118	96	758	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1512	2166	382	1667	2051	537	764	0	0	1191	0	0
Stage 1	953	953	-	1095	1095	-	-	-	-	-	-	-
Stage 2	559	1213	-	572	956	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.58	6.5	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.58	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.58	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.54	4	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	84	48	622	~ 62	56	481	858	-	-	565	-	-
Stage 1	282	340	-	224	292	-	-	-	-	-	-	-
Stage 2	486	257	-	467	339	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	54	39	622	~ 51	46	481	858	-	-	565	-	-
Mov Cap-2 Maneuver	54	39	-	~ 51	46	-	-	-	-	-	-	-
Stage 1	278	282	-	221	288	-	-	-	-	-	-	-
Stage 2	361	254	-	376	281	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.7	$ 459.1	0.1	1.4
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	858	-	-	249	51	442	565	-	-
HCM Lane V/C Ratio	0.013	-	-	0.077	2.534	0.269	0.169	-	-
HCM Control Delay (s)	9.3	-	-	20.7	$ 867.4	16.1	12.7	-	-
HCM Lane LOS	A	-	-	C	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	13.4	1.1	0.6	-	-

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

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	5	10	1030	790	15
Future Vol, veh/h	40	5	10	1030	790	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	130
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	44	5	11	1132	868	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1456	434	884	0	-	0
Stage 1	868	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	123	576	774	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	121	576	774	-	-	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	524	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	774	-	268	-	-
HCM Lane V/C Ratio	0.014	-	0.185	-	-
HCM Control Delay (s)	9.7	-	21.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	165	50	65	875	1	600	195
Future Volume (vph)	165	50	65	875	1	600	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	1.00	0.95	
Frt	0.97		1.00	1.00	1.00	0.96	
Flt Protected	0.96		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1743		1719	3539	1805	3409	
Flt Permitted	0.96		0.27	1.00	0.95	1.00	
Satd. Flow (perm)	1743		484	3539	1805	3409	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	54	71	951	1	652	212
RTOR Reduction (vph)	12	0	0	0	0	23	0
Lane Group Flow (vph)	221	0	71	951	1	841	0
Heavy Vehicles (%)	1%	4%	5%	2%	0%	2%	2%
Turn Type	Prot		pm+pt	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases			2				
Actuated Green, G (s)	17.9		73.0	67.4	1.2	63.0	
Effective Green, g (s)	17.9		73.0	67.4	1.2	63.0	
Actuated g/C Ratio	0.18		0.73	0.67	0.01	0.63	
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	311		422	2385	21	2147	
v/s Ratio Prot	c0.13		c0.01	c0.27	0.00	0.25	
v/s Ratio Perm			0.11				
v/c Ratio	0.71		0.17	0.40	0.05	0.39	
Uniform Delay, d1	38.6		4.7	7.3	48.8	9.1	
Progression Factor	1.00		1.69	1.87	1.21	0.68	
Incremental Delay, d2	7.2		0.2	0.4	0.9	0.5	
Delay (s)	45.8		8.1	14.0	60.0	6.7	
Level of Service	D		A	B	E	A	
Approach Delay (s)	45.8			13.6		6.8	
Approach LOS	D			B		A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	35	905	5	15	635
Future Vol, veh/h	5	35	905	5	15	635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	25	2	2	40	10	3
Mvmt Flow	5	36	943	5	16	661

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1309	946	0	0	948	0
Stage 1	946	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.975	6.23	-	-	4.25	-
Critical Hdwy Stg 1	5.775	-	-	-	-	-
Critical Hdwy Stg 2	6.175	-	-	-	-	-
Follow-up Hdwy	3.7375	3.319	-	-	2.295	-
Pot Cap-1 Maneuver	139	316	-	-	683	-
Stage 1	332	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	136	316	-	-	683	-
Mov Cap-2 Maneuver	136	-	-	-	-	-
Stage 1	332	-	-	-	-	-
Stage 2	606	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	271	683	-
HCM Lane V/C Ratio	-	-	0.154	0.023	-
HCM Control Delay (s)	-	-	20.7	10.4	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	15	5	885	625	15
Future Vol, veh/h	25	15	5	885	625	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	12	0	2	3	7
Mvmt Flow	26	16	5	932	658	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1600	658	674	0	-	0
Stage 1	658	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Critical Hdwy	6.46	6.32	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.408	2.2	-	-	-
Pot Cap-1 Maneuver	114	447	927	-	-	-
Stage 1	508	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	113	447	927	-	-	-
Mov Cap-2 Maneuver	113	-	-	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	373	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.1	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	927	-	157	-	-
HCM Lane V/C Ratio	0.006	-	0.268	-	-
HCM Control Delay (s)	8.9	0	36.1	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	10	885	610	30
Future Vol, veh/h	5	1	10	885	610	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	50	0	2	3	6
Mvmt Flow	5	1	10	922	635	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1593	651	666	0	-	0
Stage 1	651	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Critical Hdwy	6.4	6.7	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	2.2	-	-	-
Pot Cap-1 Maneuver	119	394	933	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	394	933	-	-	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	382	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.9	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	933	-	131	-	-
HCM Lane V/C Ratio	0.011	-	0.048	-	-
HCM Control Delay (s)	8.9	0	33.9	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

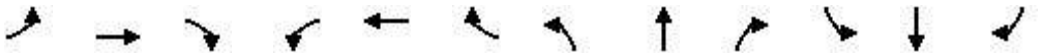
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	890	1	1	610
Future Vol, veh/h	5	5	890	1	1	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	38	2	0	0	3
Mvmt Flow	5	5	957	1	1	656

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1616	958	0	0	958	0
Stage 1	958	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Critical Hdwy	6.4	6.58	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.642	-	-	2.2	-
Pot Cap-1 Maneuver	115	268	-	-	726	-
Stage 1	376	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	115	268	-	-	726	-
Mov Cap-2 Maneuver	115	-	-	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	518	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	726	-
HCM Lane V/C Ratio	-	-	0.067	0.001	-
HCM Control Delay (s)	-	-	29	10	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	90	150	80	200	165	155	640	35	45	485	85
Future Volume (veh/h)	85	90	150	80	200	165	155	640	35	45	485	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1767	1826	1722	1870	1870	1885	1870	1678	1900	1856	1870
Adj Flow Rate, veh/h	91	97	0	86	215	177	167	688	38	48	522	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	9	5	12	2	2	1	2	15	0	3	2
Cap, veh/h	115	250		107	262	222	515	1077	819	382	1025	
Arrive On Green	0.07	0.14	0.00	0.07	0.14	0.14	0.06	0.58	0.58	0.04	0.55	0.00
Sat Flow, veh/h	1711	1767	1547	1640	1870	1585	1795	1870	1422	1810	1856	1585
Grp Volume(v), veh/h	91	97	0	86	215	177	167	688	38	48	522	0
Grp Sat Flow(s),veh/h/ln	1711	1767	1547	1640	1870	1585	1795	1870	1422	1810	1856	1585
Q Serve(g_s), s	5.2	5.0	0.0	5.2	11.2	10.8	4.0	24.7	1.2	1.1	17.5	0.0
Cycle Q Clear(g_c), s	5.2	5.0	0.0	5.2	11.2	10.8	4.0	24.7	1.2	1.1	17.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	115	250		107	262	222	515	1077	819	382	1025	
V/C Ratio(X)	0.79	0.39		0.80	0.82	0.80	0.32	0.64	0.05	0.13	0.51	
Avail Cap(c_a), veh/h	163	327		156	346	293	572	1077	819	406	1025	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.0	39.0	0.0	46.1	41.8	41.6	10.2	14.2	9.2	11.3	13.9	0.0
Incr Delay (d2), s/veh	16.0	1.0	0.0	16.9	11.2	10.8	0.4	2.9	0.1	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.2	0.0	2.6	5.9	4.8	1.5	10.3	0.4	0.4	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	40.0	0.0	63.0	52.9	52.4	10.5	17.1	9.3	11.5	15.7	0.0
LnGrp LOS	E	D		E	D	D	B	B	A	B	B	
Approach Vol, veh/h		188			478			893			570	
Approach Delay, s/veh		50.6			54.5			15.6			15.4	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	62.1	11.0	18.7	10.5	59.7	11.2	18.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	49.0	9.5	18.5	9.2	44.8	9.5	18.5
Max Q Clear Time (g_c+I1), s	3.1	26.7	7.2	7.0	6.0	19.5	7.2	13.2
Green Ext Time (p_c), s	0.0	4.9	0.0	0.3	0.1	3.4	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	830	1	0	715
Future Vol, veh/h	0	1	830	1	0	715
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	883	1	0	761

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	884	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	347	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	347	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	347	-
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	15.4	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	30	810	1	25	680
Future Vol, veh/h	1	30	810	1	25	680
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	4	5
Mvmt Flow	1	32	853	1	26	716

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1621	853	0	0	854	0
Stage 1	853	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.14	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.236	-
Pot Cap-1 Maneuver	115	362	-	-	777	-
Stage 1	421	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	109	362	-	-	777	-
Mov Cap-2 Maneuver	109	-	-	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	435	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	337	777	-
HCM Lane V/C Ratio	-	-	0.097	0.034	-
HCM Control Delay (s)	-	-	16.8	9.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	810	1	0	680
Future Vol, veh/h	0	1	810	1	0	680
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	862	1	0	723

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	180	1	625	1	0	675	5
Future Vol, veh/h	5	0	5	0	0	180	1	625	1	0	675	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	2	0	3	0	0	5	0
Mvmt Flow	5	0	5	0	0	194	1	672	1	0	726	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1500	1403	729	-	-	673	731	0	0	-	-	0
Stage 1	729	729	-	-	-	-	-	-	-	-	-	-
Stage 2	771	674	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.22	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.318	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	101	141	426	0	0	455	883	-	-	0	-	-
Stage 1	417	431	-	0	0	-	-	-	-	0	-	-
Stage 2	396	457	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	58	141	426	-	-	455	883	-	-	-	-	-
Mov Cap-2 Maneuver	58	141	-	-	-	-	-	-	-	-	-	-
Stage 1	416	431	-	-	-	-	-	-	-	-	-	-
Stage 2	227	456	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	44.4	18.6	0	0
HCM LOS	E	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWT	SWR
Capacity (veh/h)	883	-	-	455	102	-	-
HCM Lane V/C Ratio	0.001	-	-	0.425	0.105	-	-
HCM Control Delay (s)	9.1	0	-	18.6	44.4	-	-
HCM Lane LOS	A	A	-	C	E	-	-
HCM 95th %tile Q(veh)	0	-	-	2.1	0.3	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	25	600	5	40	640
Future Vol, veh/h	5	25	600	5	40	640
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	5	0
Mvmt Flow	5	27	652	5	43	696

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1437	655	0	0	657	0
Stage 1	655	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	148	470	-	-	916	-
Stage 1	521	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	137	470	-	-	916	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	419	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	16.9	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	334	916	-
HCM Lane V/C Ratio	-	-	0.098	0.047	-
HCM Control Delay (s)	-	-	16.9	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	590	1	25	620	1	15
Future Vol, veh/h	590	1	25	620	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	0	5	0	0	6
Mvmt Flow	621	1	26	653	1	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	622	0	1327	622
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	-	-	4.15	-	6.4	6.26
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.354
Pot Cap-1 Maneuver	-	-	944	-	173	479
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	944	-	166	479
Mov Cap-2 Maneuver	-	-	-	-	166	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	473	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	944	-
HCM Lane V/C Ratio	0.039	-	-	0.028	-
HCM Control Delay (s)	13.7	-	-	8.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

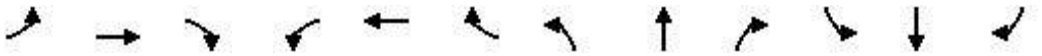
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	1	10	1	5	1	575	10	1	615	5
Future Vol, veh/h	10	1	1	10	1	5	1	575	10	1	615	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	33	0	3	11	0	5	0
Mvmt Flow	10	1	1	10	1	5	1	599	10	1	641	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1252	1254	641	1253	1254	604	646	0	0	609	0	0
Stage 1	643	643	-	606	606	-	-	-	-	-	-	-
Stage 2	609	611	-	647	648	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.53	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.597	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	151	173	478	150	173	446	949	-	-	979	-	-
Stage 1	465	472	-	487	490	-	-	-	-	-	-	-
Stage 2	486	487	-	463	469	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	148	172	478	149	172	446	949	-	-	979	-	-
Mov Cap-2 Maneuver	148	172	-	149	172	-	-	-	-	-	-	-
Stage 1	464	471	-	486	489	-	-	-	-	-	-	-
Stage 2	478	486	-	460	468	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.6	25.8	0	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	949	-	-	159	190	979	-	-
HCM Lane V/C Ratio	0.001	-	-	0.079	0.088	0.001	-	-
HCM Control Delay (s)	8.8	0	-	29.6	25.8	8.7	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	75	5	50	345	50	5	390	40	105	405	115
Future Volume (veh/h)	145	75	5	50	345	50	5	390	40	105	405	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1307	1841	1856	1841	1900	1856	1767	1693	1856	1826
Adj Flow Rate, veh/h	154	80	5	53	367	0	5	415	43	112	431	122
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	6	40	4	3	4	0	3	9	14	3	5
Cap, veh/h	176	92	6	59	405		12	653	527	285	752	627
Arrive On Green	0.16	0.16	0.16	0.25	0.25	0.00	0.00	0.12	0.12	0.06	0.41	0.41
Sat Flow, veh/h	1126	585	37	233	1611	1560	1810	1856	1497	1612	1856	1547
Grp Volume(v), veh/h	239	0	0	420	0	0	5	415	43	112	431	122
Grp Sat Flow(s),veh/h/ln	1748	0	0	1844	0	1560	1810	1856	1497	1612	1856	1547
Q Serve(g_s), s	13.4	0.0	0.0	22.1	0.0	0.0	0.3	21.3	2.6	4.2	18.0	5.1
Cycle Q Clear(g_c), s	13.4	0.0	0.0	22.1	0.0	0.0	0.3	21.3	2.6	4.2	18.0	5.1
Prop In Lane	0.64		0.02	0.13		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	0	0	464	0		12	653	527	285	752	627
V/C Ratio(X)	0.87	0.00	0.00	0.91	0.00		0.43	0.64	0.08	0.39	0.57	0.19
Avail Cap(c_a), veh/h	315	0	0	526	0		90	653	527	294	752	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	0.0	0.0	36.3	0.0	0.0	49.7	38.1	29.8	20.5	23.0	19.2
Incr Delay (d2), s/veh	20.7	0.0	0.0	17.9	0.0	0.0	22.6	4.7	0.3	0.9	3.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	0.0	12.2	0.0	0.0	0.2	11.4	1.0	1.6	8.2	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.9	0.0	0.0	54.2	0.0	0.0	72.3	42.7	30.1	21.4	26.2	19.9
LnGrp LOS	E	A	A	D	A		E	D	C	C	C	B
Approach Vol, veh/h		239			420			463			665	
Approach Delay, s/veh		61.9			54.2			41.9			24.2	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	39.7		20.2	5.1	45.0		29.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.5	29.0		18.0	5.0	30.5		28.5				
Max Q Clear Time (g_c+I1), s	6.2	23.3		15.4	2.3	20.0		24.1				
Green Ext Time (p_c), s	0.0	1.3		0.3	0.0	2.2		1.1				

Intersection Summary			
HCM 6th Ctrl Delay		40.9	
HCM 6th LOS		D	

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	1	0	435	1	0	450	10
Future Vol, veh/h	0	0	5	0	0	1	0	435	1	0	450	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	0	0	50	0	0	0	3	0	0	4	0
Mvmt Flow	0	0	5	0	0	1	0	473	1	0	489	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	250	-	-	473	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	756	0	0	595	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	756	-	-	595	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	11.1	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	756	595	-	-
HCM Lane V/C Ratio	-	-	0.007	0.002	-	-
HCM Control Delay (s)	-	-	9.8	11.1	-	-
HCM Lane LOS	-	-	A	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	5	425	440	15
Future Vol, veh/h	10	10	5	425	440	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	17	3	4	7
Mvmt Flow	11	11	6	489	506	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1007	506	523	0	-	0
Stage 1	506	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.27	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.353	-	-	-
Pot Cap-1 Maneuver	269	570	971	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	267	570	971	-	-	-
Mov Cap-2 Maneuver	267	-	-	-	-	-
Stage 1	605	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	971	-	364	-	-
HCM Lane V/C Ratio	0.006	-	0.063	-	-
HCM Control Delay (s)	8.7	0	15.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

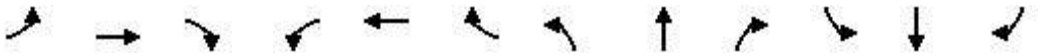
Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	25	405	10	10	440
Future Vol, veh/h	10	25	405	10	10	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	4	8	9	3
Mvmt Flow	11	28	460	11	11	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	738	466	0	0	471	0
Stage 1	466	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.235	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2855	-
Pot Cap-1 Maneuver	373	601	-	-	1047	-
Stage 1	636	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	367	601	-	-	1047	-
Mov Cap-2 Maneuver	367	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	744	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	508	1047	-
HCM Lane V/C Ratio	-	-	0.078	0.011	-
HCM Control Delay (s)	-	-	12.7	8.5	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	210	5	105	675	95	10	315	100	140	300	10
Future Volume (veh/h)	5	210	5	105	675	95	10	315	100	140	300	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1648	1737	1870	1885	1900	1841	1781	1885	1841	1900
Adj Flow Rate, veh/h	5	231	5	115	742	104	11	346	110	154	330	11
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	17	11	2	1	0	4	8	1	4	0
Cap, veh/h	12	713	15	491	714	100	24	406	129	246	629	21
Arrive On Green	0.01	0.39	0.39	0.06	0.44	0.44	0.01	0.30	0.30	0.02	0.12	0.12
Sat Flow, veh/h	1810	1809	39	1654	1605	225	1810	1339	426	1795	1771	59
Grp Volume(v), veh/h	5	0	236	115	0	846	11	0	456	154	0	341
Grp Sat Flow(s),veh/h/ln	1810	0	1848	1654	0	1830	1810	0	1764	1795	0	1830
Q Serve(g_s), s	0.3	0.0	8.9	3.9	0.0	44.5	0.6	0.0	24.3	5.6	0.0	17.5
Cycle Q Clear(g_c), s	0.3	0.0	8.9	3.9	0.0	44.5	0.6	0.0	24.3	5.6	0.0	17.5
Prop In Lane	1.00		0.02	1.00		0.12	1.00		0.24	1.00		0.03
Lane Grp Cap(c), veh/h	12	0	729	491	0	814	24	0	535	246	0	650
V/C Ratio(X)	0.43	0.00	0.32	0.23	0.00	1.04	0.46	0.00	0.85	0.63	0.00	0.52
Avail Cap(c_a), veh/h	92	0	797	504	0	814	92	0	535	246	0	650
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	21.0	15.7	0.0	27.8	49.0	0.0	32.7	25.7	0.0	36.2
Incr Delay (d2), s/veh	22.6	0.0	0.3	0.2	0.0	42.1	13.3	0.0	15.6	4.9	0.0	3.0
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	0.2	0.0	3.9	1.4	0.0	26.9	0.4	0.0	12.3	2.8	0.0	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	0.0	21.3	15.9	0.0	69.8	62.3	0.0	48.3	30.7	0.0	39.2
LnGrp LOS	E	A	C	B	A	F	E	A	D	C	A	D
Approach Vol, veh/h		241			961			467			495	
Approach Delay, s/veh		22.3			63.4			48.7			36.5	
Approach LOS		C			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	34.9	10.2	43.9	5.8	40.0	5.1	49.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	25.9	6.5	43.1	5.1	27.3	5.1	44.5
Max Q Clear Time (g_c+I1), s	7.6	26.3	5.9	10.9	2.6	19.5	2.3	46.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	1.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	140	145	30	190	90	290	43	25	840	125	305	1030
Future Volume (vph)	140	145	30	190	90	290	43	25	840	125	305	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	0.88		1.00	0.91		0.97	0.95
Frt	1.00	0.97		1.00	1.00	0.85		1.00	0.98		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	1758		1805	1863	2814		1759	4986		3467	3555
Flt Permitted	0.70	1.00		0.43	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1324	1758		823	1863	2814		1759	4986		3467	3555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	149	31	196	93	299	44	26	866	129	314	1062
RTOR Reduction (vph)	0	8	0	0	0	160	0	0	18	0	0	2
Lane Group Flow (vph)	144	172	0	196	93	139	0	70	977	0	314	1091
Heavy Vehicles (%)	0%	6%	2%	0%	2%	1%	0%	7%	2%	2%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8	1	5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	27.3	15.4		27.7	15.6	29.3		7.5	40.8		13.7	47.0
Effective Green, g (s)	27.3	15.4		27.7	15.6	29.3		7.5	40.8		13.7	47.0
Actuated g/C Ratio	0.27	0.15		0.28	0.16	0.29		0.08	0.41		0.14	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	418	270		346	290	951		131	2034		474	1670
v/s Ratio Prot	0.04	c0.10		c0.07	0.05	0.02		0.04	0.20		c0.09	c0.31
v/s Ratio Perm	0.05			0.09		0.03						
v/c Ratio	0.34	0.64		0.57	0.32	0.15		0.53	0.48		0.66	0.65
Uniform Delay, d1	28.7	39.7		29.5	37.5	26.1		44.6	21.8		41.0	20.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.16	0.84		1.00	1.00
Incremental Delay, d2	0.5	4.9		2.1	0.6	0.1		3.9	0.8		3.5	2.0
Delay (s)	29.2	44.6		31.6	38.1	26.2		55.8	19.2		44.4	22.3
Level of Service	C	D		C	D	C		E	B		D	C
Approach Delay (s)		37.8			29.9				21.6			27.2
Approach LOS		D			C				C			C

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

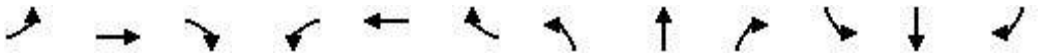
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	30
Future Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	10	1022	26	0	1293
Future Volume (Veh/h)	0	10	1022	26	0	1293
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	11	1076	27	0	1361
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			547			197
pX, platoon unblocked	0.76					
vC, conflicting volume	1770	282			1103	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1390	282			1103	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	104	721			640	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	11	307	307	307	181	680	680
Volume Left	0	0	0	0	0	0	0
Volume Right	11	0	0	0	27	0	0
cSH	721	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.18	0.18	0.18	0.11	0.40	0.40
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.1	0.0				0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	65	0	0	16	0	1032	6	0	1209	85
Future Volume (Veh/h)	0	0	65	0	0	16	0	1032	6	0	1209	85
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	68	0	0	17	0	1075	6	0	1259	89
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.82	0.82	0.77	0.82	0.82	0.90	0.77			0.90		
vC, conflicting volume	1634	2340	630	1772	2423	358	1348			1081		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	578	1438	0	746	1539	0	850			686		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	92	100	100	98	100			100		
cM capacity (veh/h)	325	110	838	230	96	978	612			822		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	68	17	358	358	358	6	630	630	89
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	68	17	0	0	0	6	0	0	89
cSH	838	978	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.02	0.21	0.21	0.21	0.00	0.37	0.37	0.05
Queue Length 95th (ft)	7	1	0	0	0	0	0	0	0
Control Delay (s)	9.7	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A							
Approach Delay (s)	9.7	8.7	0.0				0.0		
Approach LOS	A	A							

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	11	1027	6	0	1273
Future Volume (Veh/h)	0	11	1027	6	0	1273
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	12	1081	6	0	1340
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			256			488
pX, platoon unblocked	0.86	0.86			0.86	
vC, conflicting volume	1416	540			1087	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1153	132			769	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	166	772			732	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	12	540	540	6	335	335	335	335
Volume Left	0	0	0	0	0	0	0	0
Volume Right	12	0	0	6	0	0	0	0
cSH	772	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.32	0.32	0.00	0.20	0.20	0.20	0.20
Queue Length 95th (ft)	1	0	0	0	0	0	0	0
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.7	0.0			0.0			
Approach LOS	A							

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	90	25	50	70	15	35	40	895	75	12	65	1070
Future Volume (vph)	90	25	50	70	15	35	40	895	75	12	65	1070
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00		1.00	0.95
Frt	1.00	0.90		1.00	0.90		1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1709		1805	1678		1805	3505	1615		1727	3574
Flt Permitted	0.95	1.00		0.95	1.00		0.21	1.00	1.00		0.25	1.00
Satd. Flow (perm)	1805	1709		1805	1678		390	3505	1615		445	3574
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.95	0.95
Adj. Flow (vph)	95	26	53	74	16	37	42	942	79	13	68	1126
RTOR Reduction (vph)	0	49	0	0	35	0	0	0	31	0	0	0
Lane Group Flow (vph)	95	30	0	74	18	0	42	942	48	0	81	1126
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	3%	0%	2%	5%	1%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases							2		2	1	6	
Actuated Green, G (s)	8.8	7.0		7.7	5.9		65.3	61.3	61.3		69.3	63.3
Effective Green, g (s)	8.8	7.0		7.7	5.9		65.3	61.3	61.3		69.3	63.3
Actuated g/C Ratio	0.09	0.07		0.08	0.06		0.65	0.61	0.61		0.69	0.63
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	158	119		138	99		311	2148	989		385	2262
v/s Ratio Prot	c0.05	c0.02		0.04	0.01		0.01	0.27			c0.01	c0.32
v/s Ratio Perm							0.08		0.03		0.13	
v/c Ratio	0.60	0.25		0.54	0.18		0.14	0.44	0.05		0.21	0.50
Uniform Delay, d1	43.9	44.0		44.4	44.8		6.9	10.2	7.7		5.8	9.8
Progression Factor	1.00	1.00		1.00	1.00		0.70	0.54	0.85		0.59	0.44
Incremental Delay, d2	6.3	1.1		4.0	0.9		0.2	0.6	0.1		0.2	0.7
Delay (s)	50.2	45.1		48.4	45.7		5.0	6.2	6.7		3.6	5.0
Level of Service	D	D		D	D		A	A	A		A	A
Approach Delay (s)		47.9			47.3			6.2				4.5
Approach LOS		D			D			A				A

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	125
Future Volume (vph)	125
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1599
Flt Permitted	1.00
Satd. Flow (perm)	1599
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	132
RTOR Reduction (vph)	48
Lane Group Flow (vph)	84
Heavy Vehicles (%)	1%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	63.3
Effective Green, g (s)	63.3
Actuated g/C Ratio	0.63
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1012
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.08
Uniform Delay, d1	7.1
Progression Factor	0.12
Incremental Delay, d2	0.1
Delay (s)	1.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	1	105	15	1	30	75	965	35	25	1135	30
Future Vol, veh/h	15	1	105	15	1	30	75	965	35	25	1135	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	20	-	0	50	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	5	0	0	2	0	0	1	0
Mvmt Flow	16	1	112	16	1	32	80	1027	37	27	1207	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1935	2485	604	1845	2480	514	1239	0	0	1064	0	0
Stage 1	1261	1261	-	1187	1187	-	-	-	-	-	-	-
Stage 2	674	1224	-	658	1293	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.6	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4.05	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	41	30	444	47	28	511	569	-	-	662	-	-
Stage 1	183	244	-	203	254	-	-	-	-	-	-	-
Stage 2	415	254	-	424	226	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	32	25	444	29	23	511	569	-	-	662	-	-
Mov Cap-2 Maneuver	32	25	-	29	23	-	-	-	-	-	-	-
Stage 1	157	234	-	174	218	-	-	-	-	-	-	-
Stage 2	333	218	-	303	217	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	81.4	119.9	0.9	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	569	-	-	162	74	662	-	-
HCM Lane V/C Ratio	0.14	-	-	0.795	0.661	0.04	-	-
HCM Control Delay (s)	12.4	-	-	81.4	119.9	10.7	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	5.2	3	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	5	1065	1245	10
Future Vol, veh/h	10	10	5	1065	1245	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	10	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	11	11	5	1145	1339	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1813	675	1350	0	-	0
Stage 1	1345	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.25	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	93	401	516	-	-	-
Stage 1	207	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	92	401	516	-	-	-
Mov Cap-2 Maneuver	167	-	-	-	-	-
Stage 1	205	-	-	-	-	-
Stage 2	568	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	516	-	236	-	-
HCM Lane V/C Ratio	0.01	-	0.091	-	-
HCM Control Delay (s)	12.1	-	21.8	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	54.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	15	95	1	105	5	955	165	150	1105	1
Future Vol, veh/h	10	1	15	95	1	105	5	955	165	150	1105	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	50	-	140	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	0	4	0	2	1	0	1	0
Mvmt Flow	11	1	16	101	1	112	5	1016	176	160	1176	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2016	2699	589	1935	2523	508	1177	0	0	1192	0	0
Stage 1	1497	1497	-	1026	1026	-	-	-	-	-	-	-
Stage 2	519	1202	-	909	1497	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.52	6.5	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.52	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.52	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.51	4	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	35	22	457	~ 40	28	505	601	-	-	593	-	-
Stage 1	131	188	-	253	315	-	-	-	-	-	-	-
Stage 2	513	260	-	298	188	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	21	16	457	~ 29	20	505	601	-	-	593	-	-
Mov Cap-2 Maneuver	21	16	-	~ 29	20	-	-	-	-	-	-	-
Stage 1	130	137	-	251	312	-	-	-	-	-	-	-
Stage 2	395	258	-	208	137	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	170.5	$ 670.9	0	1.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	601	-	-	45	29	411	593	-	-
HCM Lane V/C Ratio	0.009	-	-	0.615	3.485	0.274	0.269	-	-
HCM Control Delay (s)	11	-	-	170.5	$ 1400.5	17	13.3	-	-
HCM Lane LOS	B	-	-	F	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	2.3	12.1	1.1	1.1	-	-

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	10	20	1100	1175	40
Future Vol, veh/h	25	10	20	1100	1175	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	130
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	26	11	21	1158	1237	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1858	619	1279	0	-	0
Stage 1	1237	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	66	436	550	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	63	436	550	-	-	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	504	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.4	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	550	-	205	-	-
HCM Lane V/C Ratio	0.038	-	0.18	-	-
HCM Control Delay (s)	11.8	-	26.4	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	305	45	30	815	1	895	290
Future Volume (vph)	305	45	30	815	1	895	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	1.00	0.95	
Frt	0.98		1.00	1.00	1.00	0.96	
Flt Protected	0.96		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1769		1805	3539	1805	3443	
Flt Permitted	0.96		0.14	1.00	0.95	1.00	
Satd. Flow (perm)	1769		267	3539	1805	3443	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	321	47	32	858	1	942	305
RTOR Reduction (vph)	6	0	0	0	0	26	0
Lane Group Flow (vph)	362	0	32	858	1	1221	0
Heavy Vehicles (%)	1%	2%	0%	2%	0%	1%	1%
Turn Type	Prot		pm+pt	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases			2				
Actuated Green, G (s)	25.4		63.6	60.1	1.0	57.6	
Effective Green, g (s)	25.4		63.6	60.1	1.0	57.6	
Actuated g/C Ratio	0.25		0.64	0.60	0.01	0.58	
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	449		223	2126	18	1983	
v/s Ratio Prot	c0.20		c0.01	0.24	0.00	c0.35	
v/s Ratio Perm			0.09				
v/c Ratio	0.81		0.14	0.40	0.06	0.62	
Uniform Delay, d1	35.0		9.4	10.5	49.0	13.9	
Progression Factor	1.00		1.54	1.73	1.14	0.81	
Incremental Delay, d2	10.2		0.3	0.5	1.2	1.4	
Delay (s)	45.2		14.8	18.7	57.3	12.6	
Level of Service	D		B	B	E	B	
Approach Delay (s)	45.2			18.6		12.7	
Approach LOS	D			B		B	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	805	5	60	880
Future Vol, veh/h	5	40	805	5	60	880
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	2	0	3	1
Mvmt Flow	5	43	856	5	64	936

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1455	859	0	0	861	0
Stage 1	859	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Critical Hdwy	6.6	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	133	353	-	-	773	-
Stage 1	418	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	122	353	-	-	773	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	418	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.7	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	292	773	-
HCM Lane V/C Ratio	-	-	0.164	0.083	-
HCM Control Delay (s)	-	-	19.7	10.1	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.3	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	10	10	790	855	30
Future Vol, veh/h	20	10	10	790	855	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	22	11	11	859	929	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1810	929	962	0	-	0
Stage 1	929	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	88	327	724	-	-	-
Stage 1	388	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	85	327	724	-	-	-
Mov Cap-2 Maneuver	85	-	-	-	-	-
Stage 1	377	-	-	-	-	-
Stage 2	408	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	49.3	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	724	-	113	-	-
HCM Lane V/C Ratio	0.015	-	0.289	-	-
HCM Control Delay (s)	10	0	49.3	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	795	855	10
Future Vol, veh/h	5	5	5	795	855	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	5	5	5	864	929	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1809	935	940	0	-	0
Stage 1	935	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	88	325	737	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	87	325	737	-	-	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	380	-	-	-	-	-
Stage 2	412	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.5	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	737	-	137	-	-
HCM Lane V/C Ratio	0.007	-	0.079	-	-
HCM Control Delay (s)	9.9	0	33.5	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

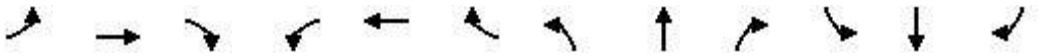
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	5	795	10	1	860
Future Vol, veh/h	1	5	795	10	1	860
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	25	2	0	0	1
Mvmt Flow	1	5	874	11	1	945

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1827	880	0	0	885	0
Stage 1	880	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Critical Hdwy	6.4	6.45	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.525	-	-	2.2	-
Pot Cap-1 Maneuver	85	315	-	-	773	-
Stage 1	409	-	-	-	-	-
Stage 2	380	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	85	315	-	-	773	-
Mov Cap-2 Maneuver	85	-	-	-	-	-
Stage 1	409	-	-	-	-	-
Stage 2	379	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	773	-
HCM Lane V/C Ratio	-	-	0.03	0.001	-
HCM Control Delay (s)	-	-	22.1	9.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	170	190	60	120	80	60	600	50	75	695	90
Future Volume (veh/h)	125	170	190	60	120	80	60	600	50	75	695	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1885	1885	1885	1900	1885	1870	1870	1900	1885	1885	1885
Adj Flow Rate, veh/h	130	177	0	62	125	83	62	625	52	78	724	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	1	1	1	0	1	2	2	0	1	1	1
Cap, veh/h	160	255		80	171	144	399	1114	959	453	1129	
Arrive On Green	0.09	0.14	0.00	0.04	0.09	0.09	0.04	0.60	0.60	0.04	0.60	0.00
Sat Flow, veh/h	1767	1885	1598	1795	1900	1598	1781	1870	1610	1795	1885	1598
Grp Volume(v), veh/h	130	177	0	62	125	83	62	625	52	78	724	0
Grp Sat Flow(s),veh/h/ln	1767	1885	1598	1795	1900	1598	1781	1870	1610	1795	1885	1598
Q Serve(g_s), s	7.2	9.0	0.0	3.4	6.4	5.0	1.3	20.3	1.3	1.6	25.0	0.0
Cycle Q Clear(g_c), s	7.2	9.0	0.0	3.4	6.4	5.0	1.3	20.3	1.3	1.6	25.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	255		80	171	144	399	1114	959	453	1129	
V/C Ratio(X)	0.81	0.69		0.77	0.73	0.58	0.16	0.56	0.05	0.17	0.64	
Avail Cap(c_a), veh/h	203	385		163	342	288	415	1114	959	463	1129	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.7	41.2	0.0	47.3	44.3	43.7	10.2	12.3	8.5	9.1	13.1	0.0
Incr Delay (d2), s/veh	17.7	3.4	0.0	14.4	5.9	3.6	0.2	2.0	0.1	0.2	2.8	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	4.4	0.0	1.8	3.3	2.1	0.5	8.3	0.5	0.6	10.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	44.6	0.0	61.6	50.3	47.3	10.4	14.3	8.6	9.3	15.9	0.0
LnGrp LOS	E	D		E	D	D	B	B	A	A	B	
Approach Vol, veh/h		307			270			739			802	
Approach Delay, s/veh		52.1			52.0			13.6			15.2	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	64.1	9.0	18.0	8.6	64.4	13.5	13.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	47.5	9.1	20.4	5.0	47.5	11.5	18.0
Max Q Clear Time (g_c+I1), s	3.6	22.3	5.4	11.0	3.3	27.0	9.2	8.4
Green Ext Time (p_c), s	0.0	4.5	0.0	0.6	0.0	5.0	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	710	1	0	945
Future Vol, veh/h	0	1	710	1	0	945
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	732	1	0	974

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	733	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	424	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	424	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	424	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	13.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	20	700	15	30	905
Future Vol, veh/h	15	20	700	15	30	905
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	1	8	0	1
Mvmt Flow	15	20	714	15	31	923

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1699	714	0	0	729	0
Stage 1	714	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	103	435	-	-	884	-
Stage 1	489	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	96	435	-	-	884	-
Mov Cap-2 Maneuver	96	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	339	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.1	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	173	884	-
HCM Lane V/C Ratio	-	-	0.206	0.035	-
HCM Control Delay (s)	-	-	31.1	9.2	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	715	1	0	920
Future Vol, veh/h	0	1	715	1	0	920
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	722	1	0	929

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	70	5	640	5	0	910	10
Future Vol, veh/h	5	0	5	0	0	70	5	640	5	0	910	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	1	0	2	0	0	1	0
Mvmt Flow	5	0	5	0	0	71	5	646	5	0	919	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1616	1580	924	-	-	649	929	0	0	-	-	0
Stage 1	924	924	-	-	-	-	-	-	-	-	-	-
Stage 2	692	656	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.21	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.309	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	84	110	329	0	0	472	744	-	-	0	-	-
Stage 1	326	351	-	0	0	-	-	-	-	0	-	-
Stage 2	437	465	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	71	109	329	-	-	472	744	-	-	-	-	-
Mov Cap-2 Maneuver	71	109	-	-	-	-	-	-	-	-	-	-
Stage 1	322	351	-	-	-	-	-	-	-	-	-	-
Stage 2	367	460	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	38.7	14	0.1	0
HCM LOS	E	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWT	SWR
Capacity (veh/h)	744	-	-	472	117	-	-
HCM Lane V/C Ratio	0.007	-	-	0.15	0.086	-	-
HCM Control Delay (s)	9.9	0	-	14	38.7	-	-
HCM Lane LOS	A	A	-	B	E	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	20	630	15	70	845
Future Vol, veh/h	5	20	630	15	70	845
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	5	21	649	15	72	871

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1672	657	0	0	664	0
Stage 1	657	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	107	468	-	-	935	-
Stage 1	519	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	91	468	-	-	935	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	519	-	-	-	-	-
Stage 2	300	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	20.6	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	256	935	-
HCM Lane V/C Ratio	-	-	0.101	0.077	-
HCM Control Delay (s)	-	-	20.6	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	585	5	90	760	5	60
Future Vol, veh/h	585	5	90	760	5	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	0	1	0	0	1
Mvmt Flow	609	5	94	792	5	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	614	0	1592	612
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	980	-
Critical Hdwy	-	-	4.11	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	970	-	119	495
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	367	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	970	-	98	495
Mov Cap-2 Maneuver	-	-	-	-	98	-
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	304	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	377	-	-	970	-
HCM Lane V/C Ratio	0.18	-	-	0.097	-
HCM Control Delay (s)	16.6	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.3	-

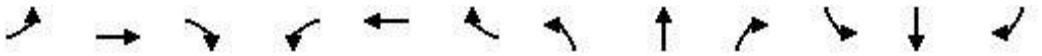
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	5	20	5	5	1	575	45	5	740	20
Future Vol, veh/h	10	1	5	20	5	5	1	575	45	5	740	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	2	0
Mvmt Flow	11	1	5	21	5	5	1	612	48	5	787	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1440	1459	787	1449	1456	636	808	0	0	660	0	0
Stage 1	797	797	-	638	638	-	-	-	-	-	-	-
Stage 2	643	662	-	811	818	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	112	131	395	110	131	481	826	-	-	938	-	-
Stage 1	383	401	-	468	474	-	-	-	-	-	-	-
Stage 2	465	462	-	376	393	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	106	129	395	107	129	481	826	-	-	938	-	-
Mov Cap-2 Maneuver	106	129	-	107	129	-	-	-	-	-	-	-
Stage 1	382	397	-	467	473	-	-	-	-	-	-	-
Stage 2	454	461	-	366	389	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.5	42.6	0	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	826	-	-	139	127	938	-	-
HCM Lane V/C Ratio	0.001	-	-	0.122	0.251	0.006	-	-
HCM Control Delay (s)	9.4	0	-	34.5	42.6	8.9	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.9	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	165	10	40	195	20	15	425	70	125	515	125
Future Volume (veh/h)	175	165	10	40	195	20	15	425	70	125	515	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1900	1737	1900	1885	1900	1900	1870	1900	1870	1870	1900
Adj Flow Rate, veh/h	186	176	11	43	207	0	16	452	74	133	548	133
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	0	11	0	1	0	0	2	0	2	2	0
Cap, veh/h	204	193	12	50	239		32	732	630	309	797	686
Arrive On Green	0.22	0.22	0.22	0.15	0.15	0.00	0.01	0.13	0.13	0.05	0.43	0.43
Sat Flow, veh/h	920	870	54	321	1548	1610	1810	1870	1610	1781	1870	1610
Grp Volume(v), veh/h	373	0	0	250	0	0	16	452	74	133	548	133
Grp Sat Flow(s),veh/h/ln	1844	0	0	1869	0	1610	1810	1870	1610	1781	1870	1610
Q Serve(g_s), s	19.7	0.0	0.0	13.1	0.0	0.0	0.9	22.9	4.1	4.4	23.8	5.2
Cycle Q Clear(g_c), s	19.7	0.0	0.0	13.1	0.0	0.0	0.9	22.9	4.1	4.4	23.8	5.2
Prop In Lane	0.50		0.03	0.17		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	0	0	289	0		32	732	630	309	797	686
V/C Ratio(X)	0.91	0.00	0.00	0.87	0.00		0.49	0.62	0.12	0.43	0.69	0.19
Avail Cap(c_a), veh/h	433	0	0	338	0		90	732	630	309	797	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	0.0	41.3	0.0	0.0	49.3	36.5	28.3	19.5	23.3	17.9
Incr Delay (d2), s/veh	22.9	0.0	0.0	18.3	0.0	0.0	11.1	3.9	0.4	0.9	4.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	0.0	0.0	7.5	0.0	0.0	0.5	12.2	1.6	1.8	11.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	0.0	0.0	59.6	0.0	0.0	60.4	40.4	28.7	20.4	28.1	18.6
LnGrp LOS	E	A	A	E	A		E	D	C	C	C	B
Approach Vol, veh/h		373			250			542			814	
Approach Delay, s/veh		60.9			59.6			39.4			25.3	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	43.6		26.6	6.3	47.1		19.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.3	35.1		23.5	5.0	35.4		18.1				
Max Q Clear Time (g_c+I1), s	6.4	24.9		21.7	2.9	25.8		15.1				
Green Ext Time (p_c), s	0.0	2.2		0.4	0.0	2.8		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		40.2
HCM 6th LOS		D

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	10	0	0	1	0	510	1	0	560	5
Future Vol, veh/h	0	0	10	0	0	1	0	510	1	0	560	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	0	0	11	0	0	1	0	560	1	0	615	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	310	-	-	560	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	692	0	0	532	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	692	-	-	532	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11.8	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	692	532	-	-
HCM Lane V/C Ratio	-	-	0.016	0.002	-	-
HCM Control Delay (s)	-	-	10.3	11.8	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	25	5	500	545	25
Future Vol, veh/h	10	25	5	500	545	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	11	27	5	538	586	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1134	586	613	0	-	0
Stage 1	586	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	226	514	976	-	-	-
Stage 1	560	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	224	514	976	-	-	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	976	-	375	-	-
HCM Lane V/C Ratio	0.006	-	0.1	-	-
HCM Control Delay (s)	8.7	0	15.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

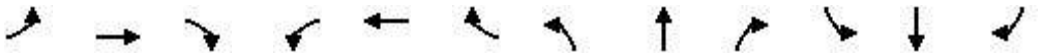
Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	30	475	20	25	545
Future Vol, veh/h	5	30	475	20	25	545
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	4	1	0	2
Mvmt Flow	5	32	511	22	27	586

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	869	522	0	0	533	0
Stage 1	522	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Critical Hdwy	6.6	6.23	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.319	-	-	2.2	-
Pot Cap-1 Maneuver	310	554	-	-	1045	-
Stage 1	599	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	298	554	-	-	1045	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	599	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	493	1045	-
HCM Lane V/C Ratio	-	-	0.076	0.026	-
HCM Control Delay (s)	-	-	12.9	8.5	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	525	10	155	430	95	20	375	130	185	350	15
Future Volume (veh/h)	25	525	10	155	430	95	20	375	130	185	350	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1841	1885	1870	1900	1856	1885	1885	1885	1900
Adj Flow Rate, veh/h	26	547	10	161	448	99	21	391	135	193	365	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	4	1	2	0	3	1	1	1	0
Cap, veh/h	47	577	11	223	538	119	40	462	159	291	739	32
Arrive On Green	0.03	0.31	0.31	0.08	0.36	0.36	0.02	0.35	0.35	0.03	0.14	0.14
Sat Flow, veh/h	1810	1860	34	1753	1495	330	1810	1318	455	1795	1792	79
Grp Volume(v), veh/h	26	0	557	161	0	547	21	0	526	193	0	381
Grp Sat Flow(s),veh/h/ln	1810	0	1894	1753	0	1826	1810	0	1774	1795	0	1871
Q Serve(g_s), s	1.4	0.0	28.7	6.0	0.0	27.4	1.1	0.0	27.4	6.5	0.0	18.9
Cycle Q Clear(g_c), s	1.4	0.0	28.7	6.0	0.0	27.4	1.1	0.0	27.4	6.5	0.0	18.9
Prop In Lane	1.00		0.02	1.00		0.18	1.00		0.26	1.00		0.04
Lane Grp Cap(c), veh/h	47	0	588	223	0	657	40	0	621	291	0	772
V/C Ratio(X)	0.56	0.00	0.95	0.72	0.00	0.83	0.53	0.00	0.85	0.66	0.00	0.49
Avail Cap(c_a), veh/h	92	0	597	223	0	657	100	0	621	296	0	772
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	33.7	24.8	0.0	29.3	48.4	0.0	30.0	23.6	0.0	33.5
Incr Delay (d2), s/veh	10.1	0.0	24.4	10.9	0.0	9.0	10.3	0.0	13.4	5.4	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	17.0	3.0	0.0	12.8	0.6	0.0	13.5	3.2	0.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	0.0	58.1	35.7	0.0	38.3	58.6	0.0	43.4	29.0	0.0	35.8
LnGrp LOS	E	A	E	D	A	D	E	A	D	C	A	D
Approach Vol, veh/h		583			708			547			574	
Approach Delay, s/veh		58.1			37.7			44.0			33.5	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	39.5	12.0	35.5	6.7	45.8	7.1	40.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.7	34.3	7.5	31.5	5.5	37.5	5.1	33.9
Max Q Clear Time (g_c+I1), s	8.5	29.4	8.0	30.7	3.1	20.9	3.4	29.4
Green Ext Time (p_c), s	0.0	1.5	0.0	0.3	0.0	2.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	125	65	25	190	85	355	29	30	1175	75	170	775
Future Volume (vph)	125	65	25	190	85	355	29	30	1175	75	170	775
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	0.88		1.00	0.91		0.97	0.95
Frt	1.00	0.96		1.00	1.00	0.85		1.00	0.99		1.00	0.98
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1556	1725		1770	1863	2760		1709	5033		3303	3398
Flt Permitted	0.70	1.00		0.52	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1143	1725		974	1863	2760		1709	5033		3303	3398
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	134	70	27	204	91	382	31	32	1263	81	183	833
RTOR Reduction (vph)	0	15	0	0	0	169	0	0	6	0	0	7
Lane Group Flow (vph)	134	82	0	204	91	213	0	63	1338	0	183	923
Heavy Vehicles (%)	16%	5%	7%	2%	2%	3%	0%	11%	2%	4%	6%	3%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8	1	5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	19.4	8.9		23.4	10.9	21.9		7.9	49.6		11.0	52.7
Effective Green, g (s)	19.4	8.9		23.4	10.9	21.9		7.9	49.6		11.0	52.7
Actuated g/C Ratio	0.19	0.09		0.23	0.11	0.22		0.08	0.50		0.11	0.53
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	265	153		327	203	728		135	2496		363	1790
v/s Ratio Prot	0.05	0.05		c0.08	0.05	0.03		0.04	0.27		c0.06	c0.27
v/s Ratio Perm	0.04			c0.07		0.05						
v/c Ratio	0.51	0.53		0.62	0.45	0.29		0.47	0.54		0.50	0.52
Uniform Delay, d1	35.5	43.6		33.2	41.7	32.6		44.0	17.3		41.9	15.4
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.17	0.78		1.00	1.00
Incremental Delay, d2	1.5	3.5		3.7	1.6	0.2		2.3	0.7		1.1	1.1
Delay (s)	37.1	47.1		36.9	43.3	32.8		53.7	14.2		43.0	16.4
Level of Service	D	D		D	D	C		D	B		D	B
Approach Delay (s)		41.3			35.5				16.0			20.8
Approach LOS		D			D				B			C

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

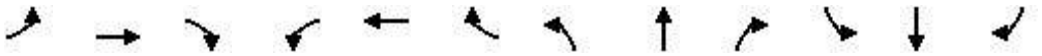
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	90
Future Volume (vph)	90
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	97
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	18%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1307	17	0	1019
Future Volume (Veh/h)	0	2	1307	17	0	1019
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2	1485	19	0	1158
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			547			197
pX, platoon unblocked	0.83					
vC, conflicting volume	2074	381			1504	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1880	381			1504	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	53	623			451	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	2	424	424	424	231	579	579
Volume Left	0	0	0	0	0	0	0
Volume Right	2	0	0	0	19	0	0
cSH	623	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.25	0.25	0.25	0.14	0.34	0.34
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.8	0.0				0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	30	0	0	6	0	1318	11	0	969	50
Future Volume (Veh/h)	0	0	30	0	0	6	0	1318	11	0	969	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	33	0	0	7	0	1464	12	0	1077	56
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.92	0.92	0.83	0.92	0.92	0.83	0.83			0.83		
vC, conflicting volume	1572	2553	538	2036	2597	488	1133			1476		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	356	1427	50	862	1475	0	763			872		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	100	100	99	100			100		
cM capacity (veh/h)	527	125	846	222	117	909	717			652		

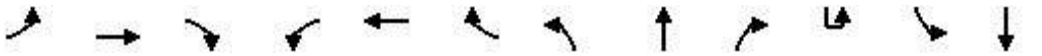
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	33	7	488	488	488	12	538	538	56
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	33	7	0	0	0	12	0	0	56
cSH	846	909	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.04	0.01	0.29	0.29	0.29	0.01	0.32	0.32	0.03
Queue Length 95th (ft)	3	1	0	0	0	0	0	0	0
Control Delay (s)	9.4	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A							
Approach Delay (s)	9.4	9.0	0.0				0.0		
Approach LOS	A	A							

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	36.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	6	1323	16	0	999
Future Volume (Veh/h)	0	6	1323	16	0	999
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	7	1487	18	0	1122
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			256			488
pX, platoon unblocked	0.79	0.79			0.79	
vC, conflicting volume	1768	744			1505	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1441	145			1109	
tC, single (s)	6.8	7.2			4.4	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.4	
p0 queue free %	100	99			100	
cM capacity (veh/h)	99	656			431	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	7	744	744	18	280	280	280	280
Volume Left	0	0	0	0	0	0	0	0
Volume Right	7	0	0	18	0	0	0	0
cSH	656	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.44	0.44	0.01	0.17	0.17	0.17	0.17
Queue Length 95th (ft)	1	0	0	0	0	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.5	0.0			0.0			
Approach LOS	B							

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	46.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	30	5	20	20	1	30	30	1250	25	29	40	855
Future Volume (vph)	30	5	20	20	1	30	30	1250	25	29	40	855
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00		1.00	0.95
Frt	1.00	0.88		1.00	0.85		1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1668		1805	1499		1736	3539	1615		1730	3539
Flt Permitted	0.95	1.00		0.95	1.00		0.28	1.00	1.00		0.14	1.00
Satd. Flow (perm)	1805	1668		1805	1499		513	3539	1615		261	3539
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91
Adj. Flow (vph)	33	5	22	22	1	33	33	1374	27	32	44	940
RTOR Reduction (vph)	0	21	0	0	31	0	0	0	9	0	0	0
Lane Group Flow (vph)	33	6	0	22	3	0	33	1374	18	0	76	940
Heavy Vehicles (%)	0%	0%	0%	0%	50%	7%	4%	2%	0%	2%	6%	2%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases							2		2	1	6	
Actuated Green, G (s)	3.6	6.4		2.2	5.0		71.6	67.8	67.8		75.2	69.6
Effective Green, g (s)	3.6	6.4		2.2	5.0		71.6	67.8	67.8		75.2	69.6
Actuated g/C Ratio	0.04	0.06		0.02	0.05		0.72	0.68	0.68		0.75	0.70
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	64	106		39	74		413	2399	1094		278	2463
v/s Ratio Prot	c0.02	c0.00		0.01	0.00		0.00	c0.39			c0.02	0.27
v/s Ratio Perm							0.05		0.01		0.19	
v/c Ratio	0.52	0.06		0.56	0.04		0.08	0.57	0.02		0.27	0.38
Uniform Delay, d1	47.3	44.0		48.4	45.2		4.3	8.5	5.2		5.5	6.3
Progression Factor	1.00	1.00		1.00	1.00		0.80	0.52	1.00		0.91	0.59
Incremental Delay, d2	6.9	0.2		17.3	0.2		0.1	0.9	0.0		0.5	0.4
Delay (s)	54.2	44.2		65.8	45.4		3.5	5.4	5.3		5.5	4.1
Level of Service	D	D		E	D		A	A	A		A	A
Approach Delay (s)		49.7			53.4			5.3				4.1
Approach LOS		D			D			A				A

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	75
Future Volume (vph)	75
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	82
RTOR Reduction (vph)	25
Lane Group Flow (vph)	57
Heavy Vehicles (%)	3%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	69.6
Effective Green, g (s)	69.6
Actuated g/C Ratio	0.70
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1091
v/s Ratio Prot	
v/s Ratio Perm	0.04
v/c Ratio	0.05
Uniform Delay, d1	4.8
Progression Factor	0.39
Incremental Delay, d2	0.1
Delay (s)	2.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	30	20	1	55	40	1245	40	20	870	5
Future Vol, veh/h	5	1	30	20	1	55	40	1245	40	20	870	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	20	-	0	50	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	4	0	2	0	0	2	0
Mvmt Flow	6	1	33	22	1	61	44	1383	44	22	967	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1791	2526	484	1999	2488	692	973	0	0	1427	0	0
Stage 1	1011	1011	-	1471	1471	-	-	-	-	-	-	-
Stage 2	780	1515	-	528	1017	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	52	28	534	36	30	382	717	-	-	483	-	-
Stage 1	260	320	-	136	193	-	-	-	-	-	-	-
Stage 2	359	184	-	507	318	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	39	25	534	30	27	382	717	-	-	483	-	-
Mov Cap-2 Maneuver	39	25	-	30	27	-	-	-	-	-	-	-
Stage 1	244	305	-	128	181	-	-	-	-	-	-	-
Stage 2	281	173	-	452	303	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.8	161.8	0.3	0.3
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	717	-	-	160	90	483	-	-
HCM Lane V/C Ratio	0.062	-	-	0.25	0.938	0.046	-	-
HCM Control Delay (s)	10.4	-	-	34.8	161.8	12.8	-	-
HCM Lane LOS	B	-	-	D	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	5.3	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	15	5	1275	900	20
Future Vol, veh/h	50	15	5	1275	900	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	10	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	0	0	2	2	0
Mvmt Flow	56	17	6	1417	1000	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1590	511	1022	0	-	0
Stage 1	1011	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Critical Hdwy	6.35	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	-	-	-	-
Follow-up Hdwy	3.7	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	120	513	687	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	119	513	687	-	-	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	295	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	687	-	250	-	-
HCM Lane V/C Ratio	0.008	-	0.289	-	-
HCM Control Delay (s)	10.3	-	25.1	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

Intersection	
Int Delay, s/veh	152.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	20	140	1	125	15	1155	125	100	810	5
Future Vol, veh/h	1	1	20	140	1	125	15	1155	125	100	810	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	50	-	140	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	4	0	5	0	1	3	5	2	0
Mvmt Flow	1	1	22	157	1	140	17	1298	140	112	910	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1821	2609	458	2012	2472	649	916	0	0	1438	0	0
Stage 1	1137	1137	-	1332	1332	-	-	-	-	-	-	-
Stage 2	684	1472	-	680	1140	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.58	6.5	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.58	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.58	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.54	4	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	49	25	555	~ 34	30	405	753	-	-	453	-	-
Stage 1	218	279	-	160	225	-	-	-	-	-	-	-
Stage 2	410	193	-	402	278	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	18	555	~ 25	22	405	753	-	-	453	-	-
Mov Cap-2 Maneuver	25	18	-	~ 25	22	-	-	-	-	-	-	-
Stage 1	213	210	-	~ 156	220	-	-	-	-	-	-	-
Stage 2	260	189	-	289	209	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.3	$ 1426.5	0.1	1.7
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	753	-	-	167	25	356	453	-	-
HCM Lane V/C Ratio	0.022	-	-	0.148	6.292	0.398	0.248	-	-
HCM Control Delay (s)	9.9	-	-	30.3	$ 2690.9	21.6	15.5	-	-
HCM Lane LOS	A	-	-	D	F	C	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	19.6	1.9	1	-	-

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	5	15	1245	950	20
Future Vol, veh/h	50	5	15	1245	950	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	130
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	55	5	16	1368	1044	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1760	522	1066	0	-	0
Stage 1	1044	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	77	505	661	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	75	505	661	-	-	-
Mov Cap-2 Maneuver	196	-	-	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	450	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.2	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	661	-	208	-	-
HCM Lane V/C Ratio	0.025	-	0.291	-	-
HCM Control Delay (s)	10.6	-	29.2	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	195	65	75	1065	1	720	235
Future Volume (vph)	195	65	75	1065	1	720	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	1.00	0.95	
Frt	0.97		1.00	1.00	1.00	0.96	
Flt Protected	0.96		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1739		1719	3539	1805	3409	
Flt Permitted	0.96		0.20	1.00	0.95	1.00	
Satd. Flow (perm)	1739		363	3539	1805	3409	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	71	82	1158	1	783	255
RTOR Reduction (vph)	13	0	0	0	0	25	0
Lane Group Flow (vph)	270	0	82	1158	1	1013	0
Heavy Vehicles (%)	1%	4%	5%	2%	0%	2%	2%
Turn Type	Prot		pm+pt	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases			2				
Actuated Green, G (s)	20.7		70.3	64.6	1.2	59.8	
Effective Green, g (s)	20.7		70.3	64.6	1.2	59.8	
Actuated g/C Ratio	0.21		0.70	0.65	0.01	0.60	
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	359		336	2286	21	2038	
v/s Ratio Prot	c0.15		c0.01	c0.33	0.00	0.30	
v/s Ratio Perm			0.16				
v/c Ratio	0.75		0.24	0.51	0.05	0.50	
Uniform Delay, d1	37.2		6.5	9.3	48.8	11.5	
Progression Factor	1.00		1.46	1.76	1.22	0.79	
Incremental Delay, d2	8.6		0.3	0.6	0.9	0.9	
Delay (s)	45.8		9.7	17.0	60.4	10.0	
Level of Service	D		A	B	E	A	
Approach Delay (s)	45.8			16.5		10.0	
Approach LOS	D			B		A	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	45	1095	5	20	765
Future Vol, veh/h	5	45	1095	5	20	765
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	25	2	2	40	10	3
Mvmt Flow	5	47	1141	5	21	797

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1585	1144	0	0	1146	0
Stage 1	1144	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Critical Hdwy	6.975	6.23	-	-	4.25	-
Critical Hdwy Stg 1	5.775	-	-	-	-	-
Critical Hdwy Stg 2	6.175	-	-	-	-	-
Follow-up Hdwy	3.7375	3.319	-	-	2.295	-
Pot Cap-1 Maneuver	91	242	-	-	571	-
Stage 1	263	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	88	242	-	-	571	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	263	-	-	-	-	-
Stage 2	542	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.3	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	206	571	-
HCM Lane V/C Ratio	-	-	0.253	0.036	-
HCM Control Delay (s)	-	-	28.3	11.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1	0.1	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	20	5	1070	750	20
Future Vol, veh/h	30	20	5	1070	750	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	12	0	2	3	7
Mvmt Flow	32	21	5	1126	789	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1925	789	810	0	-	0
Stage 1	789	-	-	-	-	-
Stage 2	1136	-	-	-	-	-
Critical Hdwy	6.46	6.32	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.408	2.2	-	-	-
Pot Cap-1 Maneuver	72	375	825	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	71	375	825	-	-	-
Mov Cap-2 Maneuver	71	-	-	-	-	-
Stage 1	434	-	-	-	-	-
Stage 2	301	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	69.6	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	825	-	105	-	-
HCM Lane V/C Ratio	0.006	-	0.501	-	-
HCM Control Delay (s)	9.4	0	69.6	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	2.2	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	15	1070	730	40
Future Vol, veh/h	5	1	15	1070	730	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	50	0	2	3	6
Mvmt Flow	5	1	16	1115	760	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1928	781	802	0	-	0
Stage 1	781	-	-	-	-	-
Stage 2	1147	-	-	-	-	-
Critical Hdwy	6.4	6.7	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	2.2	-	-	-
Pot Cap-1 Maneuver	74	328	830	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	70	328	830	-	-	-
Mov Cap-2 Maneuver	70	-	-	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	305	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	53.1	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	830	-	81	-	-
HCM Lane V/C Ratio	0.019	-	0.077	-	-
HCM Control Delay (s)	9.4	0	53.1	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

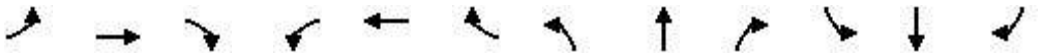
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	1080	1	1	730
Future Vol, veh/h	5	5	1080	1	1	730
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	38	2	0	0	3
Mvmt Flow	5	5	1161	1	1	785

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1949	1162	0	0	1162	0
Stage 1	1162	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Critical Hdwy	6.4	6.58	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.642	-	-	2.2	-
Pot Cap-1 Maneuver	72	201	-	-	608	-
Stage 1	300	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	72	201	-	-	608	-
Mov Cap-2 Maneuver	72	-	-	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	42.8	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	106	608	-
HCM Lane V/C Ratio	-	-	0.101	0.002	-
HCM Control Delay (s)	-	-	42.8	10.9	0
HCM Lane LOS	-	-	E	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	110	185	95	240	195	190	785	45	55	580	100
Future Volume (veh/h)	100	110	185	95	240	195	190	785	45	55	580	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1767	1826	1722	1870	1870	1885	1870	1678	1900	1856	1870
Adj Flow Rate, veh/h	108	118	0	102	258	210	204	844	48	59	624	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	9	5	12	2	2	1	2	15	0	3	2
Cap, veh/h	134	286		126	300	254	412	1013	770	249	944	
Arrive On Green	0.08	0.16	0.00	0.08	0.16	0.16	0.07	0.54	0.54	0.04	0.51	0.00
Sat Flow, veh/h	1711	1767	1547	1640	1870	1585	1795	1870	1422	1810	1856	1585
Grp Volume(v), veh/h	108	118	0	102	258	210	204	844	48	59	624	0
Grp Sat Flow(s),veh/h/ln	1711	1767	1547	1640	1870	1585	1795	1870	1422	1810	1856	1585
Q Serve(g_s), s	6.2	6.0	0.0	6.1	13.4	12.8	5.3	37.7	1.6	1.5	24.9	0.0
Cycle Q Clear(g_c), s	6.2	6.0	0.0	6.1	13.4	12.8	5.3	37.7	1.6	1.5	24.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	286		126	300	254	412	1013	770	249	944	
V/C Ratio(X)	0.81	0.41		0.81	0.86	0.83	0.49	0.83	0.06	0.24	0.66	
Avail Cap(c_a), veh/h	145	318		139	337	285	420	1013	770	267	944	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.4	37.6	0.0	45.5	40.9	40.6	13.9	19.2	10.9	17.1	18.2	0.0
Incr Delay (d2), s/veh	26.0	1.0	0.0	27.2	18.2	16.4	0.9	8.0	0.2	0.5	3.6	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	3.6	2.7	0.0	3.4	7.6	6.0	2.0	17.1	0.5	0.6	10.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.4	38.6	0.0	72.7	59.1	57.0	14.8	27.2	11.0	17.5	21.8	0.0
LnGrp LOS	E	D		E	E	E	B	C	B	B	C	
Approach Vol, veh/h		226			570			1096			683	
Approach Delay, s/veh		54.3			60.8			24.2			21.4	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	58.6	12.2	20.7	11.8	55.4	12.3	20.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.5	8.5	18.0	7.7	47.8	8.5	18.0
Max Q Clear Time (g_c+I1), s	3.5	39.7	8.1	8.0	7.3	26.9	8.2	15.4
Green Ext Time (p_c), s	0.0	4.6	0.0	0.4	0.0	4.1	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	1020	1	0	860
Future Vol, veh/h	0	1	1020	1	0	860
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	1085	1	0	915

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1086	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	265	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	265	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	265	-
HCM Lane V/C Ratio	-	-	0.004	-
HCM Control Delay (s)	-	-	18.6	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	990	1	30	820
Future Vol, veh/h	5	40	990	1	30	820
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	4	5
Mvmt Flow	5	42	1042	1	32	863

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1969	1042	0	0	1043	0
Stage 1	1042	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.14	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.236	-
Pot Cap-1 Maneuver	70	281	-	-	659	-
Stage 1	343	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	63	281	-	-	659	-
Mov Cap-2 Maneuver	63	-	-	-	-	-
Stage 1	343	-	-	-	-	-
Stage 2	353	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.1	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	203	659	-
HCM Lane V/C Ratio	-	-	0.233	0.048	-
HCM Control Delay (s)	-	-	28.1	10.7	0
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	990	1	0	825
Future Vol, veh/h	0	1	990	1	0	825
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	1053	1	0	878

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	215	1	770	1	0	820	5
Future Vol, veh/h	5	0	5	0	0	215	1	770	1	0	820	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	2	0	3	0	0	5	0
Mvmt Flow	5	0	5	0	0	231	1	828	1	0	882	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1831	1715	885	-	-	829	887	0	0	-	-	0
Stage 1	885	885	-	-	-	-	-	-	-	-	-	-
Stage 2	946	830	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.22	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.318	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	60	91	347	0	0	370	772	-	-	0	-	-
Stage 1	342	366	-	0	0	-	-	-	-	0	-	-
Stage 2	317	388	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	23	91	347	-	-	370	772	-	-	-	-	-
Mov Cap-2 Maneuver	23	91	-	-	-	-	-	-	-	-	-	-
Stage 1	341	366	-	-	-	-	-	-	-	-	-	-
Stage 2	119	387	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	114.6	29.6	0	0
HCM LOS	F	D		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWT	SWR
Capacity (veh/h)	772	-	-	370	43	-	-
HCM Lane V/C Ratio	0.001	-	-	0.625	0.25	-	-
HCM Control Delay (s)	9.7	0	-	29.6	114.6	-	-
HCM Lane LOS	A	A	-	D	F	-	-
HCM 95th %tile Q(veh)	0	-	-	4.1	0.8	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	30	740	5	50	775
Future Vol, veh/h	5	30	740	5	50	775
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	5	0
Mvmt Flow	5	33	804	5	54	842

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1757	807	0	0	809	0
Stage 1	807	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	94	385	-	-	804	-
Stage 1	442	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	82	385	-	-	804	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	331	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	21.8	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	252	804	-
HCM Lane V/C Ratio	-	-	0.151	0.068	-
HCM Control Delay (s)	-	-	21.8	9.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	725	1	30	750	1	20
Future Vol, veh/h	725	1	30	750	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	0	5	0	0	6
Mvmt Flow	763	1	32	789	1	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	764	0	1617	764
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	853	-
Critical Hdwy	-	-	4.15	-	6.4	6.26
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.354
Pot Cap-1 Maneuver	-	-	836	-	115	397
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	836	-	107	397
Mov Cap-2 Maneuver	-	-	-	-	107	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	392	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	352	-	-	836	-
HCM Lane V/C Ratio	0.063	-	-	0.038	-
HCM Control Delay (s)	15.9	-	-	9.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

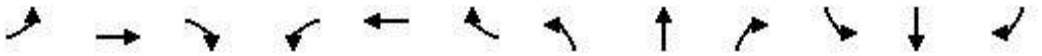
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	1	1	15	1	5	1	705	15	1	745	5
Future Vol, veh/h	15	1	1	15	1	5	1	705	15	1	745	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	33	0	3	11	0	5	0
Mvmt Flow	16	1	1	16	1	5	1	734	16	1	776	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1525	1530	776	1526	1527	742	781	0	0	750	0	0
Stage 1	778	778	-	744	744	-	-	-	-	-	-	-
Stage 2	747	752	-	782	783	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.53	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.597	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	97	118	401	97	119	369	845	-	-	868	-	-
Stage 1	392	410	-	410	424	-	-	-	-	-	-	-
Stage 2	408	421	-	390	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	95	118	401	96	119	369	845	-	-	868	-	-
Mov Cap-2 Maneuver	95	118	-	96	119	-	-	-	-	-	-	-
Stage 1	391	409	-	409	423	-	-	-	-	-	-	-
Stage 2	400	420	-	387	406	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.1	42.3	0	0
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	845	-	-	101	118	868	-	-
HCM Lane V/C Ratio	0.001	-	-	0.175	0.185	0.001	-	-
HCM Control Delay (s)	9.3	0	-	48.1	42.3	9.2	0	-
HCM Lane LOS	A	A	-	E	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.6	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	90	5	65	420	65	5	475	50	125	495	140
Future Volume (veh/h)	180	90	5	65	420	65	5	475	50	125	495	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1307	1841	1856	1841	1900	1856	1767	1693	1856	1826
Adj Flow Rate, veh/h	191	96	5	69	447	0	5	505	53	133	527	149
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	6	40	4	3	4	0	3	9	14	3	5
Cap, veh/h	206	103	5	72	466		12	540	436	184	634	528
Arrive On Green	0.18	0.18	0.18	0.29	0.29	0.00	0.01	0.29	0.29	0.06	0.34	0.34
Sat Flow, veh/h	1144	575	30	246	1597	1560	1810	1856	1497	1612	1856	1547
Grp Volume(v), veh/h	292	0	0	516	0	0	5	505	53	133	527	149
Grp Sat Flow(s),veh/h/ln	1749	0	0	1843	0	1560	1810	1856	1497	1612	1856	1547
Q Serve(g_s), s	16.4	0.0	0.0	27.5	0.0	0.0	0.3	26.5	2.6	5.7	26.1	7.0
Cycle Q Clear(g_c), s	16.4	0.0	0.0	27.5	0.0	0.0	0.3	26.5	2.6	5.7	26.1	7.0
Prop In Lane	0.65		0.02	0.13		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	0	0	538	0		12	540	436	184	634	528
V/C Ratio(X)	0.93	0.00	0.00	0.96	0.00		0.43	0.94	0.12	0.72	0.83	0.28
Avail Cap(c_a), veh/h	315	0	0	538	0		90	540	436	184	634	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	0.0	0.0	34.8	0.0	0.0	49.5	34.5	26.1	26.4	30.3	24.0
Incr Delay (d2), s/veh	32.5	0.0	0.0	28.6	0.0	0.0	22.6	25.6	0.6	13.1	12.1	1.3
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	9.8	0.0	0.0	16.4	0.0	0.0	0.2	15.3	1.0	2.8	13.3	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.9	0.0	0.0	63.4	0.0	0.0	72.1	60.2	26.6	39.5	42.4	25.3
LnGrp LOS	E	A	A	E	A		E	E	C	D	D	C
Approach Vol, veh/h		292			516			563			809	
Approach Delay, s/veh		72.9			63.4			57.1			38.8	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	33.6		22.5	5.1	38.7		33.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.7	29.1		18.0	5.0	29.8		29.2				
Max Q Clear Time (g_c+I1), s	7.7	28.5		18.4	2.3	28.1		29.5				
Green Ext Time (p_c), s	0.0	0.2		0.0	0.0	0.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		53.9	
HCM 6th LOS		D	

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	1	0	530	1	0	550	15
Future Vol, veh/h	0	0	5	0	0	1	0	530	1	0	550	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	0	0	50	0	0	0	3	0	0	4	0
Mvmt Flow	0	0	5	0	0	1	0	576	1	0	598	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	307	-	-	576	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	695	0	0	521	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	695	-	-	521	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	11.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	695	521	-	-
HCM Lane V/C Ratio	-	-	0.008	0.002	-	-
HCM Control Delay (s)	-	-	10.2	11.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	5	515	535	20
Future Vol, veh/h	15	15	5	515	535	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	17	3	4	7
Mvmt Flow	17	17	6	592	615	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1219	615	638	0	-	0
Stage 1	615	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.27	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.353	-	-	-
Pot Cap-1 Maneuver	201	495	878	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	199	495	878	-	-	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	550	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	878	-	284	-	-
HCM Lane V/C Ratio	0.007	-	0.121	-	-
HCM Control Delay (s)	9.1	0	19.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

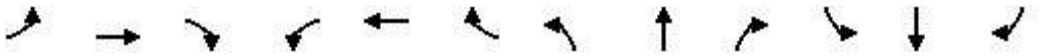
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	30	490	15	15	535
Future Vol, veh/h	15	30	490	15	15	535
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	4	8	9	3
Mvmt Flow	17	34	557	17	17	608

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	904	566	0	0	574	0
Stage 1	566	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.235	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2855	-
Pot Cap-1 Maneuver	295	528	-	-	957	-
Stage 1	572	-	-	-	-	-
Stage 2	700	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	287	528	-	-	957	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	413	957	-
HCM Lane V/C Ratio	-	-	0.124	0.018	-
HCM Control Delay (s)	-	-	14.9	8.8	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	255	5	125	820	115	15	385	120	170	365	15
Future Volume (veh/h)	5	255	5	125	820	115	15	385	120	170	365	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1648	1737	1870	1885	1900	1841	1781	1885	1841	1900
Adj Flow Rate, veh/h	5	280	5	137	901	126	16	423	132	187	401	16
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	17	11	2	1	0	4	8	1	4	0
Cap, veh/h	12	723	13	456	729	102	31	440	137	188	654	26
Arrive On Green	0.01	0.40	0.40	0.06	0.45	0.45	0.02	0.33	0.33	0.06	0.37	0.37
Sat Flow, veh/h	1810	1817	32	1654	1605	225	1810	1345	420	1795	1758	70
Grp Volume(v), veh/h	5	0	285	137	0	1027	16	0	555	187	0	417
Grp Sat Flow(s),veh/h/ln	1810	0	1850	1654	0	1830	1810	0	1765	1795	0	1828
Q Serve(g_s), s	0.3	0.0	13.2	5.7	0.0	54.5	1.1	0.0	37.0	7.5	0.0	22.3
Cycle Q Clear(g_c), s	0.3	0.0	13.2	5.7	0.0	54.5	1.1	0.0	37.0	7.5	0.0	22.3
Prop In Lane	1.00		0.02	1.00		0.12	1.00		0.24	1.00		0.04
Lane Grp Cap(c), veh/h	12	0	736	456	0	831	31	0	577	188	0	680
V/C Ratio(X)	0.43	0.00	0.39	0.30	0.00	1.24	0.51	0.00	0.96	1.00	0.00	0.61
Avail Cap(c_a), veh/h	75	0	802	456	0	831	77	0	577	188	0	680
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.4	0.0	25.7	19.0	0.0	32.8	58.5	0.0	39.6	32.9	0.0	30.6
Incr Delay (d2), s/veh	23.4	0.0	0.3	0.4	0.0	116.4	12.5	0.0	29.1	64.1	0.0	4.1
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	5.9	2.1	0.0	49.2	0.6	0.0	20.3	6.8	0.0	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.8	0.0	26.0	19.3	0.0	149.2	70.9	0.0	68.8	97.1	0.0	34.7
LnGrp LOS	F	A	C	B	A	F	E	A	E	F	A	C
Approach Vol, veh/h		290			1164			571			604	
Approach Delay, s/veh		27.0			133.9			68.8			54.0	
Approach LOS		C			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	43.7	12.0	52.3	6.6	49.2	5.3	59.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	35.0	7.5	52.0	5.1	37.4	5.0	54.5
Max Q Clear Time (g_c+I1), s	9.5	39.0	7.7	15.2	3.1	24.3	2.3	56.5
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	89.6
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	170	180	40	230	110	350	53	30	1015	150	370	1255
Future Volume (vph)	170	180	40	230	110	350	53	30	1015	150	370	1255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	0.88		1.00	0.91		0.97	0.95
Frt	1.00	0.97		1.00	1.00	0.85		1.00	0.98		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	1756		1805	1863	2814		1761	4987		3467	3553
Flt Permitted	0.68	1.00		0.29	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1300	1756		554	1863	2814		1761	4987		3467	3553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	175	186	41	237	113	361	55	31	1046	155	381	1294
RTOR Reduction (vph)	0	8	0	0	0	123	0	0	18	0	0	2
Lane Group Flow (vph)	175	219	0	237	113	238	0	86	1183	0	381	1333
Heavy Vehicles (%)	0%	6%	2%	0%	2%	1%	0%	7%	2%	2%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8	1	5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	25.8	16.2		29.8	18.2	33.8		6.8	38.6		15.6	47.4
Effective Green, g (s)	25.8	16.2		29.8	18.2	33.8		6.8	38.6		15.6	47.4
Actuated g/C Ratio	0.26	0.16		0.30	0.18	0.34		0.07	0.39		0.16	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	383	284		310	339	1077		119	1924		540	1684
v/s Ratio Prot	0.04	0.12		c0.09	0.06	0.03		0.05	0.24		c0.11	c0.38
v/s Ratio Perm	0.07			c0.14		0.05						
v/c Ratio	0.46	0.77		0.76	0.33	0.22		0.72	0.61		0.71	0.79
Uniform Delay, d1	30.5	40.1		28.9	35.6	23.7		45.7	24.7		40.0	22.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.06	0.98		1.00	1.00
Incremental Delay, d2	0.9	11.9		10.7	0.6	0.1		17.4	1.3		4.2	3.9
Delay (s)	31.4	52.0		39.6	36.2	23.8		65.6	25.5		44.2	26.0
Level of Service	C	D		D	D	C		E	C		D	C
Approach Delay (s)		43.0			31.0				28.2			30.1
Approach LOS		D			C				C			C

Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	40
Future Volume (vph)	40
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	41
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	10	1237	31	0	1578
Future Volume (Veh/h)	0	10	1237	31	0	1578
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	11	1302	33	0	1661
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			547			197
pX, platoon unblocked	0.68					
vC, conflicting volume	2149	342			1335	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1749	342			1335	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	53	660			523	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	11	372	372	372	219	830	830
Volume Left	0	0	0	0	0	0	0
Volume Right	11	0	0	0	33	0	0
cSH	660	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.22	0.22	0.22	0.13	0.49	0.49
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.5	0.0				0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	75	0	0	21	0	1247	6	0	1469	110
Future Volume (Veh/h)	0	0	75	0	0	21	0	1247	6	0	1469	110
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	78	0	0	22	0	1299	6	0	1530	115
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.76	0.76	0.69	0.76	0.76	0.84	0.69			0.84		
vC, conflicting volume	1985	2835	765	2142	2944	433	1645			1305		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439	1552	0	644	1695	0	1022			711		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	100	100	98	100			100		
cM capacity (veh/h)	378	87	747	247	72	920	471			757		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	78	22	433	433	433	6	765	765	115
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	78	22	0	0	0	6	0	0	115
cSH	747	920	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.02	0.25	0.25	0.25	0.00	0.45	0.45	0.07
Queue Length 95th (ft)	9	2	0	0	0	0	0	0	0
Control Delay (s)	10.4	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A							
Approach Delay (s)	10.4	9.0	0.0				0.0		
Approach LOS	B	A							

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	51.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	16	1235	6	0	1543
Future Volume (Veh/h)	0	16	1235	6	0	1543
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	17	1300	6	0	1624
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			256			488
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	1706	650			1306	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1389	75			891	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	109	786			618	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	17	650	650	6	406	406	406	406
Volume Left	0	0	0	0	0	0	0	0
Volume Right	17	0	0	6	0	0	0	0
cSH	786	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.38	0.38	0.00	0.24	0.24	0.24	0.24
Queue Length 95th (ft)	2	0	0	0	0	0	0	0
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.7	0.0			0.0			
Approach LOS	A							

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	110	30	65	85	20	45	50	1075	90	12	75	1305
Future Volume (vph)	110	30	65	85	20	45	50	1075	90	12	75	1305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00		1.00	0.95
Frt	1.00	0.90		1.00	0.90		1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1706		1805	1680		1805	3505	1615		1726	3574
Flt Permitted	0.95	1.00		0.95	1.00		0.13	1.00	1.00		0.18	1.00
Satd. Flow (perm)	1805	1706		1805	1680		238	3505	1615		331	3574
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.95	0.95
Adj. Flow (vph)	116	32	68	89	21	47	53	1132	95	13	79	1374
RTOR Reduction (vph)	0	62	0	0	44	0	0	0	39	0	0	0
Lane Group Flow (vph)	116	38	0	89	24	0	53	1132	56	0	92	1374
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	3%	0%	2%	5%	1%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases							2		2	1	6	
Actuated Green, G (s)	10.3	8.7		7.9	6.3		64.6	59.2	59.2		66.2	60.0
Effective Green, g (s)	10.3	8.7		7.9	6.3		64.6	59.2	59.2		66.2	60.0
Actuated g/C Ratio	0.10	0.09		0.08	0.06		0.65	0.59	0.59		0.66	0.60
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	185	148		142	105		238	2074	956		305	2144
v/s Ratio Prot	c0.06	c0.02		0.05	0.01		0.01	0.32			c0.02	c0.38
v/s Ratio Perm							0.13		0.03		0.18	
v/c Ratio	0.63	0.26		0.63	0.23		0.22	0.55	0.06		0.30	0.64
Uniform Delay, d1	43.0	42.6		44.6	44.5		9.2	12.3	8.6		7.7	13.0
Progression Factor	1.00	1.00		1.00	1.00		0.76	0.55	1.08		0.53	0.38
Incremental Delay, d2	6.5	0.9		8.4	1.1		0.4	0.9	0.1		0.4	1.0
Delay (s)	49.5	43.5		53.0	45.7		7.4	7.7	9.4		4.5	6.0
Level of Service	D	D		D	D		A	A	A		A	A
Approach Delay (s)		46.7			49.8			7.9				5.4
Approach LOS		D			D			A				A

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	150
Future Volume (vph)	150
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1599
Flt Permitted	1.00
Satd. Flow (perm)	1599
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	158
RTOR Reduction (vph)	63
Lane Group Flow (vph)	95
Heavy Vehicles (%)	1%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	60.0
Effective Green, g (s)	60.0
Actuated g/C Ratio	0.60
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	959
v/s Ratio Prot	
v/s Ratio Perm	0.06
v/c Ratio	0.10
Uniform Delay, d1	8.5
Progression Factor	0.05
Incremental Delay, d2	0.1
Delay (s)	0.6
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	46.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1	125	20	1	40	90	1155	45	30	1385	40
Future Vol, veh/h	20	1	125	20	1	40	90	1155	45	30	1385	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	20	-	0	50	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	5	0	0	2	0	0	1	0
Mvmt Flow	21	1	133	21	1	43	96	1229	48	32	1473	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2344	3006	737	2222	3001	615	1516	0	0	1277	0	0
Stage 1	1537	1537	-	1421	1421	-	-	-	-	-	-	-
Stage 2	807	1469	-	801	1580	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.6	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4.05	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 20	14	363	25	13	439	446	-	-	550	-	-
Stage 1	124	179	-	146	195	-	-	-	-	-	-	-
Stage 2	346	194	-	349	163	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 13	10	363	~ 12	10	439	446	-	-	550	-	-
Mov Cap-2 Maneuver	~ 13	10	-	~ 12	10	-	-	-	-	-	-	-
Stage 1	97	169	-	115	153	-	-	-	-	-	-	-
Stage 2	244	152	-	207	154	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 628.1	$ 710.8	1.1	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	446	-	-	74	33	550	-	-
HCM Lane V/C Ratio	0.215	-	-	2.099	1.966	0.058	-	-
HCM Control Delay (s)	15.3	-	-	$ 628.1	$ 710.8	11.9	-	-
HCM Lane LOS	C	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.8	-	-	14.3	7.3	0.2	-	-

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	5	1275	1515	15
Future Vol, veh/h	15	15	5	1275	1515	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	10	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	16	16	5	1371	1629	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2195	823	1645	0	-	0
Stage 1	1637	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Critical Hdwy	6.25	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	54	321	398	-	-	-
Stage 1	145	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	53	321	398	-	-	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	143	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.9	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	398	-	171	-	-
HCM Lane V/C Ratio	0.014	-	0.189	-	-
HCM Control Delay (s)	14.2	-	30.9	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Intersection	
Int Delay, s/veh	201.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	20	115	1	125	5	1145	195	185	1345	1
Future Vol, veh/h	10	1	20	115	1	125	5	1145	195	185	1345	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	50	-	140	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	0	4	0	2	1	0	1	0
Mvmt Flow	11	1	21	122	1	133	5	1218	207	197	1431	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2446	3261	716	2338	3054	609	1432	0	0	1425	0	0
Stage 1	1826	1826	-	1228	1228	-	-	-	-	-	-	-
Stage 2	620	1435	-	1110	1826	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.52	6.5	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.52	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.52	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.51	4	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	17	9	377	~ 20	13	433	481	-	-	484	-	-
Stage 1	81	129	-	190	253	-	-	-	-	-	-	-
Stage 2	447	201	-	225	129	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 7	5	377	~ 11	8	433	481	-	-	484	-	-
Mov Cap-2 Maneuver	~ 7	5	-	~ 11	8	-	-	-	-	-	-	-
Stage 1	80	76	-	188	250	-	-	-	-	-	-	-
Stage 2	305	199	-	124	76	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 839.4	$ 2505.3	0	2.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	481	-	-	18	11	305	484	-	-
HCM Lane V/C Ratio	0.011	-	-	1.832	11.122	0.439	0.407	-	-
HCM Control Delay (s)	12.6	-	-	$ 839.4	$ 5222.1	25.7	17.4	-	-
HCM Lane LOS	B	-	-	F	F	D	C	-	-
HCM 95th %tile Q(veh)	0	-	-	4.6	16.7	2.1	1.9	-	-

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	15	25	1315	1430	50
Future Vol, veh/h	30	15	25	1315	1430	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	130
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	32	16	26	1384	1505	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2249	753	1558	0	-	0
Stage 1	1505	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	36	357	430	-	-	-
Stage 1	173	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	34	357	430	-	-	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	163	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.4	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	430	-	154	-	-
HCM Lane V/C Ratio	0.061	-	0.308	-	-
HCM Control Delay (s)	13.9	-	38.4	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.2	-	1.2	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	370	55	40	970	1	1095	350
Future Volume (vph)	370	55	40	970	1	1095	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	1.00	0.95	
Frt	0.98		1.00	1.00	1.00	0.96	
Flt Protected	0.96		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1769		1805	3539	1805	3445	
Flt Permitted	0.96		0.07	1.00	0.95	1.00	
Satd. Flow (perm)	1769		135	3539	1805	3445	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	389	58	42	1021	1	1153	368
RTOR Reduction (vph)	6	0	0	0	0	28	0
Lane Group Flow (vph)	441	0	42	1021	1	1493	0
Heavy Vehicles (%)	1%	2%	0%	2%	0%	1%	1%
Turn Type	Prot		pm+pt	NA	Prot	NA	
Protected Phases	4		5	2	1	6	
Permitted Phases			2				
Actuated Green, G (s)	28.1		60.5	57.4	1.0	55.3	
Effective Green, g (s)	28.1		60.5	57.4	1.0	55.3	
Actuated g/C Ratio	0.28		0.60	0.57	0.01	0.55	
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	497		133	2031	18	1905	
v/s Ratio Prot	c0.25		c0.01	0.29	0.00	c0.43	
v/s Ratio Perm			0.18				
v/c Ratio	0.89		0.32	0.50	0.06	0.78	
Uniform Delay, d1	34.4		14.4	12.8	49.0	17.6	
Progression Factor	1.00		1.57	1.73	1.14	0.75	
Incremental Delay, d2	17.3		1.1	0.7	1.2	3.0	
Delay (s)	51.7		23.7	22.7	57.3	16.2	
Level of Service	D		C	C	E	B	
Approach Delay (s)	51.7			22.8		16.2	
Approach LOS	D			C		B	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	50	960	5	70	1080
Future Vol, veh/h	5	50	960	5	70	1080
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	2	0	3	1
Mvmt Flow	5	53	1021	5	74	1149

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1747	1024	0	0	1026	0
Stage 1	1024	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.6	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	87	283	-	-	670	-
Stage 1	350	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	77	283	-	-	670	-
Mov Cap-2 Maneuver	77	-	-	-	-	-
Stage 1	350	-	-	-	-	-
Stage 2	398	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.2	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	228	670	-
HCM Lane V/C Ratio	-	-	0.257	0.111	-
HCM Control Delay (s)	-	-	26.2	11	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1	0.4	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	15	15	940	1045	40
Future Vol, veh/h	25	15	15	940	1045	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	27	16	16	1022	1136	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2190	1136	1179	0	-	0
Stage 1	1136	-	-	-	-	-
Stage 2	1054	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	51	248	600	-	-	-
Stage 1	309	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	48	248	600	-	-	-
Mov Cap-2 Maneuver	48	-	-	-	-	-
Stage 1	290	-	-	-	-	-
Stage 2	338	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	121.3	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	600	-	69	-	-
HCM Lane V/C Ratio	0.027	-	0.63	-	-
HCM Control Delay (s)	11.2	0	121.3	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	2.7	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	950	1045	15
Future Vol, veh/h	5	5	5	950	1045	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	5	5	5	1033	1136	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2187	1144	1152	0	-	0
Stage 1	1144	-	-	-	-	-
Stage 2	1043	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	51	246	614	-	-	-
Stage 1	306	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	50	246	614	-	-	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	342	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	54.8	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	614	-	83	-	-
HCM Lane V/C Ratio	0.009	-	0.131	-	-
HCM Control Delay (s)	10.9	0	54.8	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

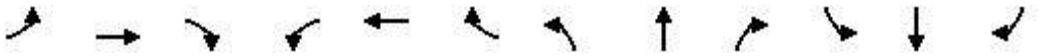
Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	950	15	1	1050
Future Vol, veh/h	5	5	950	15	1	1050
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	25	2	0	0	1
Mvmt Flow	5	5	1044	16	1	1154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2208	1052	0	0	1060	0
Stage 1	1052	-	-	-	-	-
Stage 2	1156	-	-	-	-	-
Critical Hdwy	6.4	6.45	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.525	-	-	2.2	-
Pot Cap-1 Maneuver	49	248	-	-	665	-
Stage 1	339	-	-	-	-	-
Stage 2	302	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	49	248	-	-	665	-
Mov Cap-2 Maneuver	49	-	-	-	-	-
Stage 1	339	-	-	-	-	-
Stage 2	301	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	55.6	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	82	665	-
HCM Lane V/C Ratio	-	-	0.134	0.002	-
HCM Control Delay (s)	-	-	55.6	10.4	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	205	230	70	145	95	70	720	65	90	855	110
Future Volume (veh/h)	150	205	230	70	145	95	70	720	65	90	855	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1885	1885	1885	1900	1885	1870	1870	1900	1885	1885	1885
Adj Flow Rate, veh/h	156	214	0	73	151	99	73	750	68	94	891	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	1	1	1	0	1	2	2	0	1	1	1
Cap, veh/h	175	284		94	198	166	269	1067	919	346	1081	
Arrive On Green	0.10	0.15	0.00	0.05	0.10	0.10	0.04	0.57	0.57	0.05	0.57	0.00
Sat Flow, veh/h	1767	1885	1598	1795	1900	1598	1781	1870	1610	1795	1885	1598
Grp Volume(v), veh/h	156	214	0	73	151	99	73	750	68	94	891	0
Grp Sat Flow(s),veh/h/ln	1767	1885	1598	1795	1900	1598	1781	1870	1610	1795	1885	1598
Q Serve(g_s), s	8.7	10.9	0.0	4.0	7.7	5.9	1.6	28.7	1.9	2.1	38.2	0.0
Cycle Q Clear(g_c), s	8.7	10.9	0.0	4.0	7.7	5.9	1.6	28.7	1.9	2.1	38.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	284		94	198	166	269	1067	919	346	1081	
V/C Ratio(X)	0.89	0.75		0.78	0.76	0.60	0.27	0.70	0.07	0.27	0.82	
Avail Cap(c_a), veh/h	175	398		122	342	288	281	1067	919	353	1081	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.5	40.7	0.0	46.8	43.6	42.8	15.9	15.4	9.6	12.5	17.2	0.0
Incr Delay (d2), s/veh	39.0	5.1	0.0	20.5	6.0	3.4	0.5	3.9	0.2	0.4	7.1	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	5.7	5.4	0.0	2.3	3.9	2.4	0.7	12.2	0.7	0.8	16.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.6	45.8	0.0	67.3	49.6	46.2	16.4	19.3	9.8	13.0	24.4	0.0
LnGrp LOS	F	D		E	D	D	B	B	A	B	C	
Approach Vol, veh/h		370			323			891			985	
Approach Delay, s/veh		61.7			52.6			18.3			23.3	
Approach LOS		E			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	61.6	9.7	19.6	8.8	61.9	14.4	14.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	49.1	6.8	21.1	5.0	49.1	9.9	18.0
Max Q Clear Time (g_c+I1), s	4.1	30.7	6.0	12.9	3.6	40.2	10.7	9.7
Green Ext Time (p_c), s	0.0	5.3	0.0	0.7	0.0	4.2	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	30.8
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	855	1	0	1155
Future Vol, veh/h	0	1	855	1	0	1155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	881	1	0	1191

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	882	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	348	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	348	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	348	-
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	15.4	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	25	840	15	40	1105
Future Vol, veh/h	15	25	840	15	40	1105
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	1	8	0	1
Mvmt Flow	15	26	857	15	41	1128

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2067	857	0	0	872	0
Stage 1	857	-	-	-	-	-
Stage 2	1210	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	61	360	-	-	782	-
Stage 1	419	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	52	360	-	-	782	-
Mov Cap-2 Maneuver	52	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	245	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	54.5	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	112	782	-
HCM Lane V/C Ratio	-	-	0.364	0.052	-
HCM Control Delay (s)	-	-	54.5	9.9	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	855	1	0	1120
Future Vol, veh/h	0	1	855	1	0	1120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	864	1	0	1131

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	85	10	765	5	0	1105	15
Future Vol, veh/h	5	0	5	0	0	85	10	765	5	0	1105	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	1	0	2	0	0	1	0
Mvmt Flow	5	0	5	0	0	86	10	773	5	0	1116	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1960	1917	1124	-	-	776	1131	0	0	-	-	0
Stage 1	1124	1124	-	-	-	-	-	-	-	-	-	-
Stage 2	836	793	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.21	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.309	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	48	68	252	0	0	399	625	-	-	0	-	-
Stage 1	252	283	-	0	0	-	-	-	-	0	-	-
Stage 2	364	403	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	37	66	252	-	-	399	625	-	-	-	-	-
Mov Cap-2 Maneuver	37	66	-	-	-	-	-	-	-	-	-	-
Stage 1	245	283	-	-	-	-	-	-	-	-	-	-
Stage 2	278	392	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	70.3	16.5	0.1	0
HCM LOS	F	C		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWT	SWR
Capacity (veh/h)	625	-	- 399	65	-	-
HCM Lane V/C Ratio	0.016	-	- 0.215	0.155	-	-
HCM Control Delay (s)	10.9	0	- 16.5	70.3	-	-
HCM Lane LOS	B	A	- C	F	-	-
HCM 95th %tile Q(veh)	0	-	- 0.8	0.5	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	25	755	20	85	1025
Future Vol, veh/h	5	25	755	20	85	1025
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	5	26	778	21	88	1057

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2022	789	0	0	799	0
Stage 1	789	-	-	-	-	-
Stage 2	1233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	65	394	-	-	833	-
Stage 1	451	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	48	394	-	-	833	-
Mov Cap-2 Maneuver	48	-	-	-	-	-
Stage 1	451	-	-	-	-	-
Stage 2	207	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	29.3	0	0.8
HCM LOS	D		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	179	833	-
HCM Lane V/C Ratio	-	-	0.173	0.105	-
HCM Control Delay (s)	-	-	29.3	9.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.4	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	705	5	110	920	5	70
Future Vol, veh/h	705	5	110	920	5	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	0	1	0	0	1
Mvmt Flow	734	5	115	958	5	73

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	739	0	1925	737
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	1188	-
Critical Hdwy	-	-	4.11	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	872	-	74	420
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	292	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	872	-	53	420
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	210	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	22.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	287	-	-	872	-
HCM Lane V/C Ratio	0.272	-	-	0.131	-
HCM Control Delay (s)	22.2	-	-	9.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.5	-

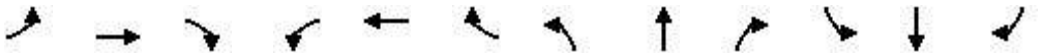
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	1	10	25	5	5	1	690	55	5	895	25
Future Vol, veh/h	15	1	10	25	5	5	1	690	55	5	895	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	2	0
Mvmt Flow	16	1	11	27	5	5	1	734	59	5	952	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1733	1757	952	1748	1755	764	979	0	0	793	0	0
Stage 1	962	962	-	766	766	-	-	-	-	-	-	-
Stage 2	771	795	-	982	989	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	70	86	317	68	86	407	713	-	-	837	-	-
Stage 1	310	337	-	398	415	-	-	-	-	-	-	-
Stage 2	396	402	-	302	327	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	65	85	317	64	85	407	713	-	-	837	-	-
Mov Cap-2 Maneuver	65	85	-	64	85	-	-	-	-	-	-	-
Stage 1	309	333	-	397	414	-	-	-	-	-	-	-
Stage 2	385	401	-	287	323	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	57.8	91.3	0	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	713	-	-	95	76	837	-	-
HCM Lane V/C Ratio	0.001	-	-	0.291	0.49	0.006	-	-
HCM Control Delay (s)	10.1	0	-	57.8	91.3	9.3	0	-
HCM Lane LOS	B	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	2	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	195	10	50	235	25	20	510	85	150	630	150
Future Volume (veh/h)	210	195	10	50	235	25	20	510	85	150	630	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1900	1737	1900	1885	1900	1900	1870	1900	1870	1870	1900
Adj Flow Rate, veh/h	223	207	11	53	250	0	21	543	90	160	670	160
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	0	11	0	1	0	0	2	0	2	2	0
Cap, veh/h	212	197	10	59	276		40	675	581	228	733	631
Arrive On Green	0.23	0.23	0.23	0.18	0.18	0.00	0.01	0.12	0.12	0.05	0.39	0.39
Sat Flow, veh/h	933	866	46	327	1542	1610	1810	1870	1610	1781	1870	1610
Grp Volume(v), veh/h	441	0	0	303	0	0	21	543	90	160	670	160
Grp Sat Flow(s),veh/h/ln	1845	0	0	1869	0	1610	1810	1870	1610	1781	1870	1610
Q Serve(g_s), s	22.7	0.0	0.0	15.9	0.0	0.0	1.2	28.3	5.0	5.3	34.0	6.7
Cycle Q Clear(g_c), s	22.7	0.0	0.0	15.9	0.0	0.0	1.2	28.3	5.0	5.3	34.0	6.7
Prop In Lane	0.51		0.02	0.17		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	419	0	0	335	0		40	675	581	228	733	631
V/C Ratio(X)	1.05	0.00	0.00	0.90	0.00		0.53	0.80	0.15	0.70	0.91	0.25
Avail Cap(c_a), veh/h	419	0	0	338	0		90	675	581	228	733	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	0.0	0.0	40.2	0.0	0.0	49.1	40.6	30.4	25.3	28.8	20.5
Incr Delay (d2), s/veh	58.6	0.0	0.0	26.4	0.0	0.0	10.3	9.9	0.6	9.2	17.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.9	0.0	0.0	9.7	0.0	0.0	0.6	15.9	2.1	2.9	18.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.2	0.0	0.0	66.6	0.0	0.0	59.4	50.5	30.9	34.5	46.8	21.5
LnGrp LOS	F	A	A	E	A		E	D	C	C	D	C
Approach Vol, veh/h		441			303			654			990	
Approach Delay, s/veh		97.2			66.6			48.1			40.7	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	40.6		27.2	6.7	43.7		22.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.3	35.9		22.7	5.0	36.2		18.1				
Max Q Clear Time (g_c+I1), s	7.3	30.3		24.7	3.2	36.0		17.9				
Green Ext Time (p_c), s	0.0	1.8		0.0	0.0	0.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		56.4	
HCM 6th LOS		E	

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	15	0	0	1	0	615	1	0	685	5
Future Vol, veh/h	0	0	15	0	0	1	0	615	1	0	685	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	0	0	16	0	0	1	0	676	1	0	753	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	379	-	-	676	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	625	0	0	457	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	625	-	-	457	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	12.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	625	457	-	-
HCM Lane V/C Ratio	-	-	0.026	0.002	-	-
HCM Control Delay (s)	-	-	10.9	12.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	30	5	600	670	30
Future Vol, veh/h	15	30	5	600	670	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	16	32	5	645	720	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1375	720	752	0	-	0
Stage 1	720	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	162	431	867	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	431	867	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	521	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	867	-	276	-	-
HCM Lane V/C Ratio	0.006	-	0.175	-	-
HCM Control Delay (s)	9.2	0	20.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

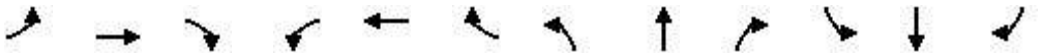
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	565	25	30	670
Future Vol, veh/h	5	40	565	25	30	670
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	2	0	4	1
Mvmt Flow	5	43	608	27	32	720

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1046	622	0	0	635	0
Stage 1	622	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Critical Hdwy	6.6	6.23	-	-	4.16	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.319	-	-	2.238	-
Pot Cap-1 Maneuver	241	486	-	-	935	-
Stage 1	539	-	-	-	-	-
Stage 2	634	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	227	486	-	-	935	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	539	-	-	-	-	-
Stage 2	598	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	431	935	-
HCM Lane V/C Ratio	-	-	0.112	0.035	-
HCM Control Delay (s)	-	-	14.4	9	0.2
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	635	15	190	520	115	25	445	160	220	435	20
Future Volume (veh/h)	30	635	15	190	520	115	25	445	160	220	435	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1841	1885	1870	1900	1856	1885	1885	1885	1900
Adj Flow Rate, veh/h	31	661	16	198	542	120	26	464	167	229	453	21
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	4	1	2	0	3	1	1	1	0
Cap, veh/h	52	597	14	203	552	122	47	438	158	226	708	33
Arrive On Green	0.03	0.32	0.32	0.08	0.37	0.37	0.03	0.34	0.34	0.03	0.13	0.13
Sat Flow, veh/h	1810	1847	45	1753	1495	331	1810	1302	469	1795	1787	83
Grp Volume(v), veh/h	31	0	677	198	0	662	26	0	631	229	0	474
Grp Sat Flow(s),veh/h/ln	1810	0	1892	1753	0	1826	1810	0	1771	1795	0	1870
Q Serve(g_s), s	1.7	0.0	32.3	7.4	0.0	35.9	1.4	0.0	33.6	8.6	0.0	24.0
Cycle Q Clear(g_c), s	1.7	0.0	32.3	7.4	0.0	35.9	1.4	0.0	33.6	8.6	0.0	24.0
Prop In Lane	1.00		0.02	1.00		0.18	1.00		0.26	1.00		0.04
Lane Grp Cap(c), veh/h	52	0	611	203	0	674	47	0	595	226	0	741
V/C Ratio(X)	0.59	0.00	1.11	0.97	0.00	0.98	0.56	0.00	1.06	1.01	0.00	0.64
Avail Cap(c_a), veh/h	90	0	611	203	0	674	92	0	595	226	0	741
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	33.9	25.0	0.0	31.2	48.2	0.0	33.2	29.5	0.0	36.7
Incr Delay (d2), s/veh	10.3	0.0	69.6	55.2	0.0	30.1	10.1	0.0	53.9	62.8	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	26.4	5.9	0.0	20.1	0.8	0.0	22.6	7.8	0.0	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	0.0	103.5	80.1	0.0	61.4	58.2	0.0	87.1	92.3	0.0	40.9
LnGrp LOS	E	A	F	F	A	E	E	A	F	F	A	D
Approach Vol, veh/h		708			860			657			703	
Approach Delay, s/veh		101.5			65.7			86.0			57.6	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	38.1	12.0	36.8	7.1	44.1	7.4	41.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.6	33.6	7.5	32.3	5.1	37.1	5.0	34.8
Max Q Clear Time (g_c+I1), s	10.6	35.6	9.4	34.3	3.4	26.0	3.7	37.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	77.0
HCM 6th LOS	E

Appendix H

Intersection Control Evaluation (ICE) Stage 1 Results

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Fairington Rd | Road Class: Local | Speed Limit: 40 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/20/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	7%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

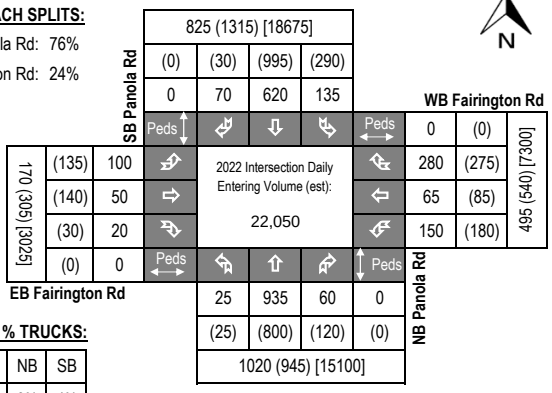
[000] = ADT Volume (Estimate)

2022 EXISTING YEAR VOLUMES

APPROACH SPLITS:

Panola Rd: 76%

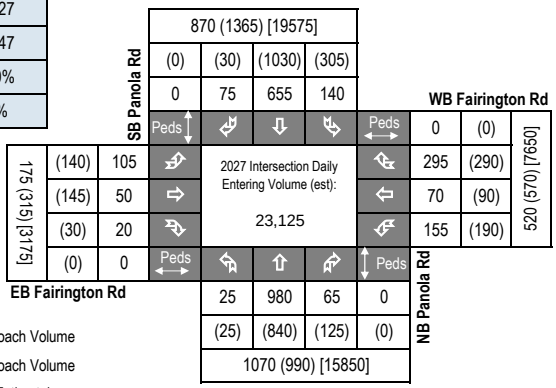
Fairington Rd: 24%



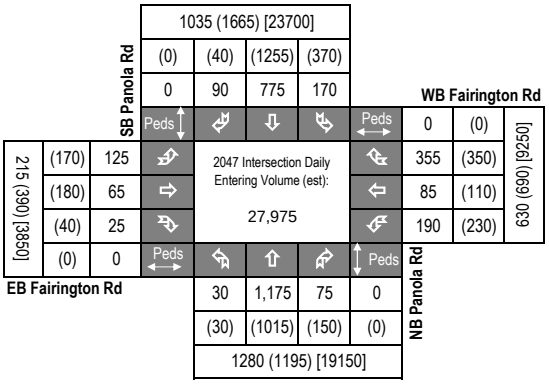
PEAK HR % TRUCKS:

EB	WB	NB	SB
2%	4%	6%	4%

2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Fairington Rd
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/20/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Not Applicable
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	No	**Yes**	No	Does not fit within Right of way, High traffic volumes with multi-lane
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Not Applicable
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	Change Pm+Pt in EB and WB direction to Prot.
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	H
	Add LT Lanes on Fairington Rd No RT Lane Improvements	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate. Add one left turn lane on WB approach,
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#:		Request By:			
County:	DeKalb	GDOT District: 7 - Metro Atlanta			
Major Road:	Panola Rd	Road Class:	Minor Arterial	Speed Limit:	45 mph
Crossing Road:	Strip Mall DWY	Road Class:	Local	Speed Limit:	< 35 mph
Major Rd Direction:	North/South	Area Type:	Urban		
Intersection Control:	Conventional (Minor Stop)			Project ID:	
Prepared By:	Arcadis			Date:	9/20/2022
Project Purpose:					

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	7%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

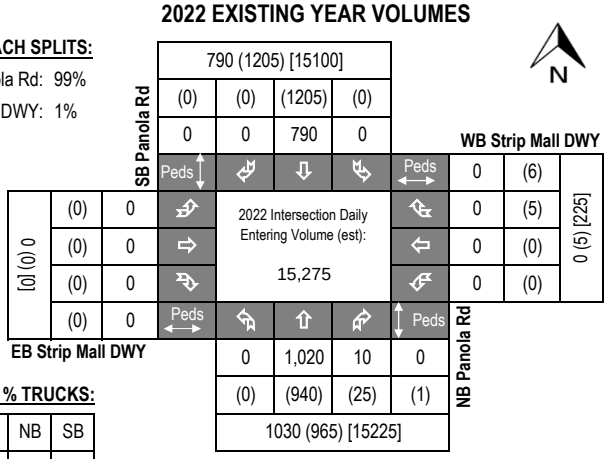
Panola Rd: 99%

Strip Mall DWY: 1%

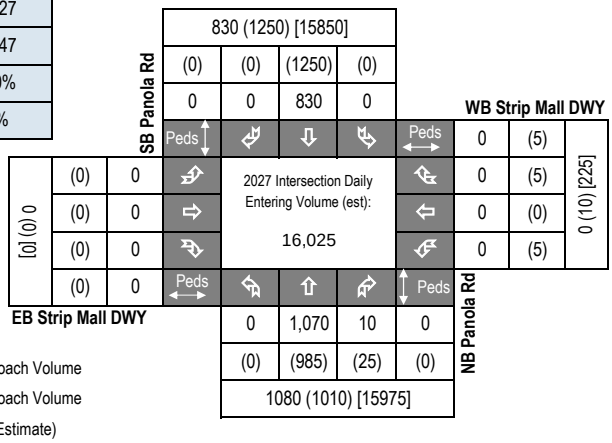
PEAK HR % TRUCKS:

EB	WB	NB	SB
1%	4%	3%	3%

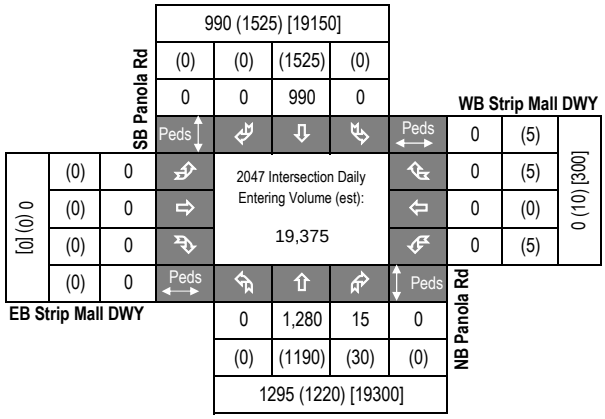
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

[000] = ADT Volume (Estimate)

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Strip Mall DWY
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/20/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Not Applicable
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Not Applicable
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
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	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Dental Off DWY | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/20/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	7%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

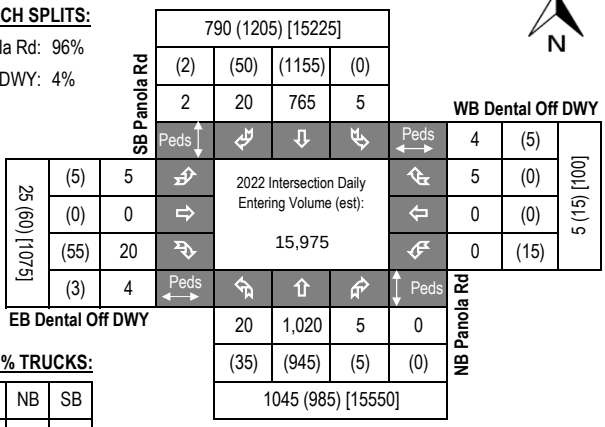
Panola Rd: 96%

Dental Off DWY: 4%

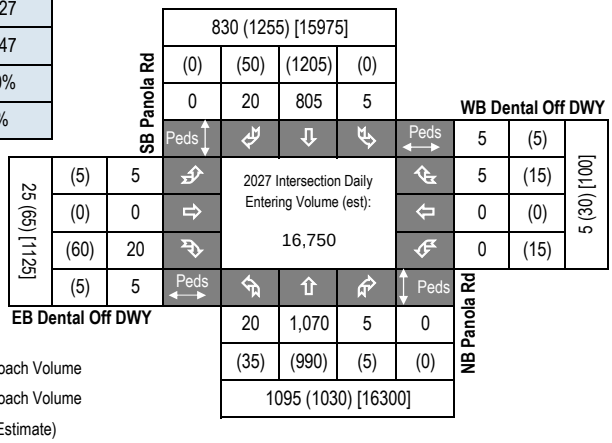
PEAK HR % TRUCKS:

EB	WB	NB	SB
5%	1%	3%	3%

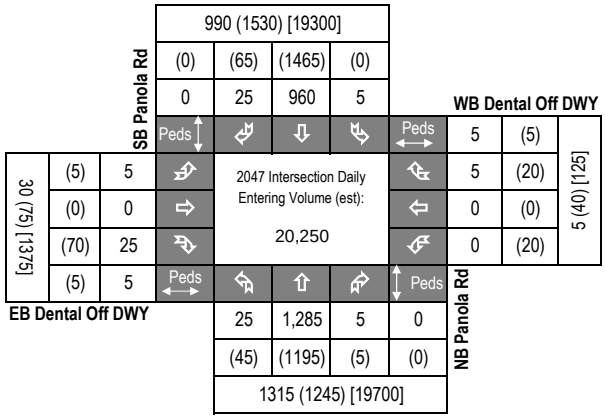
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Dental Off DWY
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/20/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

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	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
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	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Ihop DWY | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/20/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	7%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

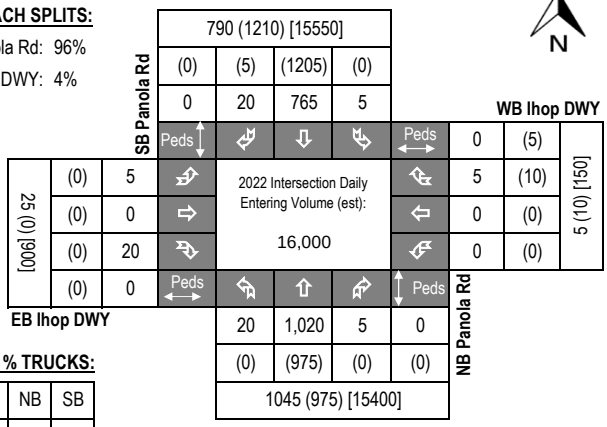
Panola Rd: 96%

Ihop DWY: 4%

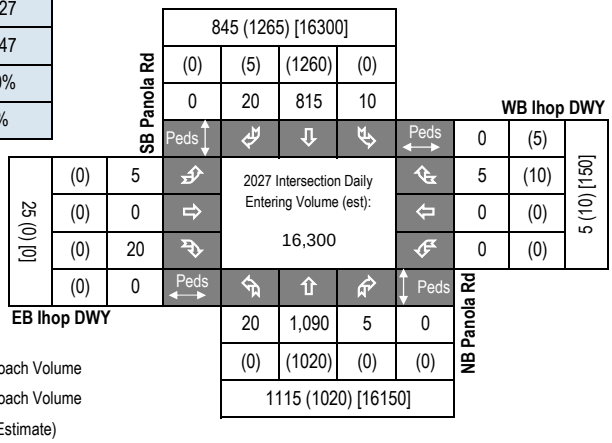
PEAK HR % TRUCKS:

EB	WB	NB	SB
1%	9%	3%	3%

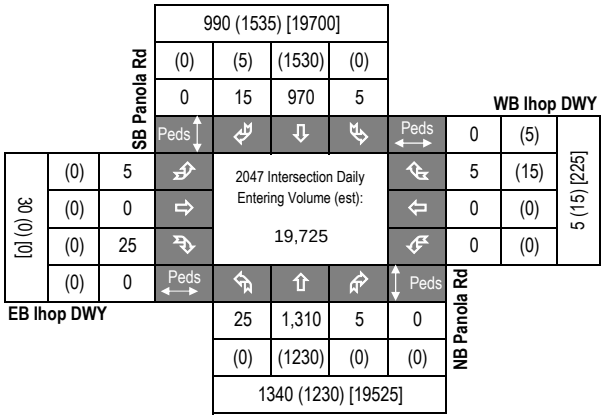
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

[000] = ADT Volume (Estimate)

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "**Waiver**" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

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Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Ihop DWY
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/20/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Not Applicable
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Not Applicable
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
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GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Boa - Lowes | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/26/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

[000] = ADT Volume (Estimate)

APPROACH SPLITS:

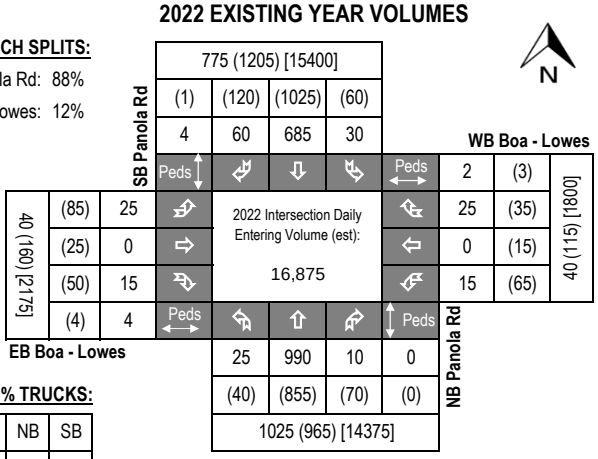
Panola Rd: 88%

Boa - Lowes: 12%

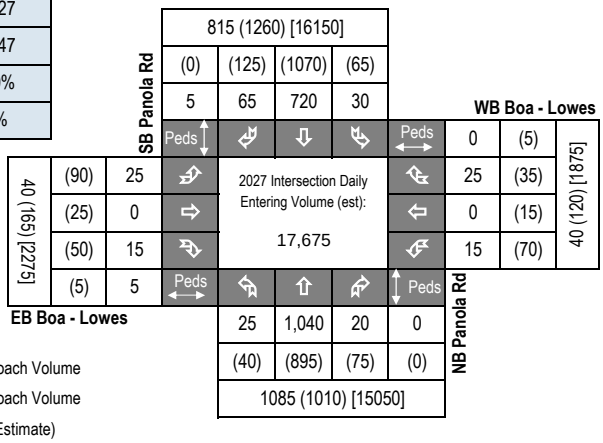
PEAK HR % TRUCKS:

EB	WB	NB	SB
3%	3%	3%	3%

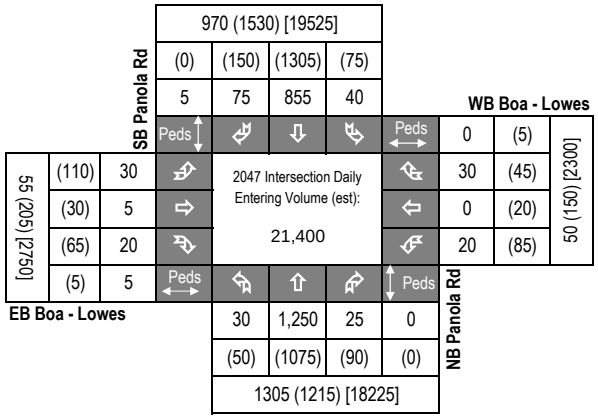
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Boa - Lowes
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/26/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Not Applicable
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	No	No	No	Does not fit within Right of way, High traffic volumes with multi-lane
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Not Applicable
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	Change Pm+Pt in NB and SB direction to Prot.
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
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	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Publix DWY S | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/23/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

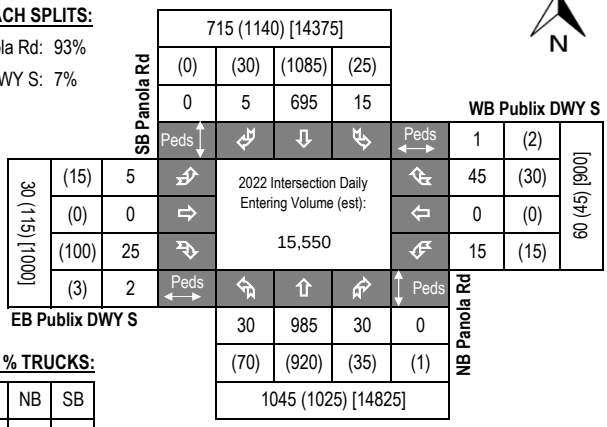
Panola Rd: 93%

Publix DWY S: 7%

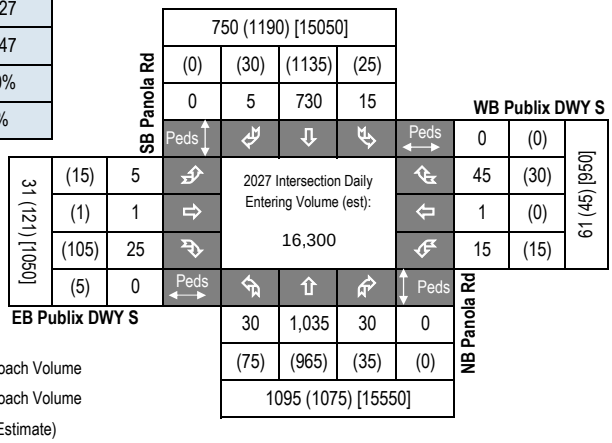
PEAK HR % TRUCKS:

EB	WB	NB	SB
3%	3%	3%	3%

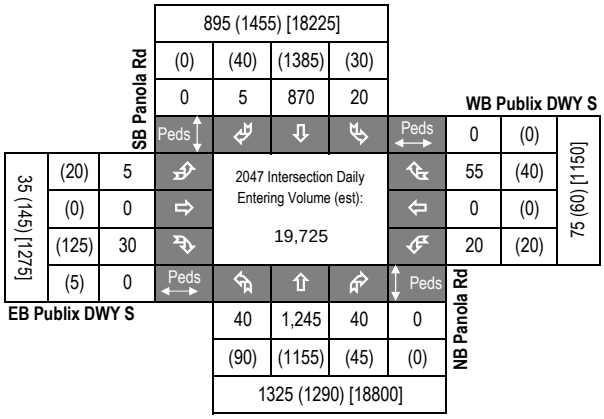
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

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Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Publix DWY S
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/23/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Not Applicable
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: LBV | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/26/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

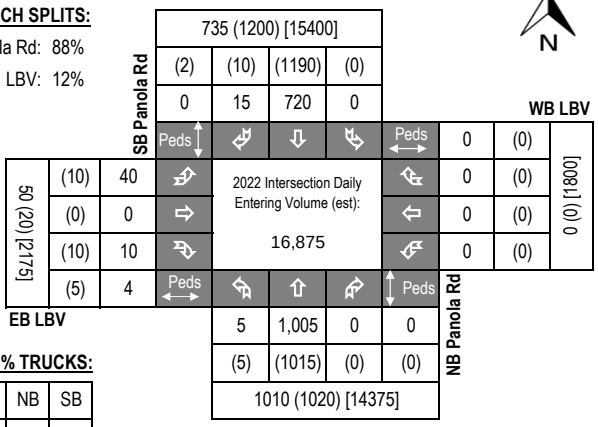
[000] = ADT Volume (Estimate)

2022 EXISTING YEAR VOLUMES

APPROACH SPLITS:

Panola Rd: 88%

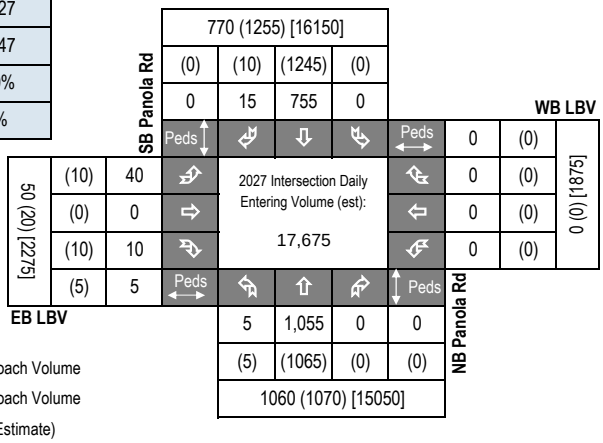
LBV: 12%



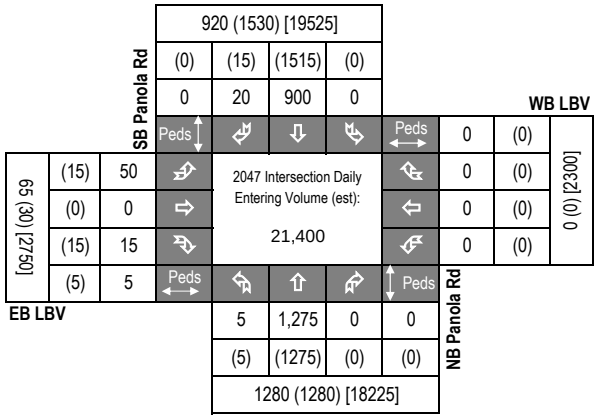
PEAK HR % TRUCKS:

EB	WB	NB	SB
1%	1%	3%	3%

2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "**Waiver**" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

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Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ LBV
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/26/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Not Applicable
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: W Fairington | Road Class: Local | Speed Limit: 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/20/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

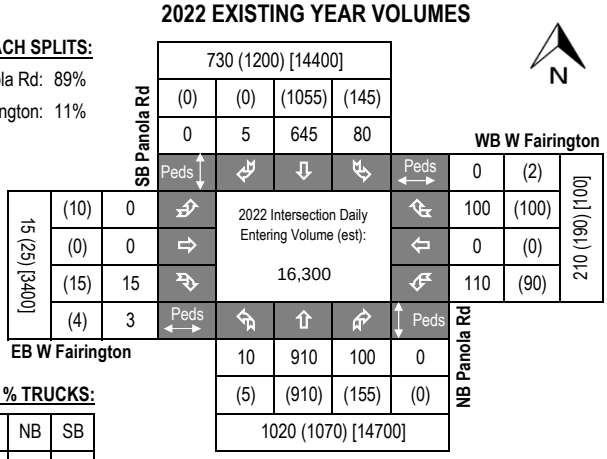
Panola Rd: 89%

W Fairington: 11%

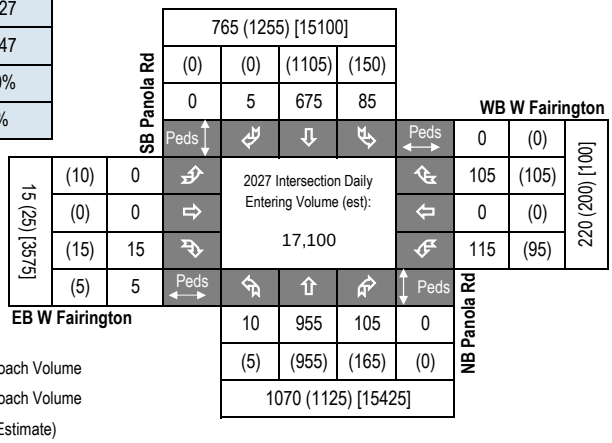
PEAK HR % TRUCKS:

EB	WB	NB	SB
1%	4%	3%	3%

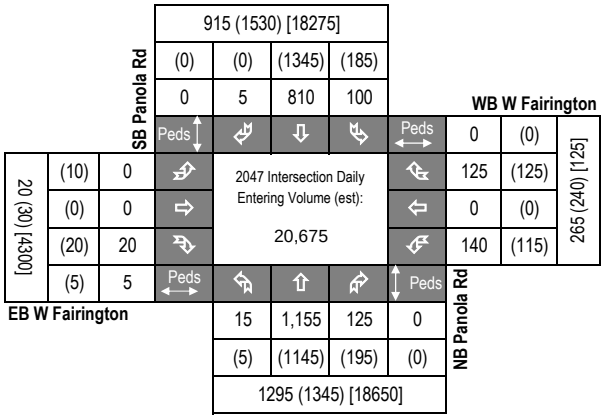
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ W Fairington
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/20/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
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	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	No	No	No	Does not fit within Right of way, High traffic volumes with multi-lane
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Not Applicable
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
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	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
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GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Cavalier | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/26/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

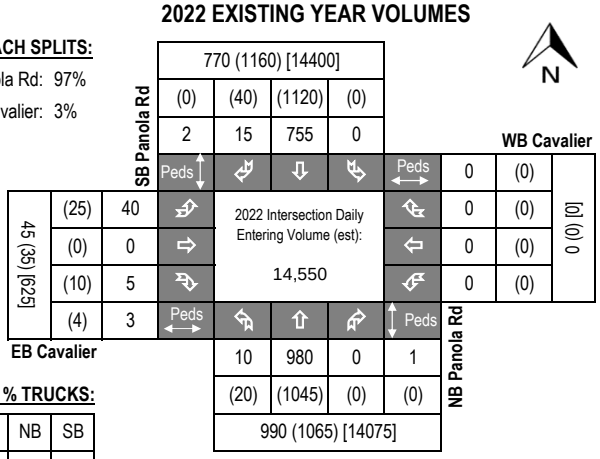
Panola Rd: 97%

Cavalier: 3%

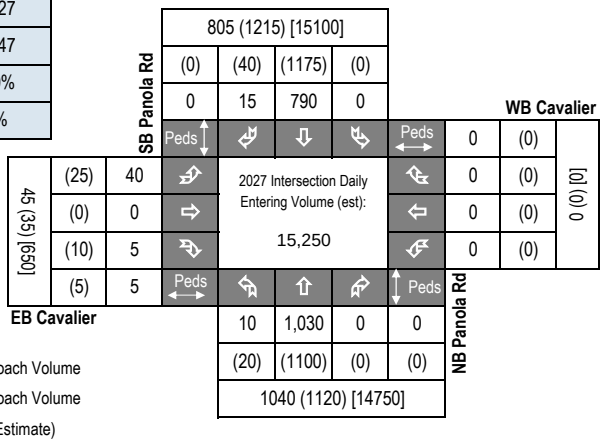
PEAK HR % TRUCKS:

EB	WB	NB	SB
3%	3%	3%	3%

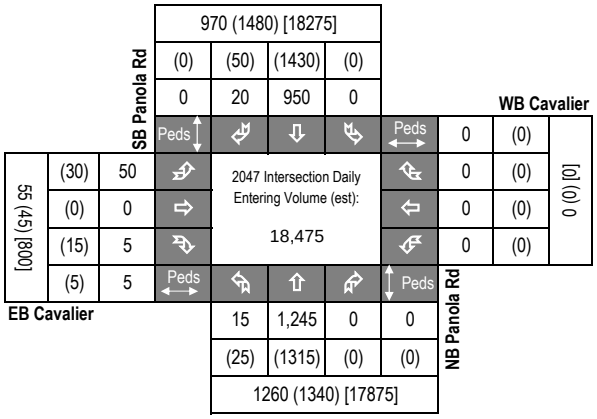
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



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Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Cavalier
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/26/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements Add RT Lanes on Cavalier	**Yes**	**Yes**	**Yes**	**Yes**	No	**Yes**	No	Unfeasible to accommodate additional lane
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Not Applicable
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#:		Request By:			
County:	DeKalb	GDOT District: 7 - Metro Atlanta			
Major Road:	Panola Rd	Road Class:	Minor Arterial	Speed Limit:	45 mph
Crossing Road:	Thomson Mill Rd	Road Class:	Local	Speed Limit:	40 mph
Major Rd Direction:	North/South	Area Type:	Urban		
Intersection Control:	Conventional (Minor Stop)			Project ID:	
Prepared By:	Arcadis			Date:	9/26/2022
Project Purpose:					

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

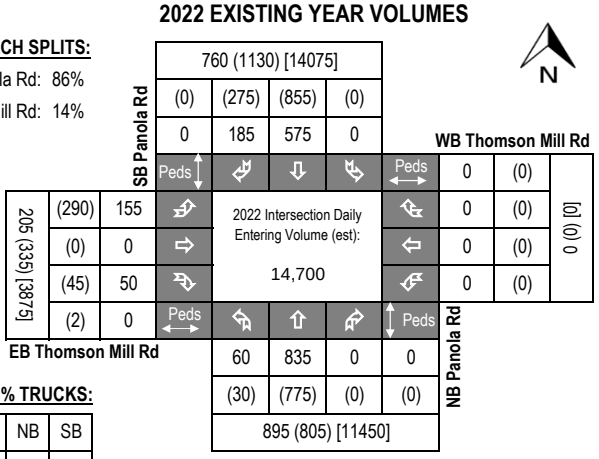
Panola Rd: 86%

Thomson Mill Rd: 14%

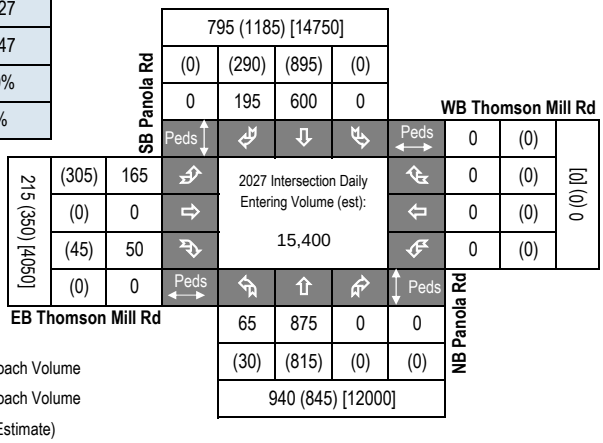
PEAK HR % TRUCKS:

EB	WB	NB	SB
3%	1%	3%	3%

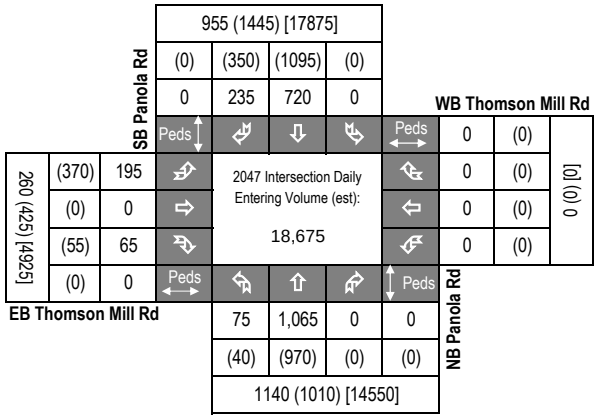
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

[000] = ADT Volume (Estimate)

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "**Waiver**" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1: Screening Decision Record Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Thomson Mill Rd
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/26/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Not Applicable
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Not Applicable
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements Add RT Lanes on Thomson Mill Rd	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on Thomson Mill Rd No RT Lane Improvements	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: WinslowCrossing | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/26/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

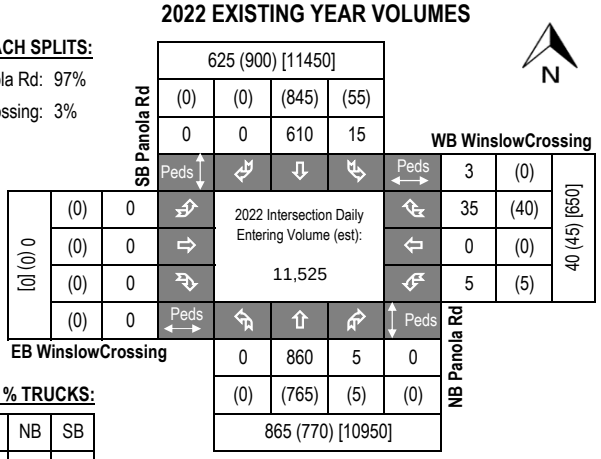
Panola Rd: 97%

WinslowCrossing: 3%

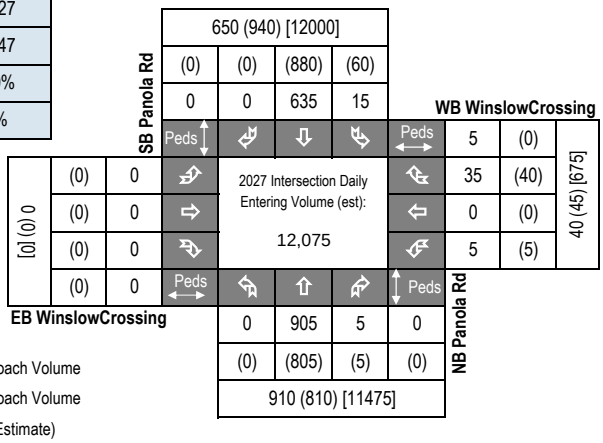
PEAK HR % TRUCKS:

EB	WB	NB	SB
1%	6%	3%	3%

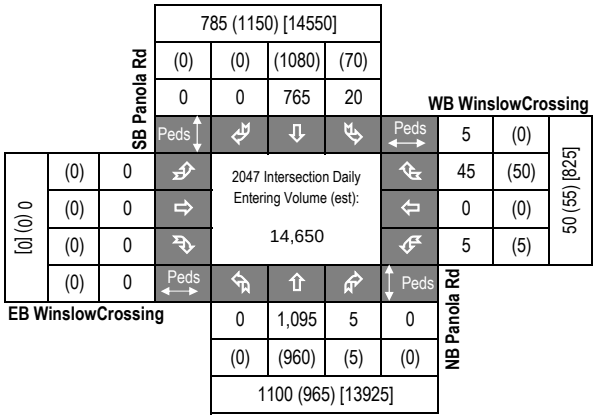
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

[000] = ADT Volume (Estimate)

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ WinslowCrossing
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/26/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Not Applicable
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Not Applicable
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements Add RT Lanes on WinslowCrossing	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Not Applicable
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 35 mph

Crossing Road: Panola Mill Dr. | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/26/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

[000] = ADT Volume (Estimate)

2022 EXISTING YEAR VOLUMES

APPROACH SPLITS:

Panola Rd: 94%

Panola Mill Dr.: 6%

				615 (850) [10725]							
				(0)	(30)	(820)	(0)				
				0	15	600	0			WB Panola Mill Dr.	
				Peds				Peds	0	(0)	
		(20)	25						0	(0)	
40 (30) [900]		(0)	0		2022 Intersection Daily Entering Volume (est): 11,525				0	(0)	0 (0) [475]
		(10)	15						0	(0)	
		(1)	0	Peds				Peds	0	(0)	
EB Panola Mill Dr.					5	840	0	0	NB Panola Rd		
					(10)	(750)	(0)	(0)			
					845 (760) [10950]						

SB Panola Rd

PEAK HR % TRUCKS:

EB	WB	NB	SB
11%	1%	3%	3%

2027 OPENING YEAR VOLUMES

				640 (885) [11225]						
				(0)	(30)	(855)	(0)			
				0	15	625	0		WB Panola Mill Dr.	
				Peds				Peds	0	(0)
	(20)	25							0	(0)
40 (30) [0]	(0)	0		2027 Intersection Daily Entering Volume (est): 11,600					0	(0)
	(10)	15							0	(0)
	(0)	0	Peds					Peds	0	(0)
EB Panola Mill Dr.				5	885	0	0	NB Panola Rd		
				(10)	(790)	(0)	(0)			
				890 (800) [11475]						

SB Panola Rd

2047 DESIGN YEAR VOLUMES

				790 (1125) [13625]						
				(0)	(40)	(1045)	(40)			
				0	20	750	20		WB Panola Mill Dr.	
				Peds				Peds	0	(0)
	(25)	30							0	(0)
50 (40) [0]	(0)	0		2047 Intersection Daily Entering Volume (est): 14,075					0	(0)
	(15)	20							0	(0)
	(0)	0	Peds					Peds	0	(0)
EB Panola Mill Dr.				5	1,070	0	0	NB Panola Rd		
				(15)	(940)	(0)	(0)			
				1075 (955) [13925]						

SB Panola Rd

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

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Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "**Waiver**" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Panola Mill Dr.
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/26/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate.
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Not Applicable
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 35 mph

Crossing Road: Panola Mill Dr. | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/26/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

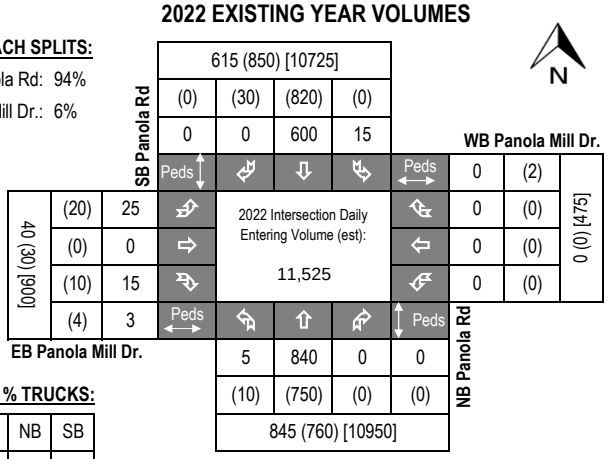
Panola Rd: 94%

Panola Mill Dr.: 6%

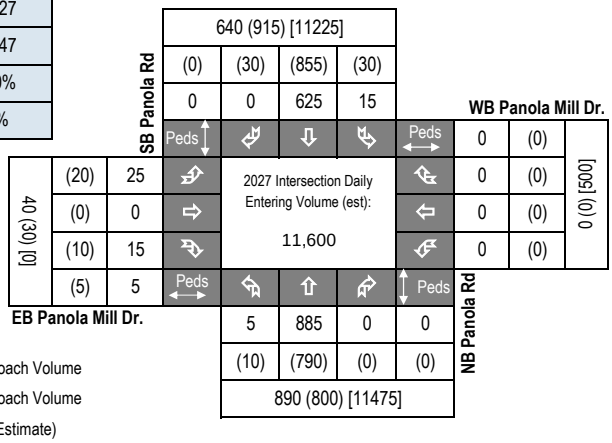
PEAK HR % TRUCKS:

EB	WB	NB	SB
11%	1%	3%	3%

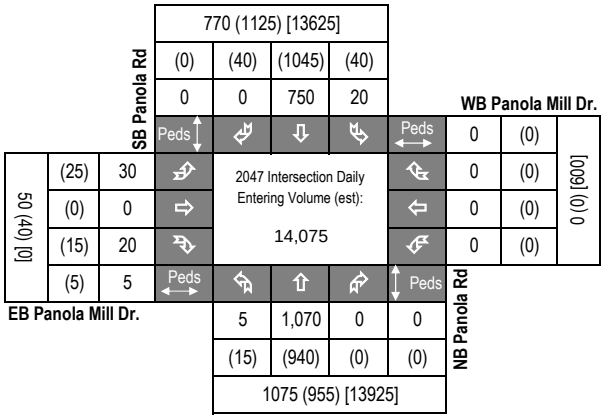
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

[000] = ADT Volume (Estimate)

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Panola Mill Dr.
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/26/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Not Applicable
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
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	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
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▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Black Foot Dr. | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/26/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

Panola Rd: 99%

Black Foot Dr.: 1%

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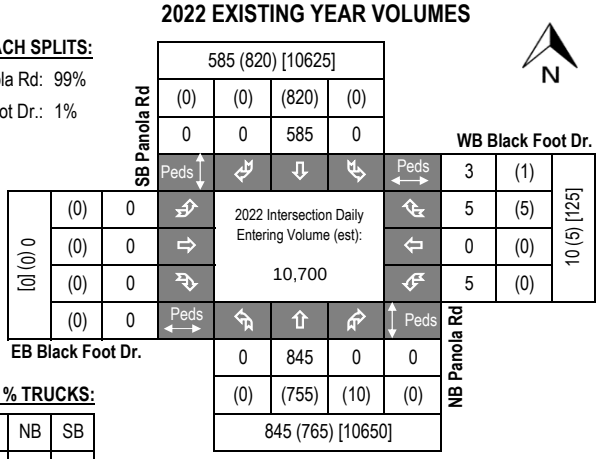
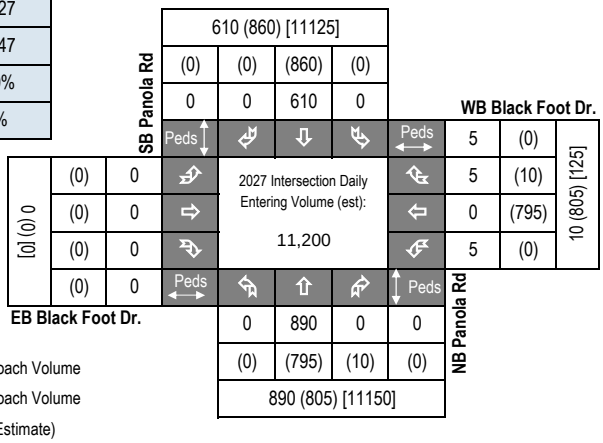
EB	WB	NB	SB
1%	6%	3%	3%

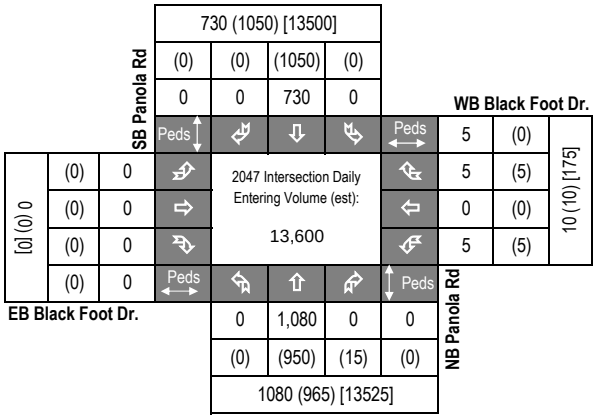
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Black Foot Dr.
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/26/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

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	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
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	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

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GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Rock Springs Rd | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/20/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

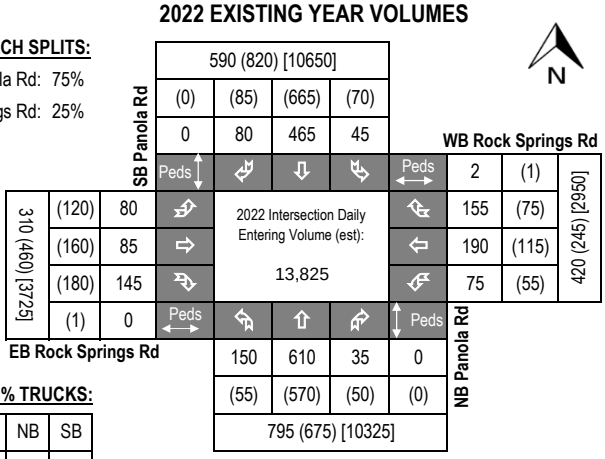
Panola Rd: 75%

Rock Springs Rd: 25%

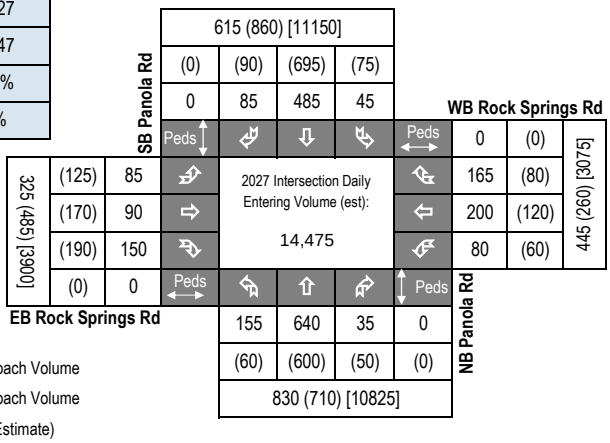
PEAK HR % TRUCKS:

EB	WB	NB	SB
4%	5%	4%	3%

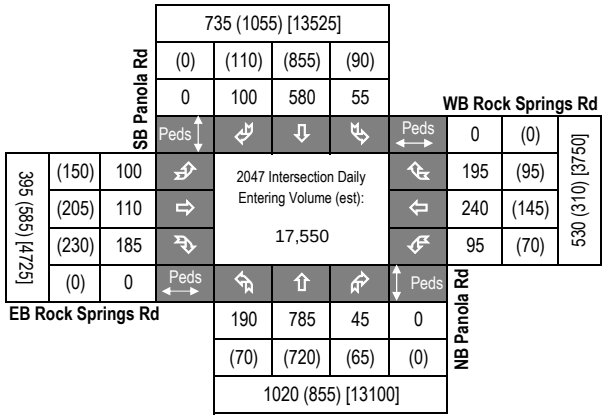
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

000 = AM Peak Approach Volume

(000) = PM Peak Approach Volume

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Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "**Waiver**" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

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Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Rock Springs Rd
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/20/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Not Applicable
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR 22 No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: Salem Rd | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/20/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	8%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

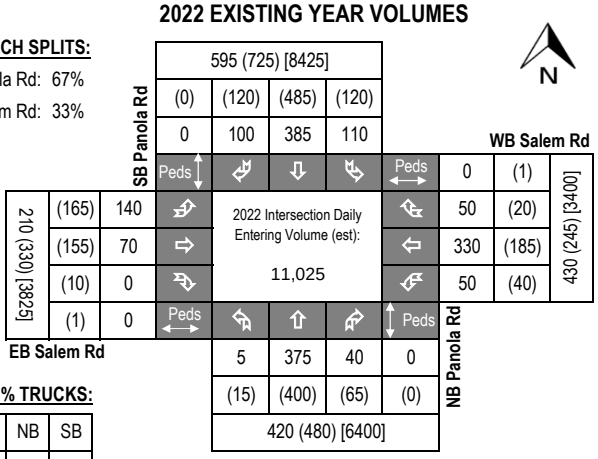
Panola Rd: 67%

Salem Rd: 33%

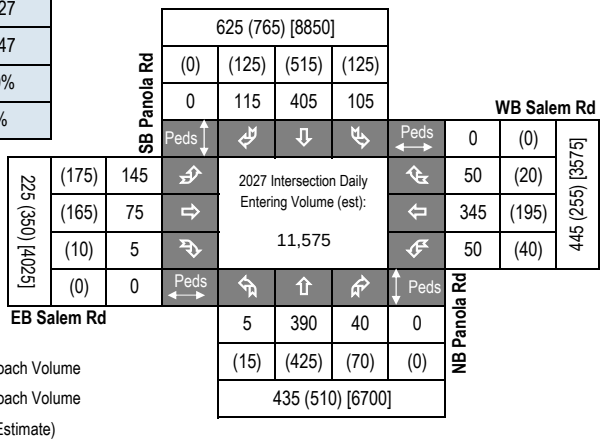
PEAK HR % TRUCKS:

EB	WB	NB	SB
5%	6%	4%	5%

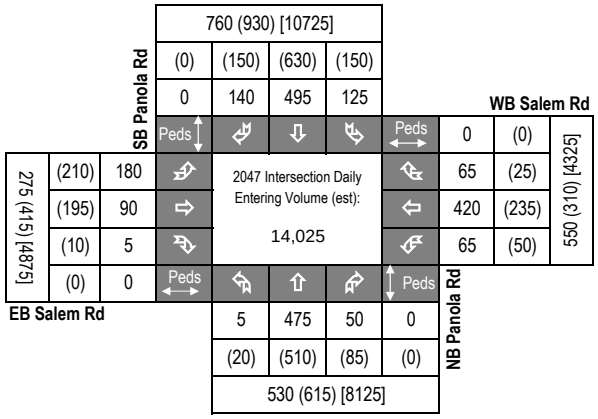
2022 EXISTING YEAR VOLUMES



2027 OPENING YEAR VOLUMES



2047 DESIGN YEAR VOLUMES



LEGEND:

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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ Salem Rd
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/20/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Not Applicable
	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Not Applicable
	High-T (unsignalized)	No	No	No	No	No	No	No	Not Applicable
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on Salem Rd No RT Lane Improvements	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
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	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
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GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.22 | Revised 5/6/2022

GDOT PI#: | Request By:

County: DeKalb | GDOT District: 7 - Metro Atlanta

Major Road: Panola Rd | Road Class: Minor Arterial | Speed Limit: 45 mph

Crossing Road: SR-212 | Road Class: Local | Speed Limit: < 35 mph

Major Rd Direction: North/South | Area Type: Urban

Intersection Control: Conventional (Minor Stop) | Project ID:

Prepared By: Arcadis | Date: 9/20/2022

Project Purpose:

Existing Data Year:	2022
Project Opening Year:	2027
Project Design Year:	2047
Annual Growth Rate:	1.0%
K Factor*:	9%

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

APPROACH SPLITS:

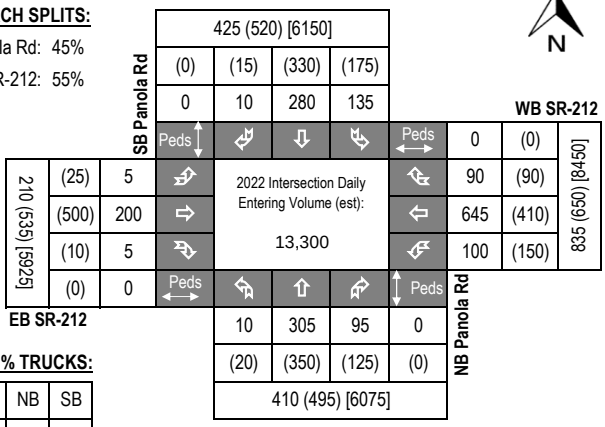
Panola Rd: 45%

SR-212: 55%

PEAK HR % TRUCKS:

EB	WB	NB	SB
2%	4%	6%	4%

2022 EXISTING YEAR VOLUMES



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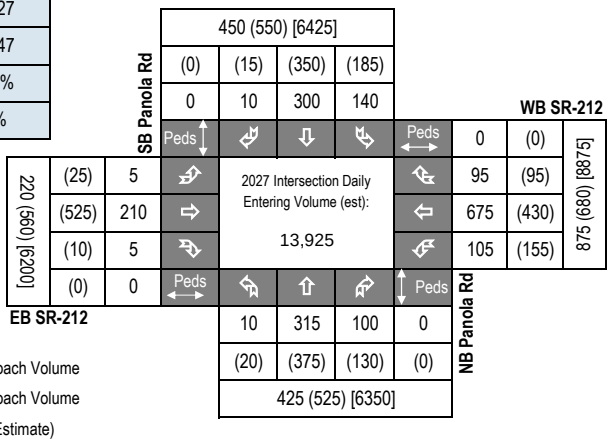
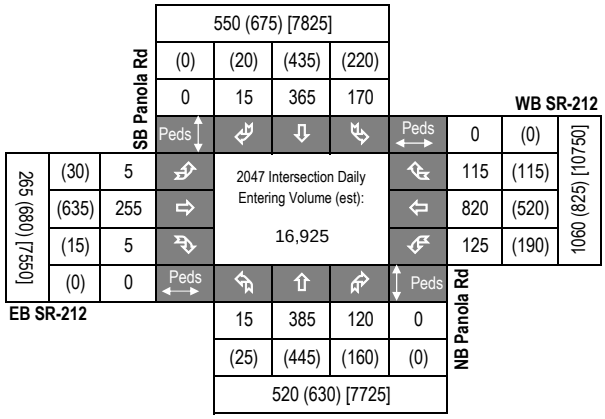


2047 DESIGN YEAR VOLUMES



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GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.22 | Revised 5/6/2022

GDOT PI #	
Project Location:	Panola Rd @ SR-212
Existing Control:	Conventional (Minor Stop)
Prepared by:	Arcadis
Date:	9/20/2022

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	No-Build Condition
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	Mini Roundabout	No	No	No	No	No	No	No	Not Applicable
	Single Lane Roundabout	No	No	No	No	No	No	No	Not Applicable
	Multilane Roundabout	No	No	No	No	No	No	No	Not Applicable
	RCUT (stop control)	No	No	No	No	No	No	No	Not Applicable
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Not Applicable
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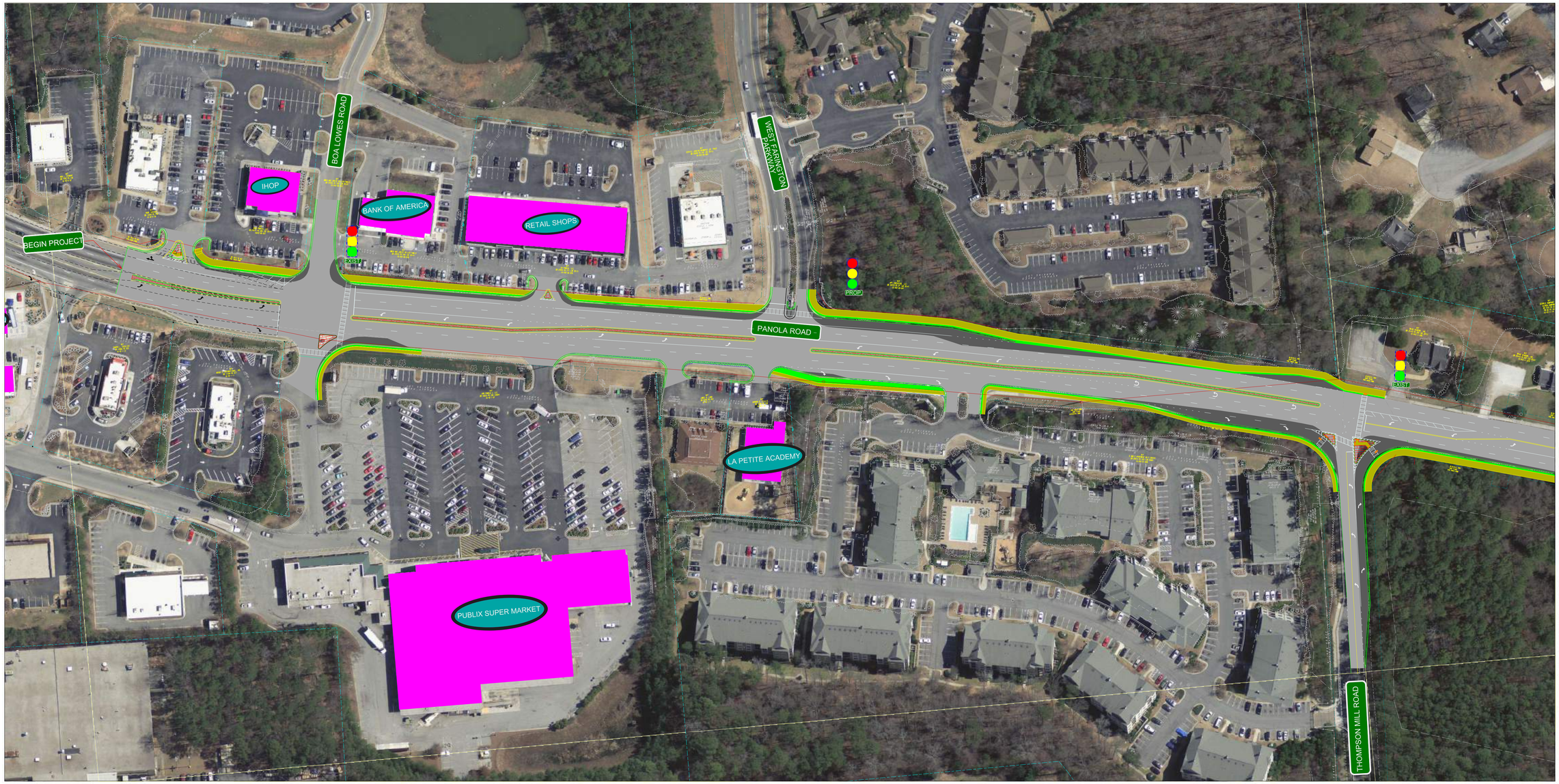
	Offset-T Intersections	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not Applicable
	Add LT Lanes on SR-212 Add RT Lanes on Both Roads	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Not Applicable
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Potential solution to evaluate
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not Applicable
	RCUT (signalized)	No	No	No	No	No	No	No	Not Applicable
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not Applicable
	Continuous Green-T	No	No	No	No	No	No	No	Not Applicable
	Jughandle	No	No	No	No	No	No	No	Not Applicable
	Quadrant Roadway	No	No	No	No	No	No	No	Not Applicable
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not Applicable
	Diverging Diamond	No	No	No	No	No	No	No	Not Applicable
	Single Point Interchange	No	No	No	No	No	No	No	Not Applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	Not Applicable
	Other Signalized (provide description):	No	No	No	No	No	No	No	Not Applicable

▭ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

Appendix I

Proposed Concept Layout (Subject to Change)



EDGE OF PAVEMENT
CURB AND GUTTER
SIDE WALK
EXISTING PAVEMENT
DRIVEWAY
TRANSMISSION LINE TOWER
MEDIAN
PROPOSED PAVEMENT
CENTRAL ISLAND
PAVEMENT REMOVAL
COMMERCIAL BUILDINGS

PANOLA ROAD

DeKalb County GEORGIA

THE CITY OF STONECREST GEORGIA

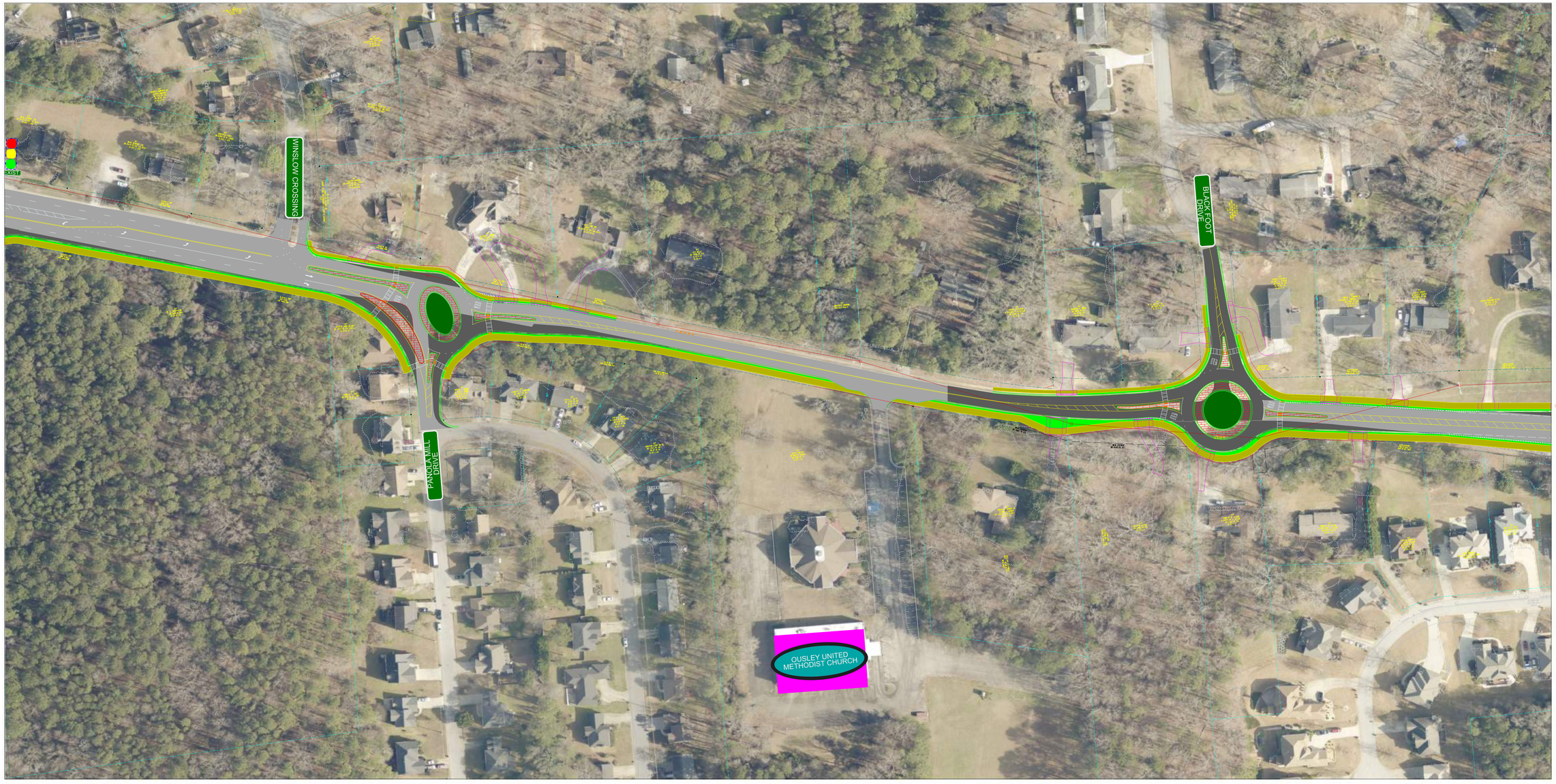
ARCADIS Design & Consultancy for natural and built assets

N

SCALE IN FEET

25 50 75 100

001



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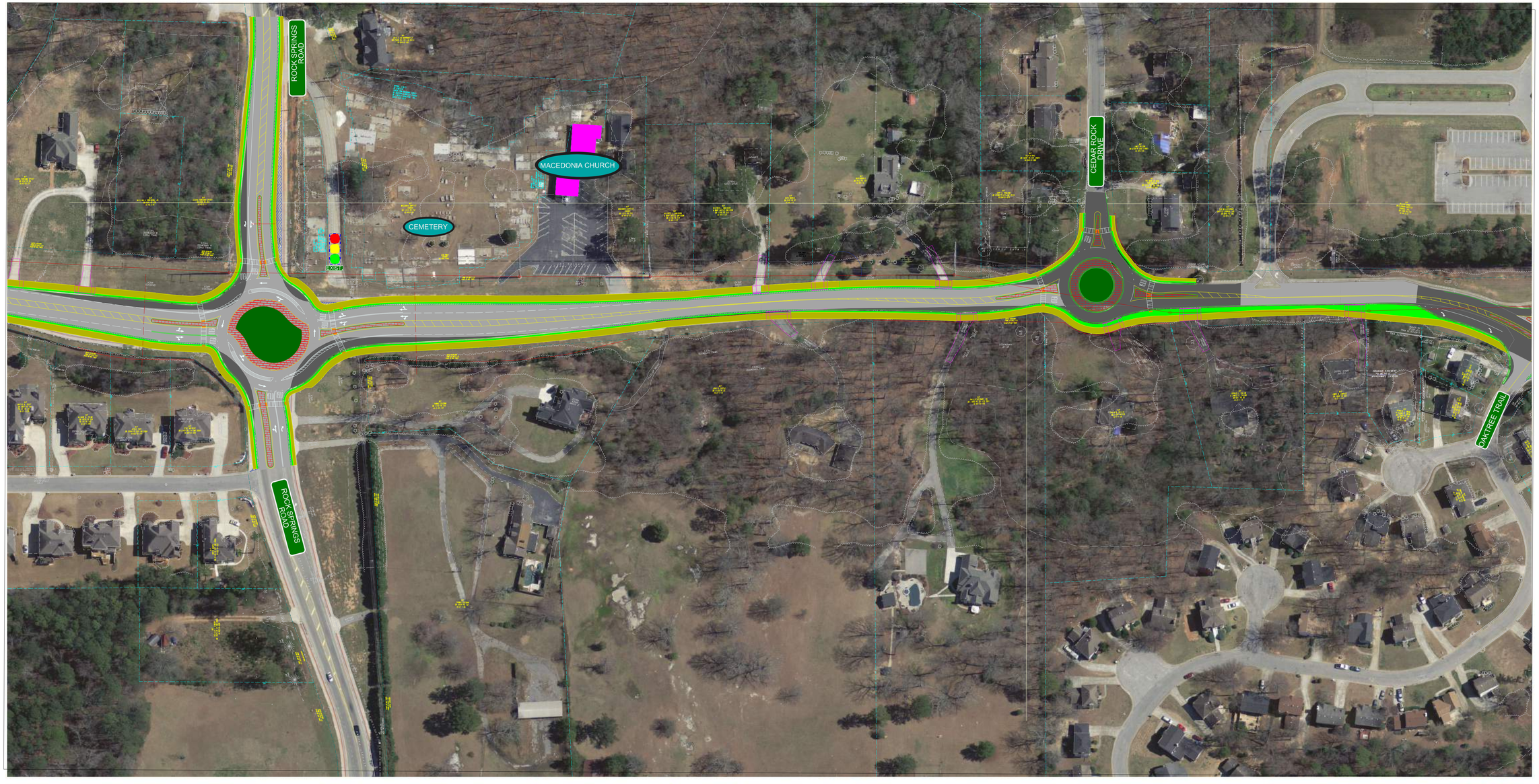

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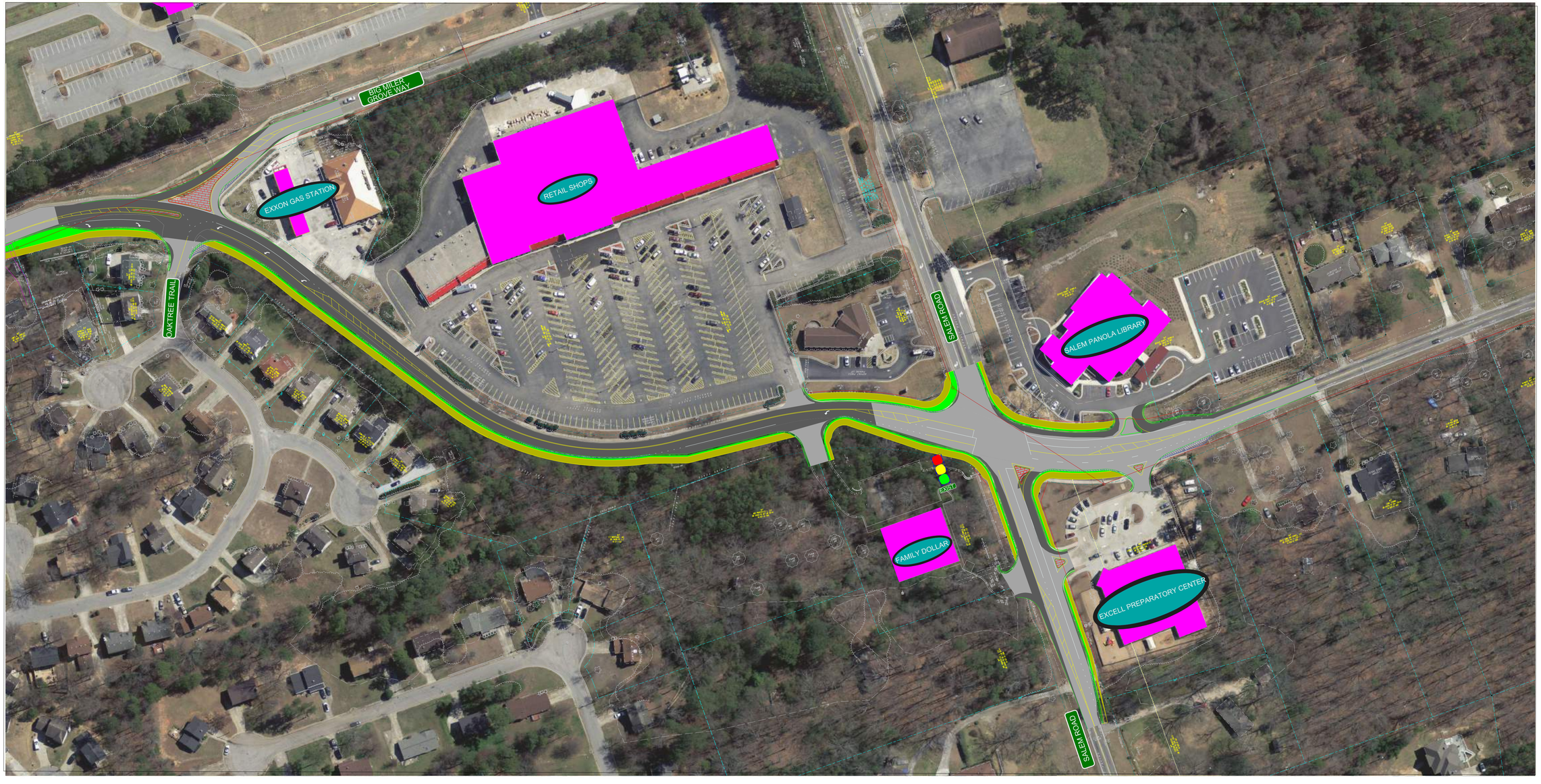

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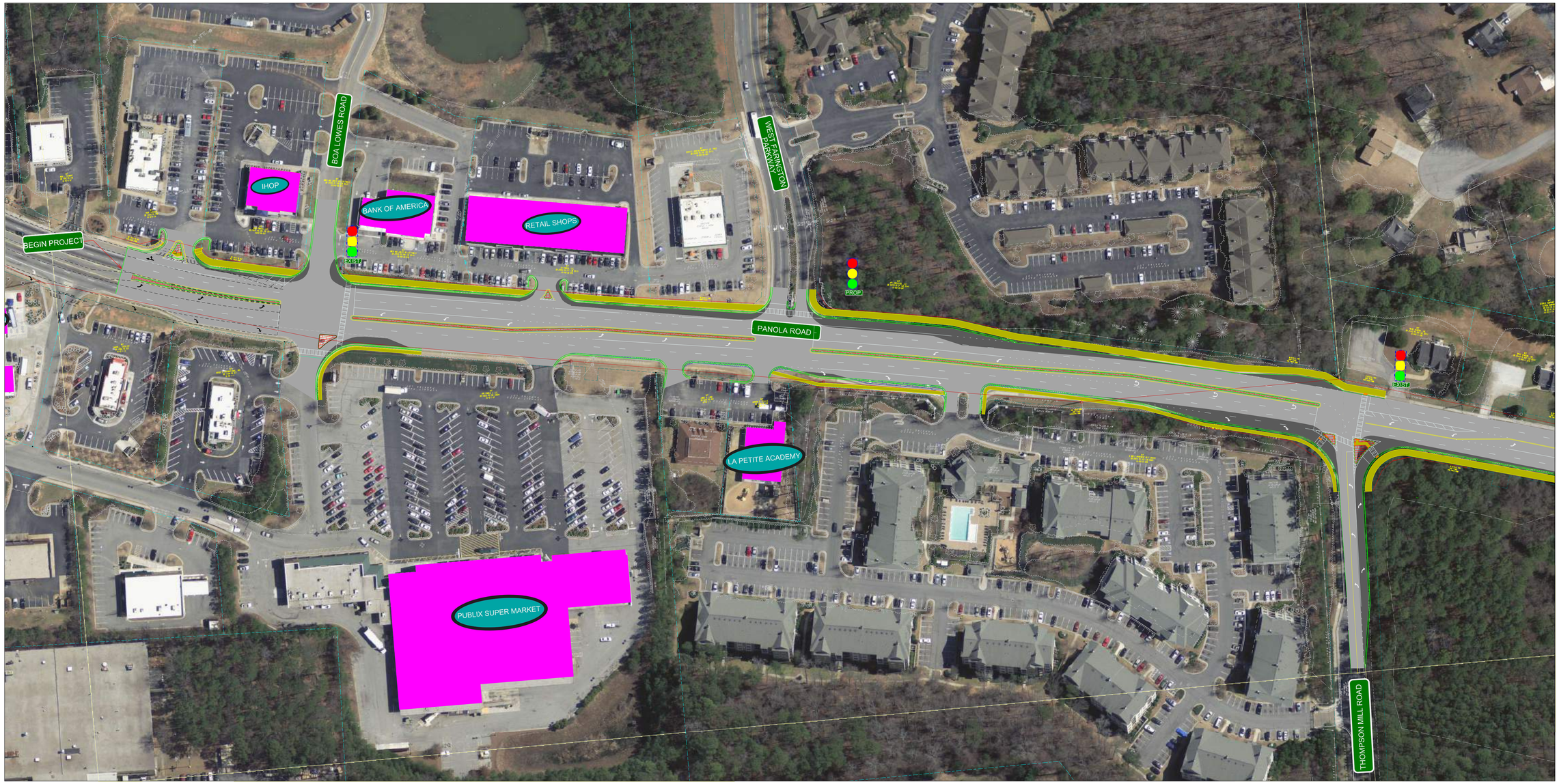

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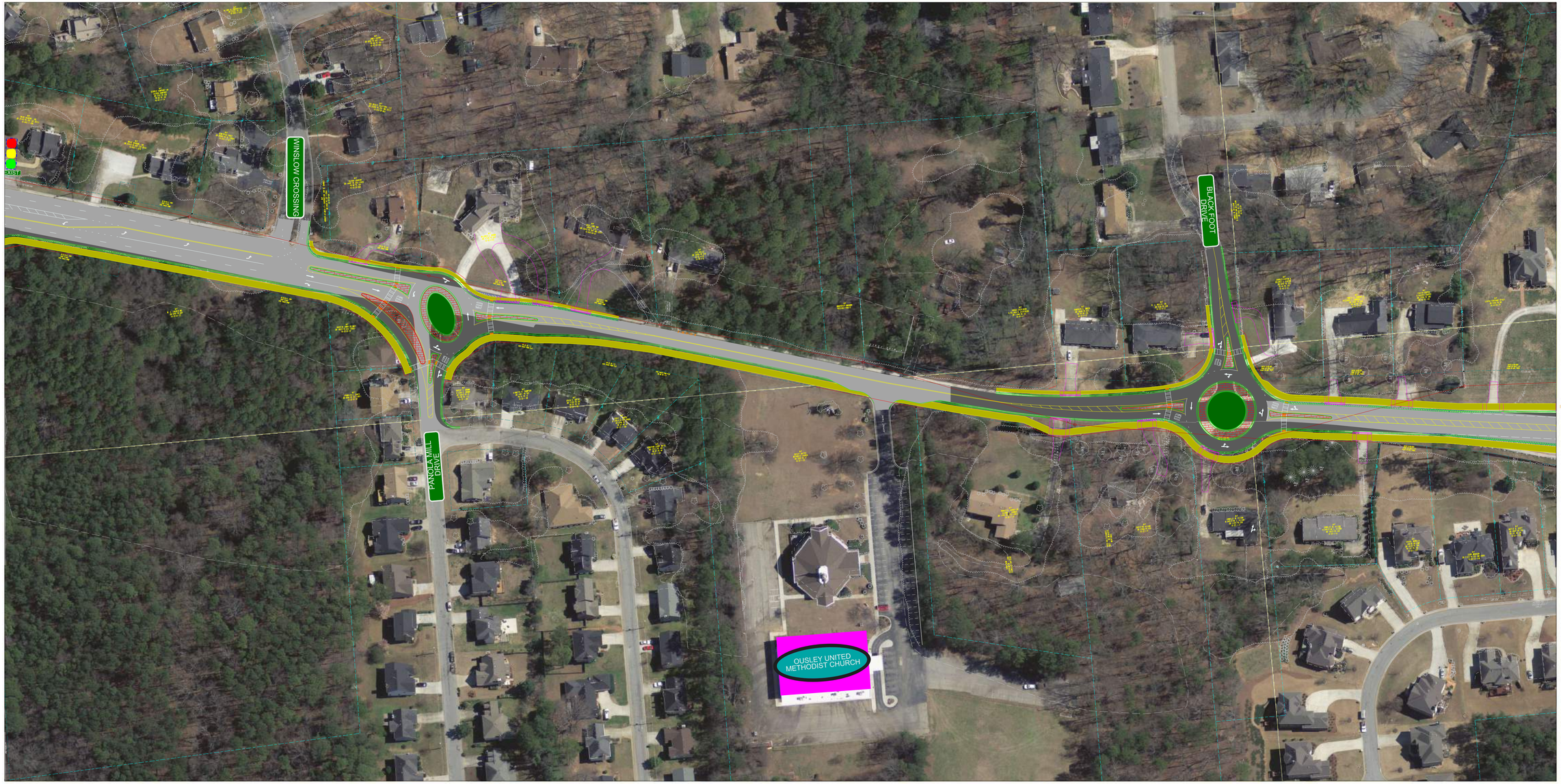

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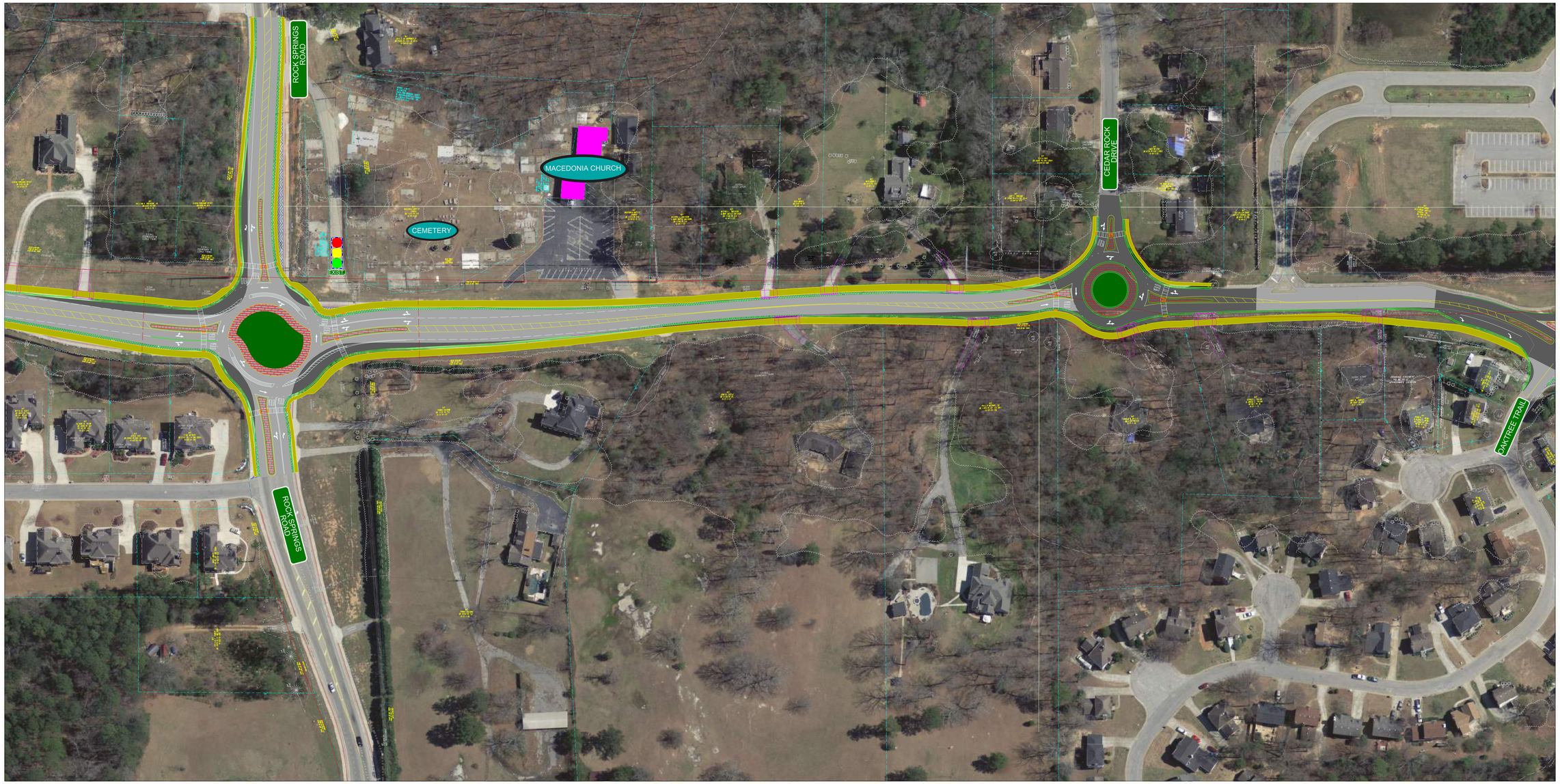

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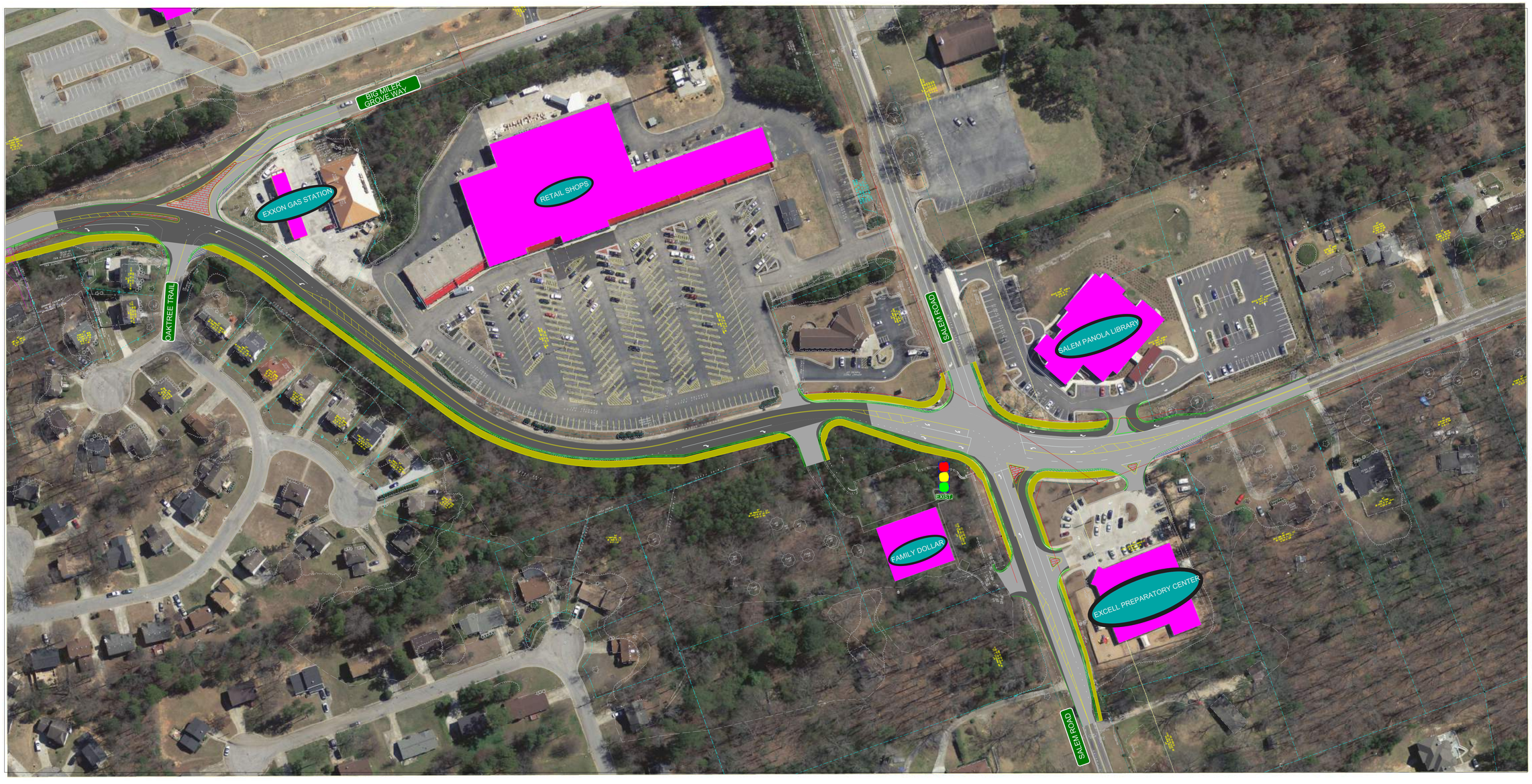

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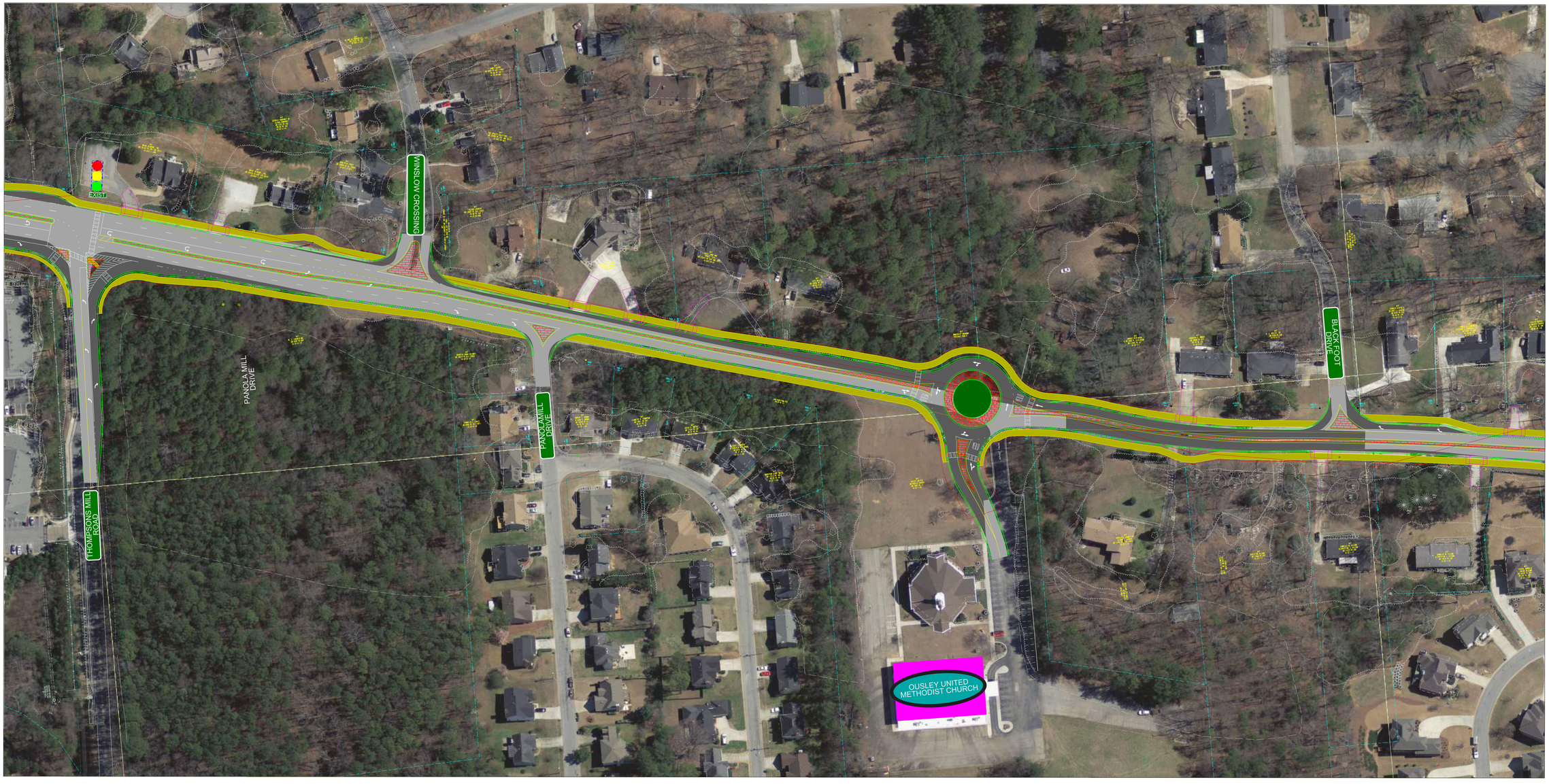

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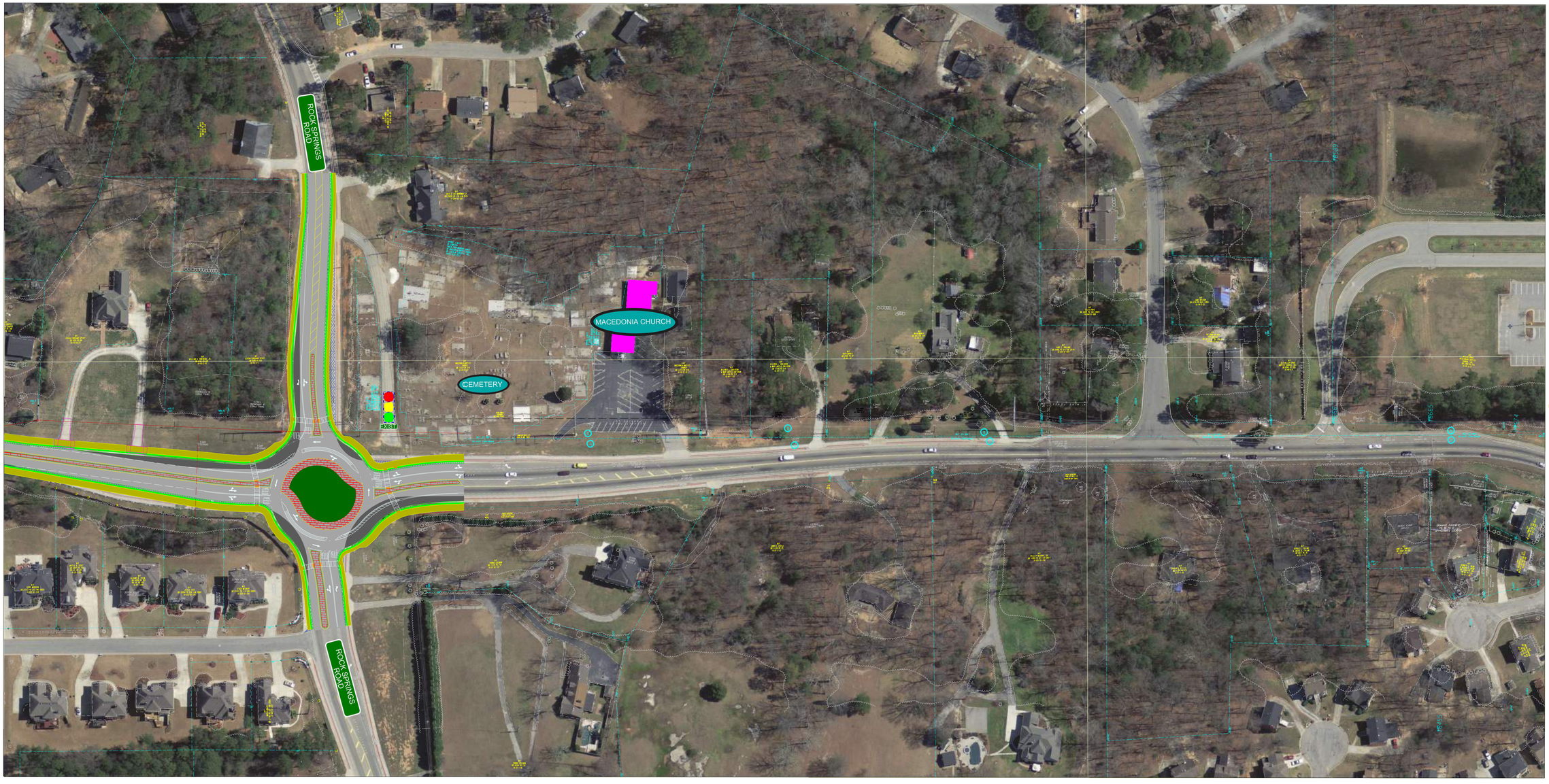

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PROJECT 3&4 ALTERNATIVE

DeKalb County GEORGIA

THE CITY OF STONECREST GEORGIA

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SCALE IN FEET

25 50 75 100

002

Appendix J

Future Year (2027 and 2047) Build Analysis Results

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	105	50	20	155	70	295	24	25	980	65	140	655
Future Volume (vph)	105	50	20	155	70	295	24	25	980	65	140	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	0.88		1.00	0.91		0.97	0.95
Frt	1.00	0.96		1.00	1.00	0.85		1.00	0.99		1.00	0.98
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1556	1721		1770	1863	2760		1709	5032		3303	3400
Flt Permitted	0.71	1.00		0.57	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1160	1721		1071	1863	2760		1709	5032		3303	3400
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	54	22	167	75	317	26	27	1054	70	151	704
RTOR Reduction (vph)	0	17	0	0	0	212	0	0	6	0	0	7
Lane Group Flow (vph)	113	59	0	167	75	105	0	53	1118	0	151	778
Heavy Vehicles (%)	16%	5%	7%	2%	2%	3%	0%	11%	2%	4%	6%	3%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8	1	5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	17.9	7.8		21.5	9.6	19.5		7.4	52.4		9.9	54.9
Effective Green, g (s)	17.9	7.8		21.5	9.6	19.5		7.4	52.4		9.9	54.9
Actuated g/C Ratio	0.18	0.08		0.22	0.10	0.20		0.07	0.52		0.10	0.55
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	247	134		313	178	662		126	2636		326	1866
v/s Ratio Prot	0.05	0.03		c0.06	0.04	0.02		0.03	0.22		c0.05	c0.23
v/s Ratio Perm	0.04			c0.05		0.02						
v/c Ratio	0.46	0.44		0.53	0.42	0.16		0.42	0.42		0.46	0.42
Uniform Delay, d1	36.3	44.0		34.0	42.6	33.4		44.3	14.6		42.5	13.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.14	0.77		1.00	1.00
Incremental Delay, d2	1.3	2.3		1.7	1.6	0.1		2.1	0.5		1.0	0.7
Delay (s)	37.7	46.4		35.8	44.2	33.6		52.4	11.7		43.6	13.9
Level of Service	D	D		D	D	C		D	B		D	B
Approach Delay (s)		41.2			35.6				13.5			18.7
Approach LOS		D			D				B			B

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

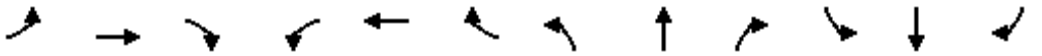
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	75
Future Volume (vph)	75
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	81
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	18%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1092	11	0	854
Future Volume (Veh/h)	0	2	1092	11	0	854
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2	1241	12	0	970
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			547			197
pX, platoon unblocked	0.87					
vC, conflicting volume	1732	316			1253	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1543	316			1253	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	94	685			562	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	2	355	355	355	189	485	485
Volume Left	0	0	0	0	0	0	0
Volume Right	2	0	0	0	12	0	0
cSH	685	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.21	0.21	0.21	0.11	0.29	0.29
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	10.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.3	0.0				0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	25	0	0	6	0	1097	10	0	813	40
Future Volume (Veh/h)	0	0	25	0	0	6	0	1097	10	0	813	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	28	0	0	7	0	1219	11	0	903	44
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.93	0.93	0.88	0.93	0.93	0.89	0.88			0.89		
vC, conflicting volume	1316	2133	452	1698	2166	406	947			1230		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	469	1343	97	878	1378	0	661			810		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	100	100	99	100			100		
cM capacity (veh/h)	447	143	831	222	137	967	822			731		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	28	7	406	406	406	11	452	452	44
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	28	7	0	0	0	11	0	0	44
cSH	831	967	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.01	0.24	0.24	0.24	0.01	0.27	0.27	0.03
Queue Length 95th (ft)	3	1	0	0	0	0	0	0	0
Control Delay (s)	9.5	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A							
Approach Delay (s)	9.5	8.8	0.0				0.0		
Approach LOS	A	A							

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	32.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	6	1101	11	0	837
Future Volume (Veh/h)	0	6	1101	11	0	837
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	7	1237	12	0	940
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			256			488
pX, platoon unblocked	0.85	0.85			0.85	
vC, conflicting volume	1472	618			1249	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1194	185			930	
tC, single (s)	6.8	7.2			4.4	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.4	
p0 queue free %	100	99			100	
cM capacity (veh/h)	154	661			546	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	7	618	618	12	235	235	235	235
Volume Left	0	0	0	0	0	0	0	0
Volume Right	7	0	0	12	0	0	0	0
cSH	661	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.36	0.36	0.01	0.14	0.14	0.14	0.14
Queue Length 95th (ft)	1	0	0	0	0	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.5	0.0			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	25	1	15	15	1	25	51	25	1040	20	21	30
Future Volume (vph)	25	1	15	15	1	25	51	25	1040	20	21	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.86		1.00	0.86			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1805	1632		1805	1497			1758	3539	1615		1730
Flt Permitted	0.95	1.00		0.95	1.00			0.32	1.00	1.00		0.21
Satd. Flow (perm)	1805	1632		1805	1497			600	3539	1615		378
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91
Adj. Flow (vph)	27	1	16	16	1	27	55	27	1143	22	23	33
RTOR Reduction (vph)	0	15	0	0	26	0	0	0	0	7	0	0
Lane Group Flow (vph)	27	2	0	16	2	0	0	82	1143	15	0	56
Heavy Vehicles (%)	0%	0%	0%	0%	50%	7%	2%	4%	2%	0%	2%	6%
Turn Type	Prot	NA		Prot	NA		custom	pm+pt	NA	Perm	custom	pm+pt
Protected Phases	7	4		3	8			5	2			1
Permitted Phases							5	2		2	1	6
Actuated Green, G (s)	3.6	6.4		2.2	5.0			73.7	68.2	68.2		73.1
Effective Green, g (s)	3.6	6.4		2.2	5.0			73.7	68.2	68.2		73.1
Actuated g/C Ratio	0.04	0.06		0.02	0.05			0.74	0.68	0.68		0.73
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	64	104		39	74			505	2413	1101		346
v/s Ratio Prot	c0.01	0.00		0.01	c0.00			c0.01	c0.32			0.01
v/s Ratio Perm								0.11		0.01		0.11
v/c Ratio	0.42	0.02		0.41	0.03			0.16	0.47	0.01		0.16
Uniform Delay, d1	47.2	43.9		48.3	45.2			3.8	7.5	5.1		4.5
Progression Factor	1.00	1.00		1.00	1.00			0.62	0.40	1.00		0.76
Incremental Delay, d2	4.4	0.1		6.9	0.2			0.1	0.6	0.0		0.2
Delay (s)	51.6	43.9		55.1	45.4			2.5	3.6	5.1		3.6
Level of Service	D	D		E	D			A	A	A		A
Approach Delay (s)		48.7			48.9				3.6			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	720	65
Future Volume (vph)	720	65
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1568
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	791	71
RTOR Reduction (vph)	0	23
Lane Group Flow (vph)	791	48
Heavy Vehicles (%)	2%	3%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	67.9	67.9
Effective Green, g (s)	67.9	67.9
Actuated g/C Ratio	0.68	0.68
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2402	1064
v/s Ratio Prot	0.22	
v/s Ratio Perm		0.03
v/c Ratio	0.33	0.05
Uniform Delay, d1	6.6	5.3
Progression Factor	0.64	0.53
Incremental Delay, d2	0.3	0.1
Delay (s)	4.6	2.9
Level of Service	A	A
Approach Delay (s)	4.4	
Approach LOS	A	

Intersection Summary

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	31	0	0	61	0	1075	46	0	765	36
Future Vol, veh/h	0	0	31	0	0	61	0	1075	46	0	765	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	0	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	4	0	2	0	0	2	0
Mvmt Flow	0	0	34	0	0	68	0	1194	51	0	850	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	425	-	-	597	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.98	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.34	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	583	0	0	441	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	583	-	-	441	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	14.6	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	583	441	-	-
HCM Lane V/C Ratio	-	-	0.059	0.154	-	-
HCM Control Delay (s)	-	-	11.6	14.6	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.2	0.5	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	50	0	1121	776	20
Future Vol, veh/h	0	50	0	1121	776	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	0	0	2	2	0
Mvmt Flow	0	56	0	1246	862	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	442	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	486	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	486	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	486	-	-
HCM Lane V/C Ratio	-	0.114	-	-
HCM Control Delay (s)	-	13.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	1	15	115	1	105	10	10	955	105	61	85
Future Volume (vph)	1	1	15	115	1	105	10	10	955	105	61	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5			4.5	4.5	4.5		4.5
Lane Util. Factor		1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt		0.88		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected		1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)		1666		1736	1541			1787	3574	1568		1739
Flt Permitted		0.99		0.75	1.00			0.36	1.00	1.00		0.20
Satd. Flow (perm)		1652		1361	1541			681	3574	1568		369
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89
Adj. Flow (vph)	1	1	17	129	1	118	11	11	1073	118	66	96
RTOR Reduction (vph)	0	15	0	0	101	0	0	0	0	42	0	0
Lane Group Flow (vph)	0	4	0	129	18	0	0	22	1073	76	0	162
Heavy Vehicles (%)	0%	0%	0%	4%	0%	5%	2%	0%	1%	3%	2%	5%
Turn Type	Perm	NA		Perm	NA		pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8			2	2		2	6	6
Actuated Green, G (s)		14.7		14.7	14.7			66.1	63.7	63.7		76.3
Effective Green, g (s)		14.7		14.7	14.7			66.1	63.7	63.7		76.3
Actuated g/C Ratio		0.15		0.15	0.15			0.66	0.64	0.64		0.76
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5	4.5		4.5
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		242		200	226			476	2276	998		392
v/s Ratio Prot					0.01			0.00	c0.30			c0.03
v/s Ratio Perm		0.00		c0.09				0.03		0.05		0.28
v/c Ratio		0.02		0.65	0.08			0.05	0.47	0.08		0.41
Uniform Delay, d1		36.5		40.2	36.8			5.8	9.4	6.9		5.2
Progression Factor		1.00		1.00	1.00			0.70	0.67	0.33		1.59
Incremental Delay, d2		0.0		7.0	0.2			0.0	0.7	0.1		0.7
Delay (s)		36.5		47.1	37.0			4.1	7.0	2.5		8.9
Level of Service		D		D	D			A	A	A		A
Approach Delay (s)		36.5			42.3				6.5			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	675	5
Future Volume (vph)	675	5
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	
Lane Util. Factor	0.95	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	3536	
Flt Permitted	1.00	
Satd. Flow (perm)	3536	
Peak-hour factor, PHF	0.89	0.89
Adj. Flow (vph)	758	6
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	764	0
Heavy Vehicles (%)	2%	0%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	69.4	
Effective Green, g (s)	69.4	
Actuated g/C Ratio	0.69	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2453	
v/s Ratio Prot	0.22	
v/s Ratio Perm		
v/c Ratio	0.31	
Uniform Delay, d1	6.0	
Progression Factor	0.46	
Incremental Delay, d2	0.3	
Delay (s)	3.1	
Level of Service	A	
Approach Delay (s)	4.1	
Approach LOS	A	

Intersection Summary

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	45	0	1080	790	25
Future Vol, veh/h	0	45	0	1080	790	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	49	0	1187	868	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	434	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	576	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	576	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	576	-	-
HCM Lane V/C Ratio	-	0.086	-	-
HCM Control Delay (s)	-	11.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	165	50	65	875	40	600	195
Future Volume (vph)	165	50	65	875	40	600	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1553	1719	3539	1805	3539	1583
Flt Permitted	0.95	1.00	0.38	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1553	690	3539	1805	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	54	71	951	43	652	212
RTOR Reduction (vph)	0	46	0	0	0	0	73
Lane Group Flow (vph)	179	8	71	951	43	652	139
Heavy Vehicles (%)	1%	4%	5%	2%	0%	2%	2%
Turn Type	Prot	Perm	pm+pt	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4	2				6
Actuated Green, G (s)	15.3	15.3	71.3	65.8	5.4	65.7	65.7
Effective Green, g (s)	15.3	15.3	71.3	65.8	5.4	65.7	65.7
Actuated g/C Ratio	0.15	0.15	0.71	0.66	0.05	0.66	0.66
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	273	237	548	2328	97	2325	1040
v/s Ratio Prot	c0.10		0.01	c0.27	c0.02	0.18	
v/s Ratio Perm		0.01	0.09				0.09
v/c Ratio	0.66	0.03	0.13	0.41	0.44	0.28	0.13
Uniform Delay, d1	39.9	36.1	4.4	8.0	45.8	7.2	6.4
Progression Factor	1.00	1.00	1.00	1.00	1.01	0.72	0.62
Incremental Delay, d2	5.6	0.1	0.1	0.5	3.1	0.3	0.3
Delay (s)	45.4	36.1	4.5	8.5	49.3	5.5	4.2
Level of Service	D	D	A	A	D	A	A
Approach Delay (s)	43.3			8.2		7.3	
Approach LOS	D			A		A	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	35	905	5	15	635
Future Vol, veh/h	5	35	905	5	15	635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	25	2	2	40	10	3
Mvmt Flow	5	36	943	5	16	661

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1309	946	0	0	948	0
Stage 1	946	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.975	6.23	-	-	4.25	-
Critical Hdwy Stg 1	5.775	-	-	-	-	-
Critical Hdwy Stg 2	6.175	-	-	-	-	-
Follow-up Hdwy	3.7375	3.319	-	-	2.295	-
Pot Cap-1 Maneuver	139	316	-	-	683	-
Stage 1	332	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	136	316	-	-	683	-
Mov Cap-2 Maneuver	136	-	-	-	-	-
Stage 1	332	-	-	-	-	-
Stage 2	606	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	271	683	-
HCM Lane V/C Ratio	-	-	0.154	0.023	-
HCM Control Delay (s)	-	-	20.7	10.4	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

LANE SUMMARY

Site: 101 [P3 Panola Rd @ Panola Mill Drive - 2027 AM - Single Lane (LOS C)]

Panola Rd @ Panola Mill Drive - 2027 AM (environment factor 1.2)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	967	3.0	1176	0.823	100	19.5	LOS C	17.8	455.3	Full	1600	0.0	0.0
Approach	967	3.0		0.823		19.5	LOS C	17.8	455.3				
North: Panola Rd													
Lane 1[d]	696	2.5	1220	0.570	100	9.6	LOS A	6.3	160.3	Full	1600	0.0	0.0
Approach	696	2.5		0.570		9.6	LOS A	6.3	160.3				
West: Panola Mill Drive													
Lane 1[d]	43	10.5	597	0.073	100	6.9	LOS A	0.4	10.0	Full	1600	0.0	0.0
Approach	43	10.5		0.073		6.9	LOS A	0.4	10.0				
Intersection	1707	3.0		0.823		15.1	LOS C	17.8	455.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	10	885	610	30
Future Vol, veh/h	5	1	10	885	610	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	50	0	2	3	6
Mvmt Flow	5	1	10	922	635	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1593	651	666	0	-	0
Stage 1	651	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Critical Hdwy	6.4	6.7	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	2.2	-	-	-
Pot Cap-1 Maneuver	119	394	933	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	394	933	-	-	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	382	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.9	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	933	-	131	-	-
HCM Lane V/C Ratio	0.011	-	0.048	-	-
HCM Control Delay (s)	8.9	0	33.9	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

LANE SUMMARY

Site: 101 [P4 Panola Rd @ Black Foot Drive - 2027 AM - Single Lane (LOS B)]

Panola Rd @ Black Foot Drive - 2027 AM (environment factor 1.2)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	968	2.5	1227	0.789	100	16.8	LOS C	14.8	378.3	Full	1600	0.0	0.0
Approach	968	2.5		0.789		16.8	LOS C	14.8	378.3				
East: Black Foot Drive													
Lane 1[d]	11	22.0	357	0.030	100	10.6	LOS B	0.2	4.4	Full	1600	0.0	0.0
Approach	11	22.0		0.030		10.6	LOS B	0.2	4.4				
North: Panola Rd													
Lane 1[d]	664	3.0	1211	0.548	100	9.3	LOS A	6.0	154.7	Full	1600	0.0	0.0
Approach	664	3.0		0.548		9.3	LOS A	6.0	154.7				
Intersection	1643	2.8		0.789		13.7	LOS B	14.8	378.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 101 [P5 Panola Rd @ Rock Springs Road - 2027 AM - Turbo (LOS B)]

Panola Rd @ Rock Springs Road - 2027 AM (environment factor 1.2)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	504	3.5	978	0.516	100	10.1	LOS B	3.6	92.3	Full	1600	0.0	0.0
Lane 2	398	3.5	943	0.422	82[6]	8.7	LOS A	2.6	67.5	Short	400	0.0	NA
Approach	902	3.5		0.516		9.5	LOS A	3.6	92.3				
East: Rock Springs Rd													
Lane 1[d]	317	4.5	628	0.505	100	14.0	LOS B	3.3	85.6	Full	1600	0.0	0.0
Lane 2	166	4.5	488	0.341	67[6]	12.8	LOS B	1.6	41.5	Short	200	0.0	NA
Approach	484	4.5		0.505		13.6	LOS B	3.3	85.6				
North: Panola Rd													
Lane 1[d]	378	2.5	820	0.461	100	10.4	LOS B	3.2	81.8	Full	1600	0.0	0.0
Lane 2	290	2.5	769	0.377	82[6]	9.4	LOS A	2.2	55.3	Short	400	0.0	NA
Approach	668	2.5		0.461		10.0	LOS A	3.2	81.8				
West: Rock Springs Rd													
Lane 1[d]	211	3.5	315	0.671	100	35.3	LOS E	4.9	125.9	Full	1600	0.0	0.0
Lane 2	142	3.5	315	0.452	67[6]	22.8	LOS C	2.3	60.2	Short	200	0.0	NA
Approach	353	3.5		0.671		30.3	LOS D	4.9	125.9				
Intersection	2408	3.4		0.671		13.5	LOS B	4.9	125.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	830	1	0	715
Future Vol, veh/h	0	1	830	1	0	715
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	883	1	0	761

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	884	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	347	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	347	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	347	-
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	15.4	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

LANE SUMMARY

Site: 101 [P6 Panola Rd @ Ceder Rock Drive - 2027 AM - Single Lane (LOS B)]

Panola Rd @ Ceder Rock Drive - 2027 AM (environment factor 1.2)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	882	3.5	1180	0.747	100	15.2	LOS C	10.7	274.5	Full	1600	0.0	0.0
Approach	882	3.5		0.747		15.2	LOS C	10.7	274.5				
East: Ceder Rock Drive													
Lane 1[d]	34	1.5	469	0.072	100	8.6	LOS A	0.4	10.4	Full	1600	0.0	0.0
Approach	34	1.5		0.072		8.6	LOS A	0.4	10.4				
North: Panola Rd													
Lane 1[d]	793	3.5	1215	0.653	100	11.6	LOS B	9.3	239.8	Full	1600	0.0	0.0
Approach	793	3.5		0.653		11.6	LOS B	9.3	239.8				
Intersection	1709	3.5		0.747		13.4	LOS B	10.7	274.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	810	1	0	680
Future Vol, veh/h	0	1	810	1	0	680
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	862	1	0	723

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	862	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	358	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	358	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	358	-
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	15.1	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	180	1	625	1	0	675	5
Future Vol, veh/h	5	0	5	0	0	180	1	625	1	0	675	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	0	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	2	0	3	0	0	5	0
Mvmt Flow	5	0	5	0	0	194	1	672	1	0	726	5

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1497	1400	726	-	-	673	731	0	0	-	-	0
Stage 1	726	726	-	-	-	-	-	-	-	-	-	-
Stage 2	771	674	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.22	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.318	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	102	142	428	0	0	455	883	-	-	0	-	-
Stage 1	419	433	-	0	0	-	-	-	-	0	-	-
Stage 2	396	457	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	59	142	428	-	-	455	883	-	-	-	-	-
Mov Cap-2 Maneuver	59	142	-	-	-	-	-	-	-	-	-	-
Stage 1	419	433	-	-	-	-	-	-	-	-	-	-
Stage 2	227	457	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	43.6	18.6	0	0
HCM LOS	E	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWT	SWR
Capacity (veh/h)	883	-	-	455	104	-	-
HCM Lane V/C Ratio	0.001	-	-	0.425	0.103	-	-
HCM Control Delay (s)	9.1	-	-	18.6	43.6	-	-
HCM Lane LOS	A	-	-	C	E	-	-
HCM 95th %tile Q(veh)	0	-	-	2.1	0.3	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	25	600	5	40	640
Future Vol, veh/h	5	25	600	5	40	640
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	5	0
Mvmt Flow	5	27	652	5	43	696

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1437	329	0	0	657	0
Stage 1	655	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.175	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2475	-
Pot Cap-1 Maneuver	137	673	-	-	911	-
Stage 1	484	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	126	673	-	-	911	-
Mov Cap-2 Maneuver	126	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	419	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	15.1	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	390	911	-
HCM Lane V/C Ratio	-	-	0.084	0.048	-
HCM Control Delay (s)	-	-	15.1	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	590	1	25	620	1	15
Future Vol, veh/h	590	1	25	620	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	0	5	0	0	6
Mvmt Flow	621	1	26	653	1	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	622	0	1327	622
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	-	-	4.15	-	6.4	6.26
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.354
Pot Cap-1 Maneuver	-	-	944	-	173	479
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	944	-	166	479
Mov Cap-2 Maneuver	-	-	-	-	166	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	473	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	944	-
HCM Lane V/C Ratio	0.039	-	-	0.028	-
HCM Control Delay (s)	13.7	-	-	8.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

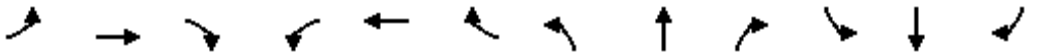
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	1	10	1	5	1	575	10	1	615	5
Future Vol, veh/h	10	1	1	10	1	5	1	575	10	1	615	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	33	0	3	11	0	5	0
Mvmt Flow	10	1	1	10	1	5	1	599	10	1	641	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1252	1254	641	1253	1254	604	646	0	0	609	0	0
Stage 1	643	643	-	606	606	-	-	-	-	-	-	-
Stage 2	609	611	-	647	648	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.53	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.597	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	151	173	478	150	173	446	949	-	-	979	-	-
Stage 1	465	472	-	487	490	-	-	-	-	-	-	-
Stage 2	486	487	-	463	469	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	148	172	478	149	172	446	949	-	-	979	-	-
Mov Cap-2 Maneuver	148	172	-	149	172	-	-	-	-	-	-	-
Stage 1	464	471	-	486	489	-	-	-	-	-	-	-
Stage 2	478	486	-	460	468	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.6	25.8	0	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	949	-	-	159	190	979	-	-
HCM Lane V/C Ratio	0.001	-	-	0.079	0.088	0.001	-	-
HCM Control Delay (s)	8.8	0	-	29.6	25.8	8.7	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	75	5	50	345	50	5	390	40	105	405	115
Future Volume (veh/h)	145	75	5	50	345	50	5	390	40	105	405	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1307	1841	1856	1841	1900	1856	1767	1693	1856	1826
Adj Flow Rate, veh/h	154	80	5	53	367	0	5	415	43	112	431	122
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	6	40	4	3	4	0	3	9	14	3	5
Cap, veh/h	346	703	430	85	418		12	783	632	376	873	728
Arrive On Green	0.08	0.39	0.39	0.26	0.26	0.00	0.01	0.42	0.42	0.05	0.47	0.47
Sat Flow, veh/h	1753	1811	1108	170	1613	1560	1810	1856	1497	1612	1856	1547
Grp Volume(v), veh/h	154	80	5	420	0	0	5	415	43	112	431	122
Grp Sat Flow(s),veh/h/ln	1753	1811	1108	1783	0	1560	1810	1856	1497	1612	1856	1547
Q Serve(g_s), s	6.1	2.8	0.3	16.7	0.0	0.0	0.3	16.7	1.7	3.8	16.0	4.5
Cycle Q Clear(g_c), s	6.1	2.8	0.3	22.8	0.0	0.0	0.3	16.7	1.7	3.8	16.0	4.5
Prop In Lane	1.00		1.00	0.13		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	703	430	503	0		12	783	632	376	873	728
V/C Ratio(X)	0.45	0.11	0.01	0.84	0.00		0.43	0.53	0.07	0.30	0.49	0.17
Avail Cap(c_a), veh/h	514	942	576	566	0		90	783	632	380	873	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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.6	18.8	35.8	0.0	0.0	49.5	21.5	17.2	15.6	18.3	15.2
Incr Delay (d2), s/veh	0.9	0.1	0.0	9.6	0.0	0.0	22.6	2.6	0.2	0.4	2.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.2	0.1	11.2	0.0	0.0	0.2	7.5	0.6	1.4	7.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	19.7	18.8	45.4	0.0	0.0	72.1	24.1	17.4	16.0	20.3	15.7
LnGrp LOS	C	B	B	D	A		E	C	B	B	C	B
Approach Vol, veh/h		239			420			463			665	
Approach Delay, s/veh		21.9			45.4			24.0			18.7	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	46.7		43.3	5.1	51.5	12.9	30.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.7	28.8		52.0	5.0	29.5	18.0	29.5				
Max Q Clear Time (g_c+I1), s	5.8	18.7		4.8	2.3	18.0	8.1	24.8				
Green Ext Time (p_c), s	0.0	1.9		0.5	0.0	2.3	0.3	1.1				

Intersection Summary												
HCM 6th Ctrl Delay			26.8									
HCM 6th LOS			C									

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	1	0	435	1	0	450	10
Future Vol, veh/h	0	0	5	0	0	1	0	435	1	0	450	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	0	0	50	0	0	0	3	0	0	4	0
Mvmt Flow	0	0	5	0	0	1	0	473	1	0	489	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	250	-	-	473	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	756	0	0	595	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	756	-	-	595	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	11.1	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	756	595	-	-
HCM Lane V/C Ratio	-	-	0.007	0.002	-	-
HCM Control Delay (s)	-	-	9.8	11.1	-	-
HCM Lane LOS	-	-	A	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	5	425	440	15
Future Vol, veh/h	10	10	5	425	440	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	17	3	4	7
Mvmt Flow	11	11	6	489	506	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1007	506	523	0	-	0
Stage 1	506	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.27	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.353	-	-	-
Pot Cap-1 Maneuver	269	570	971	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	267	570	971	-	-	-
Mov Cap-2 Maneuver	267	-	-	-	-	-
Stage 1	605	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	971	-	364	-	-
HCM Lane V/C Ratio	0.006	-	0.063	-	-
HCM Control Delay (s)	8.7	0	15.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	25	405	10	10	440
Future Vol, veh/h	10	25	405	10	10	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	4	8	9	3
Mvmt Flow	11	28	460	11	11	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	732	460	0	0	471	0
Stage 1	460	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.235	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2855	-
Pot Cap-1 Maneuver	376	605	-	-	1047	-
Stage 1	640	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	370	605	-	-	1047	-
Mov Cap-2 Maneuver	370	-	-	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	744	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	512	1047	-
HCM Lane V/C Ratio	-	-	0.078	0.011	-
HCM Control Delay (s)	-	-	12.6	8.5	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

LANE SUMMARY

Site: 101 [P9 Panola Rd @ Browns Mill SR 212 - 2027 AM - Turbo (LOS B)]

Panola Rd @ Browns Mill SR 212 - 2027 PM
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	353	5.5	885	0.399	100	8.7	LOS A	2.1	53.6	Full	1600	0.0	0.0
Lane 2	109	5.5	554	0.196	49[5]	9.1	LOS A	0.8	20.9	Full	1600	0.0	0.0
Approach	462	5.5		0.399		8.8	LOS A	2.1	53.6				
East: Rock Springs Rd													
Lane 1	476	3.5	885	0.537	100	11.4	LOS B	4.6	117.2	Full	1600	0.0	0.0
Lane 2[d]	476	3.5	885	0.537	100	11.4	LOS B	4.6	117.2	Full	1600	0.0	0.0
Approach	951	3.5		0.537		11.4	LOS B	4.6	117.2				
North: Panola Rd													
Lane 1[d]	478	4.0	651	0.735	100	23.0	LOS C	7.7	199.2	Full	1600	0.0	0.0
Lane 2	11	4.0	330	0.033	100	11.5	LOS B	0.1	3.0	Full	1600	0.0	0.0
Approach	489	4.0		0.735		22.7	LOS C	7.7	199.2				
West: Rock Springs Rd													
Lane 1	119	2.0	705	0.169	100	7.0	LOS A	0.9	23.8	Full	1600	0.0	0.0
Lane 2[d]	120	2.0	709	0.169	100	7.0	LOS A	0.9	23.9	Full	1600	0.0	0.0
Approach	239	2.0		0.169		7.0	LOS A	0.9	23.9				
Intersection	2141	3.9		0.735		12.9	LOS B	7.7	199.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	140	145	30	190	90	290	43	25	840	125	305	1030
Future Volume (vph)	140	145	30	190	90	290	43	25	840	125	305	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	0.88		1.00	0.91		0.97	0.95
Frt	1.00	0.97		1.00	1.00	0.85		1.00	0.98		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	1758		1805	1863	2814		1759	4986		3467	3555
Flt Permitted	0.63	1.00		0.48	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1206	1758		904	1863	2814		1759	4986		3467	3555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	149	31	196	93	299	44	26	866	129	314	1062
RTOR Reduction (vph)	0	8	0	0	0	169	0	0	18	0	0	2
Lane Group Flow (vph)	144	172	0	196	93	130	0	70	977	0	314	1091
Heavy Vehicles (%)	0%	6%	2%	0%	2%	1%	0%	7%	2%	2%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8	1	5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	28.1	15.4		25.7	14.2	28.4		6.9	40.9		14.2	48.2
Effective Green, g (s)	28.1	15.4		25.7	14.2	28.4		6.9	40.9		14.2	48.2
Actuated g/C Ratio	0.28	0.15		0.26	0.14	0.28		0.07	0.41		0.14	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	414	270		335	264	925		121	2039		492	1713
v/s Ratio Prot	0.04	c0.10		c0.07	0.05	0.02		0.04	0.20		c0.09	c0.31
v/s Ratio Perm	0.05			0.08		0.03						
v/c Ratio	0.35	0.64		0.59	0.35	0.14		0.58	0.48		0.64	0.64
Uniform Delay, d1	28.1	39.7		31.0	38.7	26.7		45.1	21.7		40.5	19.4
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.07	0.93		1.00	1.00
Incremental Delay, d2	0.5	4.9		2.6	0.8	0.1		6.2	0.8		2.7	1.8
Delay (s)	28.6	44.6		33.6	39.6	26.8		54.6	21.0		43.2	21.2
Level of Service	C	D		C	D	C		D	C		D	C
Approach Delay (s)		37.5			31.1				23.2			26.1
Approach LOS		D			C				C			C

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

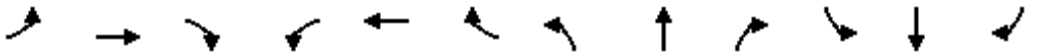
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	30
Future Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	10	1022	26	0	1293
Future Volume (Veh/h)	0	10	1022	26	0	1293
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	11	1076	27	0	1361
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			547			197
pX, platoon unblocked	0.77					
vC, conflicting volume	1770	282			1103	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1401	282			1103	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	103	721			640	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	11	307	307	307	181	680	680
Volume Left	0	0	0	0	0	0	0
Volume Right	11	0	0	0	27	0	0
cSH	721	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.18	0.18	0.18	0.11	0.40	0.40
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.1	0.0				0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	65	0	0	16	0	1032	6	0	1209	85
Future Volume (Veh/h)	0	0	65	0	0	16	0	1032	6	0	1209	85
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	68	0	0	17	0	1075	6	0	1259	89
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.83	0.83	0.77	0.83	0.83	0.90	0.77			0.90		
vC, conflicting volume	1634	2340	630	1772	2423	358	1348			1081		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	600	1455	0	767	1555	0	865			691		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	92	100	100	98	100			100		
cM capacity (veh/h)	316	108	844	224	94	979	609			820		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	68	17	358	358	358	6	630	630	89
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	68	17	0	0	0	6	0	0	89
cSH	844	979	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.02	0.21	0.21	0.21	0.00	0.37	0.37	0.05
Queue Length 95th (ft)	7	1	0	0	0	0	0	0	0
Control Delay (s)	9.6	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A							
Approach Delay (s)	9.6	8.7	0.0				0.0		
Approach LOS	A	A							

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	11	1027	6	0	1273
Future Volume (Veh/h)	0	11	1027	6	0	1273
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	12	1081	6	0	1340
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			256			488
pX, platoon unblocked	0.86	0.86			0.86	
vC, conflicting volume	1416	540			1087	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1155	135			772	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	166	768			732	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	12	540	540	6	335	335	335	335
Volume Left	0	0	0	0	0	0	0	0
Volume Right	12	0	0	6	0	0	0	0
cSH	768	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.32	0.32	0.00	0.20	0.20	0.20	0.20
Queue Length 95th (ft)	1	0	0	0	0	0	0	0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.8	0.0			0.0			
Approach LOS	A							

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	38.4%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	90	25	50	70	15	35	96	40	895	75	12	65
Future Volume (vph)	90	25	50	70	15	35	96	40	895	75	12	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.90		1.00	0.90			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1805	1709		1805	1678			1780	3505	1615		1727
Flt Permitted	0.95	1.00		0.95	1.00			0.18	1.00	1.00		0.26
Satd. Flow (perm)	1805	1709		1805	1678			335	3505	1615		481
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95
Adj. Flow (vph)	95	26	53	74	16	37	104	42	942	79	13	68
RTOR Reduction (vph)	0	49	0	0	35	0	0	0	0	30	0	0
Lane Group Flow (vph)	95	30	0	74	18	0	0	146	942	49	0	81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	2%	0%	3%	0%	2%	5%
Turn Type	Prot	NA		Prot	NA		custom	pm+pt	NA	Perm	custom	pm+pt
Protected Phases	7	4		3	8			5	2			1
Permitted Phases							5	2		2	1	6
Actuated Green, G (s)	8.5	6.8		7.6	5.9			70.1	61.6	61.6		65.1
Effective Green, g (s)	8.5	6.8		7.6	5.9			70.1	61.6	61.6		65.1
Actuated g/C Ratio	0.08	0.07		0.08	0.06			0.70	0.62	0.62		0.65
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	153	116		137	99			357	2159	994		387
v/s Ratio Prot	c0.05	c0.02		0.04	0.01			c0.03	0.27			0.01
v/s Ratio Perm								0.25		0.03		0.12
v/c Ratio	0.62	0.26		0.54	0.18			0.41	0.44	0.05		0.21
Uniform Delay, d1	44.2	44.2		44.5	44.8			7.2	10.1	7.6		6.7
Progression Factor	1.00	1.00		1.00	1.00			1.49	0.41	0.04		0.56
Incremental Delay, d2	7.6	1.2		4.3	0.9			0.7	0.6	0.1		0.2
Delay (s)	51.8	45.4		48.8	45.7			11.5	4.7	0.4		4.0
Level of Service	D	D		D	D			B	A	A		A
Approach Delay (s)		48.9			47.5				5.3			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1070	125
Future Volume (vph)	1070	125
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3574	1599
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3574	1599
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1126	132
RTOR Reduction (vph)	0	54
Lane Group Flow (vph)	1126	78
Heavy Vehicles (%)	1%	1%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	59.1	59.1
Effective Green, g (s)	59.1	59.1
Actuated g/C Ratio	0.59	0.59
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2112	945
v/s Ratio Prot	c0.32	
v/s Ratio Perm		0.05
v/c Ratio	0.53	0.08
Uniform Delay, d1	12.2	8.8
Progression Factor	0.43	0.10
Incremental Delay, d2	0.8	0.1
Delay (s)	6.1	1.1
Level of Service	A	A
Approach Delay (s)	5.4	
Approach LOS	A	

Intersection Summary

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱		↑↑	↱		↑↑	↱
Traffic Vol, veh/h	0	0	121	0	0	46	0	1060	61	0	1180	106
Future Vol, veh/h	0	0	121	0	0	46	0	1060	61	0	1180	106
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	0	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	5	0	0	2	0	0	1	0
Mvmt Flow	0	0	129	0	0	49	0	1128	65	0	1255	113

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	628	-	-	564	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.92	-	-	6.9	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.31	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	428	0	0	474	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	428	-	-	474	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17	13.5	0	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	428	474	-	-
HCM Lane V/C Ratio	-	-	0.301	0.103	-	-
HCM Control Delay (s)	-	-	17	13.5	-	-
HCM Lane LOS	-	-	C	B	-	-
HCM 95th %tile Q(veh)	-	-	1.2	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	20	0	1121	1286	15
Future Vol, veh/h	0	20	0	1121	1286	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	22	0	1205	1383	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	700	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	331	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	331	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	331	-	-
HCM Lane V/C Ratio	-	0.065	-	-
HCM Control Delay (s)	-	16.6	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	10	1	15	95	1	105	20	5	955	165	51	150
Future Volume (vph)	10	1	15	95	1	105	20	5	955	165	51	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5			4.5	4.5	4.5		4.5
Lane Util. Factor		1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt		0.92		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected		0.98		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)		1720		1787	1556			1776	3539	1599		1796
Flt Permitted		0.88		0.74	1.00			0.22	1.00	1.00		0.22
Satd. Flow (perm)		1537		1390	1556			408	3539	1599		420
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94
Adj. Flow (vph)	11	1	16	101	1	112	22	5	1016	176	55	160
RTOR Reduction (vph)	0	14	0	0	98	0	0	0	0	51	0	0
Lane Group Flow (vph)	0	14	0	101	15	0	0	27	1016	125	0	215
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	2%	0%	2%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8			2	2		2	6	6
Actuated Green, G (s)		12.5		12.5	12.5			68.8	65.1	65.1		78.5
Effective Green, g (s)		12.5		12.5	12.5			68.8	65.1	65.1		78.5
Actuated g/C Ratio		0.12		0.12	0.12			0.69	0.65	0.65		0.78
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5	4.5		4.5
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		192		173	194			331	2303	1040		452
v/s Ratio Prot					0.01			0.00	0.29			c0.04
v/s Ratio Perm		0.01		c0.07				0.05		0.08		c0.33
v/c Ratio		0.07		0.58	0.08			0.08	0.44	0.12		0.48
Uniform Delay, d1		38.6		41.3	38.7			5.1	8.5	6.6		4.4
Progression Factor		1.00		1.00	1.00			0.73	0.72	0.48		2.32
Incremental Delay, d2		0.2		4.9	0.2			0.1	0.6	0.2		0.7
Delay (s)		38.8		46.2	38.8			3.8	6.7	3.4		11.1
Level of Service		D		D	D			A	A	A		B
Approach Delay (s)		38.8			42.3				6.2			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1105	1
Future Volume (vph)	1105	1
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	
Lane Util. Factor	0.95	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	3574	
Flt Permitted	1.00	
Satd. Flow (perm)	3574	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	1176	1
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1177	0
Heavy Vehicles (%)	1%	0%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	70.3	
Effective Green, g (s)	70.3	
Actuated g/C Ratio	0.70	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2512	
v/s Ratio Prot	0.33	
v/s Ratio Perm		
v/c Ratio	0.47	
Uniform Delay, d1	6.6	
Progression Factor	0.45	
Incremental Delay, d2	0.6	
Delay (s)	3.5	
Level of Service	A	
Approach Delay (s)	4.7	
Approach LOS	A	

Intersection Summary

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	35	0	1145	1175	60
Future Vol, veh/h	0	35	0	1145	1175	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	37	0	1205	1237	63

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	619	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	436	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	436	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	436	-	-
HCM Lane V/C Ratio	-	0.085	-	-
HCM Control Delay (s)	-	14	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	305	45	30	815	26	895	290
Future Volume (vph)	305	45	30	815	26	895	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1583	1805	3539	1805	3574	1599
Flt Permitted	0.95	1.00	0.25	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1583	477	3539	1805	3574	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	321	47	32	858	27	942	305
RTOR Reduction (vph)	0	36	0	0	0	0	123
Lane Group Flow (vph)	321	11	32	858	27	942	182
Heavy Vehicles (%)	1%	2%	0%	2%	0%	1%	1%
Turn Type	Prot	Perm	pm+pt	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4	2				6
Actuated Green, G (s)	23.2	23.2	62.8	59.3	4.0	59.8	59.8
Effective Green, g (s)	23.2	23.2	62.8	59.3	4.0	59.8	59.8
Actuated g/C Ratio	0.23	0.23	0.63	0.59	0.04	0.60	0.60
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	414	367	346	2098	72	2137	956
v/s Ratio Prot	c0.18		0.00	0.24	c0.01	c0.26	
v/s Ratio Perm		0.01	0.05				0.11
v/c Ratio	0.78	0.03	0.09	0.41	0.38	0.44	0.19
Uniform Delay, d1	36.0	29.7	7.6	10.9	46.8	11.0	9.1
Progression Factor	1.00	1.00	1.00	1.00	1.22	0.61	0.36
Incremental Delay, d2	8.8	0.0	0.1	0.6	3.0	0.6	0.4
Delay (s)	44.8	29.7	7.7	11.5	60.0	7.3	3.7
Level of Service	D	C	A	B	E	A	A
Approach Delay (s)	42.8			11.4		7.6	
Approach LOS	D			B		A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	805	5	60	880
Future Vol, veh/h	5	40	805	5	60	880
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	2	0	3	1
Mvmt Flow	5	43	856	5	64	936

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1455	859	0	0	861	0
Stage 1	859	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Critical Hdwy	6.6	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	133	353	-	-	773	-
Stage 1	418	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	122	353	-	-	773	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	418	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.7	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	292	773	-
HCM Lane V/C Ratio	-	-	0.164	0.083	-
HCM Control Delay (s)	-	-	19.7	10.1	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.3	-

LANE SUMMARY

Site: 101 [P3 Panola Rd @ Panola Mill Drive - 2027 PM - Single Lane (LOS C)]

Panola Rd @ Panola Mill Drive - 2027 PM (environment factor 1.2)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	870	1.0	1211	0.718	100	13.7	LOS B	11.5	288.6	Full	1600	0.0	0.0
Approach	870	1.0		0.718		13.7	LOS B	11.5	288.6				
North: Panola Rd													
Lane 1[d]	962	1.0	1231	0.782	100	16.4	LOS C	14.5	365.6	Full	1600	0.0	0.0
Approach	962	1.0		0.782		16.4	LOS C	14.5	365.6				
West: Panola Mill Drive													
Lane 1[d]	33	0.0	519	0.063	100	7.7	LOS A	0.4	9.1	Full	1600	0.0	0.0
Approach	33	0.0		0.063		7.7	LOS A	0.4	9.1				
Intersection	1864	1.0		0.782		15.0	LOS B	14.5	365.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	795	855	10
Future Vol, veh/h	5	5	5	795	855	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	5	5	5	864	929	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1809	935	940	0	-	0
Stage 1	935	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	88	325	737	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	87	325	737	-	-	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	380	-	-	-	-	-
Stage 2	412	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.5	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	737	-	137	-	-
HCM Lane V/C Ratio	0.007	-	0.079	-	-
HCM Control Delay (s)	9.9	0	33.5	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

LANE SUMMARY

Site: 101 [P4 Panola Rd @ Black Foot Drive - 2027 PM - Single Lane (LOS B)]

Panola Rd @ Black Foot Drive - 2027 PM (environment factor 1.2)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	875	1.0	1245	0.703	100	12.9	LOS B	9.5	238.2	Full	1600	0.0	0.0
Approach	875	1.0		0.703		12.9	LOS B	9.5	238.2				
East: Black Foot Drive													
Lane 1[d]	7	3.0	535	0.012	100	6.9	LOS A	0.1	1.6	Full	1600	0.0	0.0
Approach	7	3.0		0.012		6.9	LOS A	0.1	1.6				
North: Panola Rd													
Lane 1[d]	936	3.0	1220	0.767	100	15.7	LOS C	15.4	395.5	Full	1600	0.0	0.0
Approach	936	3.0		0.767		15.7	LOS C	15.4	395.5				
Intersection	1817	2.0		0.767		14.3	LOS B	15.4	395.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 101 [P5 Panola Rd @ Rock Springs Road - 2027 PM - Turbo (LOS A)]

Panola Rd @ Rock Springs Road - 2027 PM (environment factor 1.2)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	451	1.0	1053	0.428	100	8.1	LOS A	2.8	70.6	Full	1600	0.0	0.0
Lane 2	321	1.0	915	0.350	82[6]	7.8	LOS A	2.1	51.8	Short	400	0.0	NA
Approach	772	1.0		0.428		8.0	LOS A	2.8	70.6				
East: Rock Springs Rd													
Lane 1[d]	196	1.0	868	0.225	100	6.5	LOS A	1.1	27.9	Full	1600	0.0	0.0
Lane 2	87	1.0	637	0.137	61[5]	7.2	LOS A	0.6	14.8	Short	200	0.0	NA
Approach	283	1.0		0.225		6.7	LOS A	1.1	27.9				
North: Panola Rd													
Lane 1[d]	541	1.0	1184	0.457	100	7.9	LOS A	3.0	76.0	Full	1600	0.0	0.0
Lane 2	394	1.0	1054	0.374	82[6]	7.3	LOS A	2.2	55.5	Short	400	0.0	NA
Approach	935	1.0		0.457		7.6	LOS A	3.0	76.0				
West: Rock Springs Rd													
Lane 1[d]	349	1.0	859	0.406	100	9.1	LOS A	2.4	60.1	Full	1600	0.0	0.0
Lane 2	178	1.0	651	0.274	67[6]	9.0	LOS A	1.2	31.4	Short	200	0.0	NA
Approach	527	1.0		0.406		9.0	LOS A	2.4	60.1				
Intersection	2516	1.0		0.457		7.9	LOS A	3.0	76.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	710	1	0	945
Future Vol, veh/h	0	1	710	1	0	945
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	732	1	0	974

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	733	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	424	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	424	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	424	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	13.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

LANE SUMMARY

Site: 101 [P6 Panola Rd @ Ceder Rock Drive - 2027 PM - Single Lane (LOS B)]

Panola Rd @ Ceder Rock Drive - 2027 PM (environment factor 1.2)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	777	1.0	1199	0.648	100	11.6	LOS B	7.8	195.7	Full	1600	0.0	0.0
Approach	777	1.0		0.648		11.6	LOS B	7.8	195.7				
East: Ceder Rock Drive													
Lane 1[d]	38	1.0	563	0.068	100	7.2	LOS A	0.4	9.4	Full	1600	0.0	0.0
Approach	38	1.0		0.068		7.2	LOS A	0.4	9.4				
North: Panola Rd													
Lane 1[d]	1016	1.0	1220	0.833	100	19.7	LOS C	20.7	520.8	Full	1600	0.0	0.0
Approach	1016	1.0		0.833		19.7	LOS C	20.7	520.8				
Intersection	1832	1.0		0.833		16.0	LOS C	20.7	520.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	715	1	0	920
Future Vol, veh/h	0	1	715	1	0	920
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	722	1	0	929

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	722	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	430	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	430	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	430	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	13.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	70	5	640	5	0	910	10
Future Vol, veh/h	5	0	5	0	0	70	5	640	5	0	910	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	0	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	1	0	2	0	0	1	0
Mvmt Flow	5	0	5	0	0	71	5	646	5	0	919	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1611	1575	919	-	-	649	929	0	0	-	-	0
Stage 1	919	919	-	-	-	-	-	-	-	-	-	-
Stage 2	692	656	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.21	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.309	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	85	111	332	0	0	472	744	-	-	0	-	-
Stage 1	328	353	-	0	0	-	-	-	-	0	-	-
Stage 2	437	465	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	72	110	332	-	-	472	744	-	-	-	-	-
Mov Cap-2 Maneuver	72	110	-	-	-	-	-	-	-	-	-	-
Stage 1	326	353	-	-	-	-	-	-	-	-	-	-
Stage 2	369	462	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	38.3	14	0.1	0
HCM LOS	E	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWT	SWR
Capacity (veh/h)	744	-	-	472	118	-	-
HCM Lane V/C Ratio	0.007	-	-	0.15	0.086	-	-
HCM Control Delay (s)	9.9	-	-	14	38.3	-	-
HCM Lane LOS	A	-	-	B	E	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	20	630	15	70	845
Future Vol, veh/h	5	20	630	15	70	845
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	5	21	649	15	72	871

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1672	332	0	0	664	0
Stage 1	657	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	97	670	-	-	935	-
Stage 1	483	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	670	-	-	935	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	300	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	19.3	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	277	935	-
HCM Lane V/C Ratio	-	-	0.093	0.077	-
HCM Control Delay (s)	-	-	19.3	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	585	5	90	760	5	60
Future Vol, veh/h	585	5	90	760	5	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	0	1	0	0	1
Mvmt Flow	609	5	94	792	5	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	614	0	1592	612
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	980	-
Critical Hdwy	-	-	4.11	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	970	-	119	495
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	367	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	970	-	98	495
Mov Cap-2 Maneuver	-	-	-	-	98	-
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	304	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	377	-	-	970	-
HCM Lane V/C Ratio	0.18	-	-	0.097	-
HCM Control Delay (s)	16.6	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.3	-

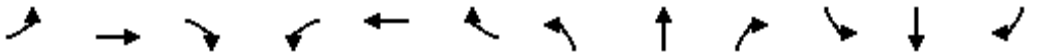
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	5	20	5	5	1	575	45	5	740	20
Future Vol, veh/h	10	1	5	20	5	5	1	575	45	5	740	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	2	0
Mvmt Flow	11	1	5	21	5	5	1	612	48	5	787	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1440	1459	787	1449	1456	636	808	0	0	660	0	0
Stage 1	797	797	-	638	638	-	-	-	-	-	-	-
Stage 2	643	662	-	811	818	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	112	131	395	110	131	481	826	-	-	938	-	-
Stage 1	383	401	-	468	474	-	-	-	-	-	-	-
Stage 2	465	462	-	376	393	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	106	129	395	107	129	481	826	-	-	938	-	-
Mov Cap-2 Maneuver	106	129	-	107	129	-	-	-	-	-	-	-
Stage 1	382	397	-	467	473	-	-	-	-	-	-	-
Stage 2	454	461	-	366	389	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.5	42.6	0	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	826	-	-	139	127	938	-	-
HCM Lane V/C Ratio	0.001	-	-	0.122	0.251	0.006	-	-
HCM Control Delay (s)	9.4	0	-	34.5	42.6	8.9	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.9	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	165	10	40	195	20	15	425	70	125	515	125
Future Volume (veh/h)	175	165	10	40	195	20	15	425	70	125	515	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1900	1737	1900	1885	1900	1900	1870	1900	1870	1870	1900
Adj Flow Rate, veh/h	186	176	11	43	207	0	16	452	74	133	548	133
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	0	11	0	1	0	0	2	0	2	2	0
Cap, veh/h	380	599	464	79	252		32	927	798	462	995	856
Arrive On Green	0.11	0.32	0.32	0.16	0.16	0.00	0.02	0.50	0.50	0.05	0.53	0.53
Sat Flow, veh/h	1767	1900	1472	223	1536	1610	1810	1870	1610	1781	1870	1610
Grp Volume(v), veh/h	186	176	11	250	0	0	16	452	74	133	548	133
Grp Sat Flow(s),veh/h/ln	1767	1900	1472	1759	0	1610	1810	1870	1610	1781	1870	1610
Q Serve(g_s), s	8.4	7.0	0.5	9.8	0.0	0.0	0.9	16.1	2.4	3.5	19.4	4.2
Cycle Q Clear(g_c), s	8.4	7.0	0.5	13.8	0.0	0.0	0.9	16.1	2.4	3.5	19.4	4.2
Prop In Lane	1.00		1.00	0.17		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	599	464	330	0		32	927	798	462	995	856
V/C Ratio(X)	0.49	0.29	0.02	0.76	0.00		0.49	0.49	0.09	0.29	0.55	0.16
Avail Cap(c_a), veh/h	510	817	633	401	0		90	927	798	464	995	856
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	25.8	23.6	40.6	0.0	0.0	48.7	16.8	13.3	12.2	15.5	11.9
Incr Delay (d2), s/veh	1.0	0.3	0.0	6.6	0.0	0.0	11.1	1.8	0.2	0.3	2.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.2	0.2	6.6	0.0	0.0	0.5	7.0	0.9	1.3	8.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	26.1	23.6	47.2	0.0	0.0	59.8	18.6	13.6	12.5	17.7	12.3
LnGrp LOS	C	C	C	D	A		E	B	B	B	B	B
Approach Vol, veh/h		373			250			542			814	
Approach Delay, s/veh		27.5			47.2			19.1			16.0	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	54.1		36.0	6.3	57.7	15.1	20.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	38.0		43.0	5.0	38.5	18.0	20.5				
Max Q Clear Time (g_c+I1), s	5.5	18.1		9.0	2.9	21.4	10.4	15.8				
Green Ext Time (p_c), s	0.0	2.9		1.1	0.0	3.7	0.3	0.6				

Intersection Summary			
HCM 6th Ctrl Delay		23.0	
HCM 6th LOS		C	

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	10	0	0	1	0	510	1	0	560	5
Future Vol, veh/h	0	0	10	0	0	1	0	510	1	0	560	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	0	0	11	0	0	1	0	560	1	0	615	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	310	-	-	560	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	692	0	0	532	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	692	-	-	532	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11.8	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	692	532	-	-
HCM Lane V/C Ratio	-	-	0.016	0.002	-	-
HCM Control Delay (s)	-	-	10.3	11.8	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	25	5	500	545	25
Future Vol, veh/h	10	25	5	500	545	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	11	27	5	538	586	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1134	586	613	0	-	0
Stage 1	586	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	226	514	976	-	-	-
Stage 1	560	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	224	514	976	-	-	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	976	-	375	-	-
HCM Lane V/C Ratio	0.006	-	0.1	-	-
HCM Control Delay (s)	8.7	0	15.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	30	475	20	25	545
Future Vol, veh/h	5	30	475	20	25	545
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	4	1	0	2
Mvmt Flow	5	32	511	22	27	586

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	858	511	0	0	533	0
Stage 1	511	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Critical Hdwy	6.6	6.23	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.319	-	-	2.2	-
Pot Cap-1 Maneuver	315	562	-	-	1045	-
Stage 1	606	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	303	562	-	-	1045	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	501	1045	-
HCM Lane V/C Ratio	-	-	0.075	0.026	-
HCM Control Delay (s)	-	-	12.8	8.5	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

LANE SUMMARY

Site: 101 [P9 Panola Rd @ Browns Mill SR 212 - 2027 PM - Turbo (LOS C)]

Panola Rd @ Browns Mill SR 212 - 2027 PM
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	429	2.0	691	0.622	100	16.5	LOS C	5.4	138.2	Full	1600	0.0	0.0
Lane 2	141	2.0	429	0.329	53[5]	14.1	LOS B	1.5	38.2	Full	1600	0.0	0.0
Approach	571	2.0		0.622		15.9	LOS C	5.4	138.2				
East: Rock Springs Rd													
Lane 1	370	1.0	825	0.448	100	10.1	LOS B	3.1	77.0	Full	1600	0.0	0.0
Lane 2[d]	370	1.0	825	0.448	100	10.1	LOS B	3.1	77.0	Full	1600	0.0	0.0
Approach	739	1.0		0.448		10.1	LOS B	3.1	77.0				
North: Panola Rd													
Lane 1[d]	582	4.0	743	0.782	100	23.8	LOS C	10.8	277.5	Full	1600	0.0	0.0
Lane 2	16	4.0	385	0.042	100	10.0	LOS A	0.2	4.0	Full	1600	0.0	0.0
Approach	598	4.0		0.782		23.4	LOS C	10.8	277.5				
West: Rock Springs Rd													
Lane 1	300	0.5	590	0.509	100	14.8	LOS B	4.3	106.7	Full	1600	0.0	0.0
Lane 2[d]	308	0.5	606	0.509	100	14.5	LOS B	4.3	107.7	Full	1600	0.0	0.0
Approach	609	0.5		0.509		14.6	LOS B	4.3	107.7				
Intersection	2516	1.8		0.782		15.7	LOS C	10.8	277.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	125	65	25	190	85	355	29	30	1175	75	170	775
Future Volume (vph)	125	65	25	190	85	355	29	30	1175	75	170	775
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	0.88		1.00	0.91		0.97	0.95
Frt	1.00	0.96		1.00	1.00	0.85		1.00	0.99		1.00	0.98
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1556	1725		1770	1863	2760		1709	5033		3303	3398
Flt Permitted	0.70	1.00		0.52	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1143	1725		974	1863	2760		1709	5033		3303	3398
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	134	70	27	204	91	382	31	32	1263	81	183	833
RTOR Reduction (vph)	0	15	0	0	0	169	0	0	6	0	0	7
Lane Group Flow (vph)	134	82	0	204	91	213	0	63	1338	0	183	923
Heavy Vehicles (%)	16%	5%	7%	2%	2%	3%	0%	11%	2%	4%	6%	3%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8	1	5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	19.4	8.9		23.4	10.9	21.9		7.9	49.6		11.0	52.7
Effective Green, g (s)	19.4	8.9		23.4	10.9	21.9		7.9	49.6		11.0	52.7
Actuated g/C Ratio	0.19	0.09		0.23	0.11	0.22		0.08	0.50		0.11	0.53
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	265	153		327	203	728		135	2496		363	1790
v/s Ratio Prot	0.05	0.05		c0.08	0.05	0.03		0.04	0.27		c0.06	c0.27
v/s Ratio Perm	0.04			c0.07		0.05						
v/c Ratio	0.51	0.53		0.62	0.45	0.29		0.47	0.54		0.50	0.52
Uniform Delay, d1	35.5	43.6		33.2	41.7	32.6		44.0	17.3		41.9	15.4
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.10	0.88		1.00	1.00
Incremental Delay, d2	1.5	3.5		3.7	1.6	0.2		2.3	0.7		1.1	1.1
Delay (s)	37.1	47.1		36.9	43.3	32.8		50.9	16.0		43.0	16.4
Level of Service	D	D		D	D	C		D	B		D	B
Approach Delay (s)		41.3			35.5				17.5			20.8
Approach LOS		D			D				B			C

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

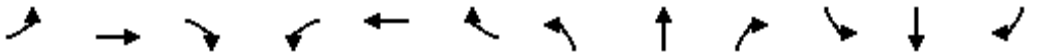
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	90
Future Volume (vph)	90
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	97
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	18%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1307	17	0	1019
Future Volume (Veh/h)	0	2	1307	17	0	1019
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2	1485	19	0	1158
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			547			197
pX, platoon unblocked	0.83					
vC, conflicting volume	2074	381			1504	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1880	381			1504	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	53	623			451	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	2	424	424	424	231	579	579
Volume Left	0	0	0	0	0	0	0
Volume Right	2	0	0	0	19	0	0
cSH	623	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.25	0.25	0.25	0.14	0.34	0.34
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.8	0.0				0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	30	0	0	6	0	1318	11	0	969	50
Future Volume (Veh/h)	0	0	30	0	0	6	0	1318	11	0	969	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	33	0	0	7	0	1464	12	0	1077	56
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.92	0.92	0.83	0.92	0.92	0.83	0.83			0.83		
vC, conflicting volume	1572	2553	538	2036	2597	488	1133			1476		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	356	1427	50	862	1475	0	763			872		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	100	100	99	100			100		
cM capacity (veh/h)	527	125	846	222	117	909	717			652		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	33	7	488	488	488	12	538	538	56
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	33	7	0	0	0	12	0	0	56
cSH	846	909	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.04	0.01	0.29	0.29	0.29	0.01	0.32	0.32	0.03
Queue Length 95th (ft)	3	1	0	0	0	0	0	0	0
Control Delay (s)	9.4	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A							
Approach Delay (s)	9.4	9.0	0.0				0.0		
Approach LOS	A	A							

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	36.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	6	1323	16	0	999
Future Volume (Veh/h)	0	6	1323	16	0	999
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	7	1487	18	0	1122
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			256			488
pX, platoon unblocked	0.79	0.79			0.79	
vC, conflicting volume	1768	744			1505	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1441	145			1109	
tC, single (s)	6.8	7.2			4.4	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.4	
p0 queue free %	100	99			100	
cM capacity (veh/h)	99	656			431	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	7	744	744	18	280	280	280	280
Volume Left	0	0	0	0	0	0	0	0
Volume Right	7	0	0	18	0	0	0	0
cSH	656	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.44	0.44	0.01	0.17	0.17	0.17	0.17
Queue Length 95th (ft)	1	0	0	0	0	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.5	0.0			0.0			
Approach LOS	B							

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	30	5	20	20	1	30	61	30	1250	25	29	40
Future Volume (vph)	30	5	20	20	1	30	61	30	1250	25	29	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.88		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1805	1668		1805	1499			1758	3539	1615		1730
Flt Permitted	0.95	1.00		0.95	1.00			0.27	1.00	1.00		0.15
Satd. Flow (perm)	1805	1668		1805	1499			498	3539	1615		269
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91
Adj. Flow (vph)	33	5	22	22	1	33	66	33	1374	27	32	44
RTOR Reduction (vph)	0	21	0	0	31	0	0	0	0	9	0	0
Lane Group Flow (vph)	33	6	0	22	3	0	0	99	1374	18	0	76
Heavy Vehicles (%)	0%	0%	0%	0%	50%	7%	2%	4%	2%	0%	2%	6%
Turn Type	Prot	NA		Prot	NA		custom	pm+pt	NA	Perm	custom	pm+pt
Protected Phases	7	4		3	8			5	2			1
Permitted Phases							5	2		2	1	6
Actuated Green, G (s)	3.6	6.4		2.2	5.0			73.5	67.8	67.8		73.3
Effective Green, g (s)	3.6	6.4		2.2	5.0			73.5	67.8	67.8		73.3
Actuated g/C Ratio	0.04	0.06		0.02	0.05			0.74	0.68	0.68		0.73
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	64	106		39	74			437	2399	1094		278
v/s Ratio Prot	c0.02	c0.00		0.01	0.00			0.01	c0.39			c0.02
v/s Ratio Perm								0.15		0.01		0.18
v/c Ratio	0.52	0.06		0.56	0.04			0.23	0.57	0.02		0.27
Uniform Delay, d1	47.3	44.0		48.4	45.2			4.1	8.5	5.2		5.6
Progression Factor	1.00	1.00		1.00	1.00			0.66	0.37	1.00		0.85
Incremental Delay, d2	6.9	0.2		17.3	0.2			0.2	0.8	0.0		0.5
Delay (s)	54.2	44.2		65.8	45.4			2.9	4.0	5.3		5.2
Level of Service	D	D		E	D			A	A	A		A
Approach Delay (s)		49.7			53.4				4.0			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	855	75
Future Volume (vph)	855	75
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1568
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	940	82
RTOR Reduction (vph)	0	26
Lane Group Flow (vph)	940	56
Heavy Vehicles (%)	2%	3%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	67.7	67.7
Effective Green, g (s)	67.7	67.7
Actuated g/C Ratio	0.68	0.68
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2395	1061
v/s Ratio Prot	0.27	
v/s Ratio Perm		0.04
v/c Ratio	0.39	0.05
Uniform Delay, d1	7.1	5.4
Progression Factor	0.60	0.36
Incremental Delay, d2	0.4	0.1
Delay (s)	4.7	2.0
Level of Service	A	A
Approach Delay (s)	4.5	
Approach LOS	A	

Intersection Summary

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱		↑↑	↱		↑↑	↱
Traffic Vol, veh/h	0	0	36	0	0	76	0	1290	61	0	910	46
Future Vol, veh/h	0	0	36	0	0	76	0	1290	61	0	910	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	0	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	4	0	2	0	0	2	0
Mvmt Flow	0	0	40	0	0	84	0	1433	68	0	1011	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	506	-	-	717	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.98	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.34	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	517	0	0	368	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	517	-	-	368	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	17.7	0	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	517	368	-	-
HCM Lane V/C Ratio	-	-	0.077	0.229	-	-
HCM Control Delay (s)	-	-	12.5	17.7	-	-
HCM Lane LOS	-	-	B	C	-	-
HCM 95th %tile Q(veh)	-	-	0.3	0.9	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	65	5	1351	926	20
Future Vol, veh/h	0	65	5	1351	926	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	0	0	2	2	0
Mvmt Flow	0	72	6	1501	1029	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	526	1051	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	5.3	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	0	429	376	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	429	376	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.1	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	376	-	429	-	-
HCM Lane V/C Ratio	0.015	-	0.168	-	-
HCM Control Delay (s)	14.7	-	15.1	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	1	20	140	1	125	15	15	1155	125	76	100
Future Volume (vph)	1	1	20	140	1	125	15	15	1155	125	76	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5			4.5	4.5	4.5		4.5
Lane Util. Factor		1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt		0.88		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected		1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)		1661		1736	1541			1788	3574	1568		1740
Flt Permitted		0.99		0.74	1.00			0.31	1.00	1.00		0.13
Satd. Flow (perm)		1650		1355	1541			582	3574	1568		239
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89
Adj. Flow (vph)	1	1	22	157	1	140	16	17	1298	140	83	112
RTOR Reduction (vph)	0	18	0	0	117	0	0	0	0	46	0	0
Lane Group Flow (vph)	0	6	0	157	24	0	0	33	1298	94	0	195
Heavy Vehicles (%)	0%	0%	0%	4%	0%	5%	2%	0%	1%	3%	2%	5%
Turn Type	Perm	NA		Perm	NA		pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8			2	2		2	6	6
Actuated Green, G (s)		16.2		16.2	16.2			63.1	59.6	59.6		74.8
Effective Green, g (s)		16.2		16.2	16.2			63.1	59.6	59.6		74.8
Actuated g/C Ratio		0.16		0.16	0.16			0.63	0.60	0.60		0.75
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5	4.5		4.5
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		267		219	249			409	2130	934		339
v/s Ratio Prot					0.02			0.00	c0.36			c0.06
v/s Ratio Perm		0.00		c0.12				0.05		0.06		0.37
v/c Ratio		0.02		0.72	0.10			0.08	0.61	0.10		0.58
Uniform Delay, d1		35.2		39.7	35.7			6.9	12.8	8.7		9.7
Progression Factor		1.00		1.00	1.00			0.63	0.58	0.29		2.92
Incremental Delay, d2		0.0		10.6	0.2			0.1	1.2	0.2		2.3
Delay (s)		35.3		50.4	35.8			4.5	8.6	2.7		30.6
Level of Service		D		D	D			A	A	A		C
Approach Delay (s)		35.3			43.5				7.9			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	810	5
Future Volume (vph)	810	5
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	
Lane Util. Factor	0.95	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	3536	
Flt Permitted	1.00	
Satd. Flow (perm)	3536	
Peak-hour factor, PHF	0.89	0.89
Adj. Flow (vph)	910	6
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	916	0
Heavy Vehicles (%)	2%	0%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	66.8	
Effective Green, g (s)	66.8	
Actuated g/C Ratio	0.67	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2362	
v/s Ratio Prot	0.26	
v/s Ratio Perm		
v/c Ratio	0.39	
Uniform Delay, d1	7.4	
Progression Factor	0.47	
Incremental Delay, d2	0.5	
Delay (s)	4.0	
Level of Service	A	
Approach Delay (s)	8.7	
Approach LOS	A	

Intersection Summary

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	55	0	1310	950	35
Future Vol, veh/h	0	55	0	1310	950	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	60	0	1440	1044	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	522	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	505	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	505	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	505	-	-
HCM Lane V/C Ratio	-	0.12	-	-
HCM Control Delay (s)	-	13.1	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	195	65	75	1065	51	720	235
Future Volume (vph)	195	65	75	1065	51	720	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1553	1719	3539	1805	3539	1583
Flt Permitted	0.95	1.00	0.33	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1553	594	3539	1805	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	71	82	1158	55	783	255
RTOR Reduction (vph)	0	59	0	0	0	0	93
Lane Group Flow (vph)	212	12	82	1158	55	783	162
Heavy Vehicles (%)	1%	4%	5%	2%	0%	2%	2%
Turn Type	Prot	Perm	pm+pt	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4	2				6
Actuated Green, G (s)	17.2	17.2	67.7	61.9	7.4	63.5	63.5
Effective Green, g (s)	17.2	17.2	67.7	61.9	7.4	63.5	63.5
Actuated g/C Ratio	0.17	0.17	0.68	0.62	0.07	0.64	0.64
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	307	267	467	2190	133	2247	1005
v/s Ratio Prot	c0.12		0.01	c0.33	c0.03	0.22	
v/s Ratio Perm		0.01	0.11				0.10
v/c Ratio	0.69	0.05	0.18	0.53	0.41	0.35	0.16
Uniform Delay, d1	38.9	34.6	5.6	10.8	44.2	8.6	7.4
Progression Factor	1.00	1.00	1.00	1.00	1.05	0.79	1.02
Incremental Delay, d2	6.5	0.1	0.2	0.9	2.0	0.4	0.3
Delay (s)	45.4	34.6	5.8	11.7	48.2	7.1	7.9
Level of Service	D	C	A	B	D	A	A
Approach Delay (s)	42.7			11.3		9.4	
Approach LOS	D			B		A	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	45	1095	5	20	765
Future Vol, veh/h	5	45	1095	5	20	765
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	25	2	2	40	10	3
Mvmt Flow	5	47	1141	5	21	797

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1585	1144	0	0	1146	0
Stage 1	1144	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Critical Hdwy	6.975	6.23	-	-	4.25	-
Critical Hdwy Stg 1	5.775	-	-	-	-	-
Critical Hdwy Stg 2	6.175	-	-	-	-	-
Follow-up Hdwy	3.7375	3.319	-	-	2.295	-
Pot Cap-1 Maneuver	91	242	-	-	571	-
Stage 1	263	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	88	242	-	-	571	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	263	-	-	-	-	-
Stage 2	542	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.3	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	206	571	-
HCM Lane V/C Ratio	-	-	0.253	0.036	-
HCM Control Delay (s)	-	-	28.3	11.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1	0.1	-

LANE SUMMARY

Site: 101 [P3 Panola Rd @ Panola Mill Drive - 2047 AM - Single Lane (LOS C)]

Panola Rd @ Panola Mill Drive - 2047 AM (environment factor 1.05)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	1168	3.0	1341	0.871	100	21.6	LOS C	23.6	603.3	Full	1600	0.0	0.0
Approach	1168	3.0		0.871		21.6	LOS C	23.6	603.3				
North: Panola Rd													
Lane 1[d]	837	2.5	1395	0.600	100	9.4	LOS A	7.4	187.8	Full	1600	0.0	0.0
Approach	837	2.5		0.600		9.4	LOS A	7.4	187.8				
West: Panola Mill Drive													
Lane 1[d]	54	10.5	659	0.083	100	6.4	LOS A	0.5	12.6	Full	1600	0.0	0.0
Approach	54	10.5		0.083		6.4	LOS A	0.5	12.6				
Intersection	2060	3.0		0.871		16.2	LOS C	23.6	603.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	15	1070	730	40
Future Vol, veh/h	5	1	15	1070	730	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	50	0	2	3	6
Mvmt Flow	5	1	16	1115	760	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1928	781	802	0	-	0
Stage 1	781	-	-	-	-	-
Stage 2	1147	-	-	-	-	-
Critical Hdwy	6.4	6.7	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	2.2	-	-	-
Pot Cap-1 Maneuver	74	328	830	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	70	328	830	-	-	-
Mov Cap-2 Maneuver	70	-	-	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	305	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	53.1	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	830	-	81	-	-
HCM Lane V/C Ratio	0.019	-	0.077	-	-
HCM Control Delay (s)	9.4	0	53.1	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

LANE SUMMARY

Site: 101 [P4 Panola Rd @ Black Foot Drive - 2047 AM - Single Lane (LOS B)]

Panola Rd @ Black Foot Drive - 2047 AM (environment factor 1.05)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	1175	2.5	1402	0.838	100	18.2	LOS C	19.6	500.9	Full	1600	0.0	0.0
Approach	1175	2.5		0.838		18.2	LOS C	19.6	500.9				
East: Black Foot Drive													
Lane 1[d]	11	22.0	351	0.031	100	10.7	LOS B	0.2	5.2	Full	1600	0.0	0.0
Approach	11	22.0		0.031		10.7	LOS B	0.2	5.2				
North: Panola Rd													
Lane 1[d]	795	3.0	1386	0.573	100	8.9	LOS A	6.9	176.1	Full	1600	0.0	0.0
Approach	795	3.0		0.573		8.9	LOS A	6.9	176.1				
Intersection	1980	2.8		0.838		14.4	LOS B	19.6	500.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 101 [P5 Panola Rd @ Rock Springs Road - 2047 AM - Turbo (LOS B)]

Panola Rd @ Rock Springs Road - 2047 AM (environment factor 1.05)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	643	3.5	1118	0.575	100	10.4	LOS B	4.9	125.9	Full	1600	0.0	0.0
Lane 2	466	3.5	989	0.471	82[6]	9.2	LOS A	3.1	78.7	Short	400	0.0	NA
Approach	1109	3.5		0.575		9.9	LOS A	4.9	125.9				
East: Rock Springs Rd													
Lane 1[d]	386	4.5	686	0.562	100	14.6	LOS B	4.3	111.9	Full	1600	0.0	0.0
Lane 2	190	4.5	502	0.379	67[6]	13.4	LOS B	2.0	51.8	Short	200	0.0	NA
Approach	576	4.5		0.562		14.2	LOS B	4.3	111.9				
North: Panola Rd													
Lane 1[d]	472	2.5	901	0.524	100	10.9	LOS B	4.6	118.1	Full	1600	0.0	0.0
Lane 2	327	2.5	764	0.428	82[6]	10.3	LOS B	2.9	73.3	Short	400	0.0	NA
Approach	799	2.5		0.524		10.7	LOS B	4.6	118.1				
West: Rock Springs Rd													
Lane 1[d]	283	3.5	828	0.342	100	8.3	LOS A	1.8	47.4	Full	1600	0.0	0.0
Lane 2	146	3.5	635	0.230	67[6]	8.5	LOS A	1.1	27.8	Short	200	0.0	NA
Approach	429	3.5		0.342		8.4	LOS A	1.8	47.4				
Intersection	2913	3.4		0.575		10.7	LOS B	4.9	125.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	1020	1	0	860
Future Vol, veh/h	0	1	1020	1	0	860
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	1085	1	0	915

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1086	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	265	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	265	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	265	-
HCM Lane V/C Ratio	-	-	0.004	-
HCM Control Delay (s)	-	-	18.6	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

LANE SUMMARY

Site: 101 [P6 Panola Rd @ Ceder Rock Drive - 2047 AM - Single Lane (LOS B)]

Panola Rd @ Ceder Rock Drive - 2047 AM (environment factor 1.05)
Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	1077	3.5	1347	0.800	100	16.3	LOS C	13.6	350.0	Full	1600	0.0	0.0
Approach	1077	3.5		0.800		16.3	LOS C	13.6	350.0				
East: Ceder Rock Drive													
Lane 1[d]	49	1.5	442	0.111	100	9.7	LOS A	0.8	19.0	Full	1600	0.0	0.0
Approach	49	1.5		0.111		9.7	LOS A	0.8	19.0				
North: Panola Rd													
Lane 1[d]	924	3.5	1381	0.669	100	11.1	LOS B	10.2	261.8	Full	1600	0.0	0.0
Approach	924	3.5		0.669		11.1	LOS B	10.2	261.8				
Intersection	2050	3.5		0.800		13.8	LOS B	13.6	350.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	990	1	0	825
Future Vol, veh/h	0	1	990	1	0	825
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	5
Mvmt Flow	0	1	1053	1	0	878

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1053	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	277	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	277	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	277	-
HCM Lane V/C Ratio	-	-	0.004	-
HCM Control Delay (s)	-	-	18	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	215	1	770	1	0	820	5
Future Vol, veh/h	5	0	5	0	0	215	1	770	1	0	820	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	0	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	2	0	3	0	0	5	0
Mvmt Flow	5	0	5	0	0	231	1	828	1	0	882	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1828	1712	882	-	-	829	887	0	0	-	-	0
Stage 1	882	882	-	-	-	-	-	-	-	-	-	-
Stage 2	946	830	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.22	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.318	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	60	91	348	0	0	370	772	-	-	0	-	-
Stage 1	344	367	-	0	0	-	-	-	-	0	-	-
Stage 2	317	388	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	23	91	348	-	-	370	772	-	-	-	-	-
Mov Cap-2 Maneuver	23	91	-	-	-	-	-	-	-	-	-	-
Stage 1	344	367	-	-	-	-	-	-	-	-	-	-
Stage 2	119	388	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	114.6	29.6	0	0
HCM LOS	F	D		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWT	SWR
Capacity (veh/h)	772	-	-	370	43	-	-
HCM Lane V/C Ratio	0.001	-	-	0.625	0.25	-	-
HCM Control Delay (s)	9.7	-	-	29.6	114.6	-	-
HCM Lane LOS	A	-	-	D	F	-	-
HCM 95th %tile Q(veh)	0	-	-	4.1	0.8	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	30	740	5	50	775
Future Vol, veh/h	5	30	740	5	50	775
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	5	0
Mvmt Flow	5	33	804	5	54	842

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1757	405	0	0	809	0
Stage 1	807	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.175	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2475	-
Pot Cap-1 Maneuver	86	601	-	-	798	-
Stage 1	404	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	75	601	-	-	798	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	331	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	18.7	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	300	798	-
HCM Lane V/C Ratio	-	-	0.127	0.068	-
HCM Control Delay (s)	-	-	18.7	9.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	725	1	30	750	1	20
Future Vol, veh/h	725	1	30	750	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	0	5	0	0	6
Mvmt Flow	763	1	32	789	1	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	764	0	1617	764
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	853	-
Critical Hdwy	-	-	4.15	-	6.4	6.26
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.354
Pot Cap-1 Maneuver	-	-	836	-	115	397
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	836	-	107	397
Mov Cap-2 Maneuver	-	-	-	-	107	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	392	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	352	-	-	836	-
HCM Lane V/C Ratio	0.063	-	-	0.038	-
HCM Control Delay (s)	15.9	-	-	9.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

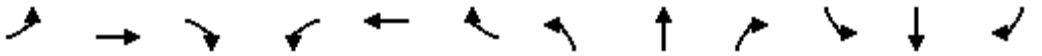
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	↱
Traffic Vol, veh/h	15	1	1	15	1	5	1	705	15	1	745	5
Future Vol, veh/h	15	1	1	15	1	5	1	705	15	1	745	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	33	0	3	11	0	5	0
Mvmt Flow	16	1	1	16	1	5	1	734	16	1	776	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1525	1530	776	1526	1527	742	781	0	0	750	0	0
Stage 1	778	778	-	744	744	-	-	-	-	-	-	-
Stage 2	747	752	-	782	783	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.53	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.597	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	97	118	401	97	119	369	845	-	-	868	-	-
Stage 1	392	410	-	410	424	-	-	-	-	-	-	-
Stage 2	408	421	-	390	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	95	118	401	96	119	369	845	-	-	868	-	-
Mov Cap-2 Maneuver	95	118	-	96	119	-	-	-	-	-	-	-
Stage 1	391	409	-	409	423	-	-	-	-	-	-	-
Stage 2	400	420	-	387	406	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.1	42.3	0	0
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	845	-	-	101	118	868	-	-
HCM Lane V/C Ratio	0.001	-	-	0.175	0.185	0.001	-	-
HCM Control Delay (s)	9.3	0	-	48.1	42.3	9.2	0	-
HCM Lane LOS	A	A	-	E	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.6	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	90	5	65	420	65	5	475	50	125	495	140
Future Volume (veh/h)	180	90	5	65	420	65	5	475	50	125	495	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1307	1841	1856	1841	1900	1856	1767	1693	1856	1826
Adj Flow Rate, veh/h	191	96	5	69	447	0	5	505	53	133	527	149
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	6	40	4	3	4	0	3	9	14	3	5
Cap, veh/h	351	789	482	98	465		12	699	564	268	785	655
Arrive On Green	0.10	0.44	0.44	0.30	0.30	0.00	0.01	0.38	0.38	0.05	0.42	0.42
Sat Flow, veh/h	1753	1811	1108	193	1577	1560	1810	1856	1497	1612	1856	1547
Grp Volume(v), veh/h	191	96	5	516	0	0	5	505	53	133	527	149
Grp Sat Flow(s),veh/h/ln	1753	1811	1108	1770	0	1560	1810	1856	1497	1612	1856	1547
Q Serve(g_s), s	7.2	3.2	0.3	23.8	0.0	0.0	0.3	23.3	2.3	4.9	22.9	6.1
Cycle Q Clear(g_c), s	7.2	3.2	0.3	29.0	0.0	0.0	0.3	23.3	2.3	4.9	22.9	6.1
Prop In Lane	1.00		1.00	0.13		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	351	789	482	563	0		12	699	564	268	785	655
V/C Ratio(X)	0.54	0.12	0.01	0.92	0.00		0.43	0.72	0.09	0.50	0.67	0.23
Avail Cap(c_a), veh/h	500	942	576	563	0		90	699	564	268	785	655
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	16.8	16.0	35.0	0.0	0.0	49.5	26.7	20.1	20.4	23.2	18.4
Incr Delay (d2), s/veh	1.3	0.1	0.0	20.0	0.0	0.0	22.6	6.4	0.3	1.4	4.5	0.8
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	3.0	1.3	0.1	15.4	0.0	0.0	0.2	11.1	0.8	1.9	10.5	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	16.9	16.0	54.9	0.0	0.0	72.1	33.1	20.5	21.8	27.8	19.2
LnGrp LOS	C	B	B	D	A		E	C	C	C	C	B
Approach Vol, veh/h		292			516			563			809	
Approach Delay, s/veh		19.4			54.9			32.2			25.2	
Approach LOS		B			D			C			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	42.2		48.0	5.1	46.8	14.0	34.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.3	29.2		52.0	5.0	29.5	18.0	29.5				
Max Q Clear Time (g_c+I1), s	6.9	25.3		5.2	2.3	24.9	9.2	31.0				
Green Ext Time (p_c), s	0.0	1.2		0.6	0.0	1.6	0.3	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			33.3									
HCM 6th LOS			C									

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	1	0	530	1	0	550	15
Future Vol, veh/h	0	0	5	0	0	1	0	530	1	0	550	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	0	0	50	0	0	0	3	0	0	4	0
Mvmt Flow	0	0	5	0	0	1	0	576	1	0	598	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	307	-	-	576	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	695	0	0	521	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	695	-	-	521	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	11.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	695	521	-	-
HCM Lane V/C Ratio	-	-	0.008	0.002	-	-
HCM Control Delay (s)	-	-	10.2	11.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	5	515	535	20
Future Vol, veh/h	15	15	5	515	535	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	17	3	4	7
Mvmt Flow	17	17	6	592	615	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1219	615	638	0	-	0
Stage 1	615	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.27	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.353	-	-	-
Pot Cap-1 Maneuver	201	495	878	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	199	495	878	-	-	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	550	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	878	-	284	-	-
HCM Lane V/C Ratio	0.007	-	0.121	-	-
HCM Control Delay (s)	9.1	0	19.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	30	490	15	15	535
Future Vol, veh/h	15	30	490	15	15	535
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	4	8	9	3
Mvmt Flow	17	34	557	17	17	608

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	895	557	0	0	574	0
Stage 1	557	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.235	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2855	-
Pot Cap-1 Maneuver	299	534	-	-	957	-
Stage 1	578	-	-	-	-	-
Stage 2	700	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	291	534	-	-	957	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	578	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	418	957	-
HCM Lane V/C Ratio	-	-	0.122	0.018	-
HCM Control Delay (s)	-	-	14.8	8.8	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

LANE SUMMARY

Site: 101 [P9 Panola Rd @ Browns Mill SR 212 - 2047 AM - Turbo (LOS C)]

Panola Rd @ Browns Mill SR 212 - 2047 PM
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	435	5.5	756	0.575	100	13.9	LOS B	4.7	122.7	Full	1600	0.0	0.0
Lane 2	130	5.5	477	0.273	48[5]	11.7	LOS B	1.2	31.3	Full	1600	0.0	0.0
Approach	565	5.5		0.575		13.4	LOS B	4.7	122.7				
East: Rock Springs Rd													
Lane 1	547	3.5	848	0.645	100	14.8	LOS B	7.9	202.1	Full	1600	0.0	0.0
Lane 2[d]	605	3.5	939	0.645	100	13.7	LOS B	8.1	208.2	Full	1600	0.0	0.0
Approach	1152	3.5		0.645		14.3	LOS B	8.1	208.2				
North: Panola Rd													
Lane 1[d]	582	4.0	699	0.832	100	29.5	LOS D	11.6	298.9	Full	1600	0.0	0.0
Lane 2	16	4.0	410	0.040	100	9.3	LOS A	0.2	4.1	Full	1600	0.0	0.0
Approach	598	4.0		0.832		28.9	LOS D	11.6	298.9				
West: Rock Springs Rd													
Lane 1	344	2.0	639	0.538	100	14.7	LOS B	4.9	124.9	Full	1600	0.0	0.0
Lane 2[d]	395	2.0	735	0.538	100	13.2	LOS B	5.2	131.6	Full	1600	0.0	0.0
Approach	739	2.0		0.538		13.9	LOS B	5.2	131.6				
Intersection	3054	3.6		0.832		16.9	LOS C	11.6	298.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	170	180	40	230	110	350	53	30	1015	150	370	1255
Future Volume (vph)	170	180	40	230	110	350	53	30	1015	150	370	1255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00	0.88		1.00	0.91		0.97	0.95
Frt	1.00	0.97		1.00	1.00	0.85		1.00	0.98		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	1756		1805	1863	2814		1761	4987		3467	3553
Flt Permitted	0.68	1.00		0.29	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1300	1756		554	1863	2814		1761	4987		3467	3553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	175	186	41	237	113	361	55	31	1046	155	381	1294
RTOR Reduction (vph)	0	8	0	0	0	123	0	0	18	0	0	2
Lane Group Flow (vph)	175	219	0	237	113	238	0	86	1183	0	381	1333
Heavy Vehicles (%)	0%	6%	2%	0%	2%	1%	0%	7%	2%	2%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8	1	5	5	2		1	6
Permitted Phases	4			8		8						
Actuated Green, G (s)	25.8	16.2		29.8	18.2	33.8		6.8	38.6		15.6	47.4
Effective Green, g (s)	25.8	16.2		29.8	18.2	33.8		6.8	38.6		15.6	47.4
Actuated g/C Ratio	0.26	0.16		0.30	0.18	0.34		0.07	0.39		0.16	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	383	284		310	339	1077		119	1924		540	1684
v/s Ratio Prot	0.04	0.12		c0.09	0.06	0.03		0.05	0.24		c0.11	c0.38
v/s Ratio Perm	0.07			c0.14		0.05						
v/c Ratio	0.46	0.77		0.76	0.33	0.22		0.72	0.61		0.71	0.79
Uniform Delay, d1	30.5	40.1		28.9	35.6	23.7		45.7	24.7		40.0	22.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.04	0.92		1.00	1.00
Incremental Delay, d2	0.9	11.9		10.7	0.6	0.1		17.4	1.3		4.2	3.9
Delay (s)	31.4	52.0		39.6	36.2	23.8		64.9	24.0		44.2	26.0
Level of Service	C	D		D	D	C		E	C		D	C
Approach Delay (s)		43.0			31.0				26.7			30.1
Approach LOS		D			C				C			C

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

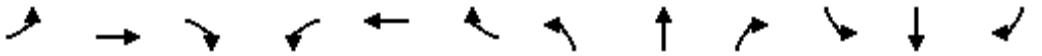
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	40
Future Volume (vph)	40
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	41
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	5%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	10	1237	31	0	1578
Future Volume (Veh/h)	0	10	1237	31	0	1578
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	11	1302	33	0	1661
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			547			197
pX, platoon unblocked	0.68					
vC, conflicting volume	2149	342			1335	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1749	342			1335	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	53	660			523	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	11	372	372	372	219	830	830
Volume Left	0	0	0	0	0	0	0
Volume Right	11	0	0	0	33	0	0
cSH	660	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.22	0.22	0.22	0.13	0.49	0.49
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.5	0.0				0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	75	0	0	21	0	1247	6	0	1469	110
Future Volume (Veh/h)	0	0	75	0	0	21	0	1247	6	0	1469	110
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	78	0	0	22	0	1299	6	0	1530	115
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								403			341	
pX, platoon unblocked	0.76	0.76	0.69	0.76	0.76	0.84	0.69			0.84		
vC, conflicting volume	1985	2835	765	2142	2944	433	1645			1305		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439	1552	0	644	1695	0	1022			711		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	100	100	98	100			100		
cM capacity (veh/h)	378	87	747	247	72	920	471			757		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	78	22	433	433	433	6	765	765	115
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	78	22	0	0	0	6	0	0	115
cSH	747	920	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.02	0.25	0.25	0.25	0.00	0.45	0.45	0.07
Queue Length 95th (ft)	9	2	0	0	0	0	0	0	0
Control Delay (s)	10.4	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A							
Approach Delay (s)	10.4	9.0	0.0				0.0		
Approach LOS	B	A							

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	51.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	16	1235	6	0	1543
Future Volume (Veh/h)	0	16	1235	6	0	1543
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	17	1300	6	0	1624
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			256			488
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	1706	650			1306	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1389	75			891	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	109	786			618	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	17	650	650	6	406	406	406	406
Volume Left	0	0	0	0	0	0	0	0
Volume Right	17	0	0	6	0	0	0	0
cSH	786	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.38	0.38	0.00	0.24	0.24	0.24	0.24
Queue Length 95th (ft)	2	0	0	0	0	0	0	0
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.7	0.0			0.0			
Approach LOS	A							

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	110	30	65	85	20	45	116	50	1075	90	12	75
Future Volume (vph)	110	30	65	85	20	45	116	50	1075	90	12	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.90		1.00	0.90			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1805	1706		1805	1680			1780	3505	1615		1726
Flt Permitted	0.95	1.00		0.95	1.00			0.08	1.00	1.00		0.21
Satd. Flow (perm)	1805	1706		1805	1680			155	3505	1615		385
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95
Adj. Flow (vph)	116	32	68	89	21	47	126	53	1132	95	13	79
RTOR Reduction (vph)	0	62	0	0	44	0	0	0	0	39	0	0
Lane Group Flow (vph)	116	38	0	89	24	0	0	179	1132	56	0	92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	2%	0%	3%	0%	2%	5%
Turn Type	Prot	NA		Prot	NA		custom	pm+pt	NA	Perm	custom	pm+pt
Protected Phases	7	4		3	8			5	2			1
Permitted Phases							5	2		2	1	6
Actuated Green, G (s)	10.3	8.7		7.9	6.3			69.9	59.2	59.2		57.8
Effective Green, g (s)	10.3	8.7		7.9	6.3			69.9	59.2	59.2		57.8
Actuated g/C Ratio	0.10	0.09		0.08	0.06			0.70	0.59	0.59		0.58
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	185	148		142	105			332	2074	956		305
v/s Ratio Prot	c0.06	c0.02		0.05	0.01			c0.07	0.32			0.02
v/s Ratio Perm								0.30		0.03		0.16
v/c Ratio	0.63	0.26		0.63	0.23			0.54	0.55	0.06		0.30
Uniform Delay, d1	43.0	42.6		44.6	44.5			17.6	12.3	8.6		9.8
Progression Factor	1.00	1.00		1.00	1.00			1.98	0.46	0.35		0.51
Incremental Delay, d2	6.5	0.9		8.4	1.1			1.5	0.9	0.1		0.4
Delay (s)	49.5	43.5		53.0	45.7			36.3	6.5	3.2		5.4
Level of Service	D	D		D	D			D	A	A		A
Approach Delay (s)		46.7			49.8				10.1			
Approach LOS		D			D				B			

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1305	150
Future Volume (vph)	1305	150
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3574	1599
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3574	1599
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1374	158
RTOR Reduction (vph)	0	76
Lane Group Flow (vph)	1374	82
Heavy Vehicles (%)	1%	1%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	51.6	51.6
Effective Green, g (s)	51.6	51.6
Actuated g/C Ratio	0.52	0.52
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1844	825
v/s Ratio Prot	c0.38	
v/s Ratio Perm		0.05
v/c Ratio	0.75	0.10
Uniform Delay, d1	19.0	12.3
Progression Factor	0.43	0.04
Incremental Delay, d2	1.9	0.2
Delay (s)	10.1	0.7
Level of Service	B	A
Approach Delay (s)	8.9	
Approach LOS	A	

Intersection Summary

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	146	0	0	61	0	1270	76	0	1440	131
Future Vol, veh/h	0	0	146	0	0	61	0	1270	76	0	1440	131
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	0	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	5	0	0	2	0	0	1	0
Mvmt Flow	0	0	155	0	0	65	0	1351	81	0	1532	139

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	766	-	-	676	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.92	-	-	6.9	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.31	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	348	0	0	401	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	348	-	-	401	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.4	15.7	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	348	401	-	-
HCM Lane V/C Ratio	-	-	0.446	0.162	-	-
HCM Control Delay (s)	-	-	23.4	15.7	-	-
HCM Lane LOS	-	-	C	C	-	-
HCM 95th %tile Q(veh)	-	-	2.2	0.6	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	0	1346	1566	20
Future Vol, veh/h	0	30	0	1346	1566	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	32	0	1447	1684	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	853	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	263	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	263	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	263	-	-
HCM Lane V/C Ratio	-	0.123	-	-
HCM Control Delay (s)	-	20.6	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	10	1	20	115	1	125	25	5	1145	195	66	185
Future Volume (vph)	10	1	20	115	1	125	25	5	1145	195	66	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5			4.5	4.5	4.5		4.5
Lane Util. Factor		1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt		0.91		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected		0.98		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)		1708		1787	1555			1775	3539	1599		1795
Flt Permitted		0.89		0.74	1.00			0.16	1.00	1.00		0.15
Satd. Flow (perm)		1549		1384	1555			303	3539	1599		283
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94
Adj. Flow (vph)	11	1	21	122	1	133	27	5	1218	207	72	197
RTOR Reduction (vph)	0	18	0	0	115	0	0	0	0	58	0	0
Lane Group Flow (vph)	0	15	0	122	19	0	0	32	1218	149	0	269
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	2%	0%	2%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8			2	2		2	6	6
Actuated Green, G (s)		13.7		13.7	13.7			62.9	59.5	59.5		77.3
Effective Green, g (s)		13.7		13.7	13.7			62.9	59.5	59.5		77.3
Actuated g/C Ratio		0.14		0.14	0.14			0.63	0.60	0.60		0.77
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5	4.5		4.5
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		212		189	213			240	2105	951		419
v/s Ratio Prot					0.01			0.00	0.34			c0.09
v/s Ratio Perm		0.01		c0.09				0.08		0.09		c0.41
v/c Ratio		0.07		0.65	0.09			0.13	0.58	0.16		0.64
Uniform Delay, d1		37.6		40.9	37.7			7.3	12.5	9.0		9.6
Progression Factor		1.00		1.00	1.00			0.74	0.65	0.44		2.66
Incremental Delay, d2		0.1		7.4	0.2			0.2	1.0	0.3		2.7
Delay (s)		37.7		48.2	37.9			5.6	9.2	4.3		28.2
Level of Service		D		D	D			A	A	A		C
Approach Delay (s)		37.7			42.8				8.4			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1345	1
Future Volume (vph)	1345	1
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	
Lane Util. Factor	0.95	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	3574	
Flt Permitted	1.00	
Satd. Flow (perm)	3574	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	1431	1
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1432	0
Heavy Vehicles (%)	1%	0%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	69.4	
Effective Green, g (s)	69.4	
Actuated g/C Ratio	0.69	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2480	
v/s Ratio Prot	0.40	
v/s Ratio Perm		
v/c Ratio	0.58	
Uniform Delay, d1	7.8	
Progression Factor	0.51	
Incremental Delay, d2	0.8	
Delay (s)	4.8	
Level of Service	A	
Approach Delay (s)	8.5	
Approach LOS	A	

Intersection Summary

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	45	0	1370	1430	75
Future Vol, veh/h	0	45	0	1370	1430	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	47	0	1442	1505	79

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	753	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	357	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	357	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	357	-	-
HCM Lane V/C Ratio	-	0.133	-	-
HCM Control Delay (s)	-	16.6	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	370	55	40	970	31	1095	350
Future Volume (vph)	370	55	40	970	31	1095	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1583	1805	3539	1805	3574	1599
Flt Permitted	0.95	1.00	0.17	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1583	327	3539	1805	3574	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	389	58	42	1021	33	1153	368
RTOR Reduction (vph)	0	43	0	0	0	0	158
Lane Group Flow (vph)	389	15	42	1021	33	1153	210
Heavy Vehicles (%)	1%	2%	0%	2%	0%	1%	1%
Turn Type	Prot	Perm	pm+pt	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4	2				6
Actuated Green, G (s)	25.9	25.9	60.4	57.0	3.6	57.2	57.2
Effective Green, g (s)	25.9	25.9	60.4	57.0	3.6	57.2	57.2
Actuated g/C Ratio	0.26	0.26	0.60	0.57	0.04	0.57	0.57
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	462	409	247	2017	64	2044	914
v/s Ratio Prot	c0.22		0.01	0.29	c0.02	c0.32	
v/s Ratio Perm		0.01	0.10				0.13
v/c Ratio	0.84	0.04	0.17	0.51	0.52	0.56	0.23
Uniform Delay, d1	35.1	27.7	9.6	13.0	47.3	13.5	10.5
Progression Factor	1.00	1.00	1.00	1.00	1.22	0.68	0.49
Incremental Delay, d2	13.1	0.0	0.3	0.9	5.9	1.0	0.5
Delay (s)	48.2	27.8	10.0	13.9	63.5	10.2	5.7
Level of Service	D	C	A	B	E	B	A
Approach Delay (s)	45.5			13.7		10.3	
Approach LOS	D			B		B	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	50	960	5	70	1080
Future Vol, veh/h	5	50	960	5	70	1080
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	180	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	2	0	3	1
Mvmt Flow	5	53	1021	5	74	1149

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1747	1024	0	0	1026	0
Stage 1	1024	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.6	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	87	283	-	-	670	-
Stage 1	350	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	77	283	-	-	670	-
Mov Cap-2 Maneuver	77	-	-	-	-	-
Stage 1	350	-	-	-	-	-
Stage 2	398	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.2	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	228	670	-
HCM Lane V/C Ratio	-	-	0.257	0.111	-
HCM Control Delay (s)	-	-	26.2	11	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1	0.4	-

LANE SUMMARY

Site: 101 [P3 Panola Rd @ Panola Mill Drive - 2047 PM - Single Lane (LOS C)]

Panola Rd @ Panola Mill Drive - 2047 PM (environment factor 1.05)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	1038	1.0	1379	0.753	100	13.8	LOS B	13.6	341.8	Full	1600	0.0	0.0
Approach	1038	1.0		0.753		13.8	LOS B	13.6	341.8				
North: Panola Rd													
Lane 1[d]	1179	0.0	1415	0.833	100	17.8	LOS C	19.2	480.7	Full	1600	0.0	0.0
Approach	1179	0.0		0.833		17.8	LOS C	19.2	480.7				
West: Panola Mill Drive													
Lane 1[d]	43	0.0	486	0.089	100	8.6	LOS A	0.6	15.6	Full	1600	0.0	0.0
Approach	43	0.0		0.089		8.6	LOS A	0.6	15.6				
Intersection	2261	0.5		0.833		15.8	LOS C	19.2	480.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	950	1045	15
Future Vol, veh/h	5	5	5	950	1045	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	5	5	5	1033	1136	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2187	1144	1152	0	-	0
Stage 1	1144	-	-	-	-	-
Stage 2	1043	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	51	246	614	-	-	-
Stage 1	306	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	50	246	614	-	-	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	342	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	54.8	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	614	-	83	-	-
HCM Lane V/C Ratio	0.009	-	0.131	-	-
HCM Control Delay (s)	10.9	0	54.8	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

LANE SUMMARY

Site: 101 [P4 Panola Rd @ Black Foot Drive - 2047 PM - Single Lane (LOS C)]

Panola Rd @ Black Foot Drive - 2047 PM (environment factor 1.05)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	1049	1.0	1423	0.737	100	12.9	LOS B	11.3	286.0	Full	1600	0.0	0.0
Approach	1049	1.0		0.737		12.9	LOS B	11.3	286.0				
East: Black Foot Drive													
Lane 1[d]	11	3.0	567	0.019	100	6.6	LOS A	0.1	2.9	Full	1600	0.0	0.0
Approach	11	3.0		0.019		6.6	LOS A	0.1	2.9				
North: Panola Rd													
Lane 1[d]	1142	3.0	1388	0.823	100	17.4	LOS C	21.1	540.1	Full	1600	0.0	0.0
Approach	1142	3.0		0.823		17.4	LOS C	21.1	540.1				
Intersection	2202	2.0		0.823		15.2	LOS C	21.1	540.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 101 [P5 Panola Rd @ Rock Springs Road - 2047 PM - Turbo (LOS B)]

Panola Rd @ Rock Springs Road - 2047 PM (environment factor 1.05)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	545	1.0	984	0.554	100	10.9	LOS B	5.3	133.9	Full	1600	0.0	0.0
Lane 2	384	1.0	847	0.453	82[6]	10.0	LOS A	3.2	79.5	Short	400	0.0	NA
Approach	929	1.0		0.554		10.5	LOS B	5.3	133.9				
East: Rock Springs Rd													
Lane 1[d]	234	1.0	762	0.307	100	8.3	LOS A	1.6	41.5	Full	1600	0.0	0.0
Lane 2	103	1.0	553	0.187	61[5]	8.9	LOS A	0.9	21.6	Short	200	0.0	NA
Approach	337	1.0		0.307		8.5	LOS A	1.6	41.5				
North: Panola Rd													
Lane 1[d]	666	1.0	1138	0.585	100	10.4	LOS B	5.3	134.3	Full	1600	0.0	0.0
Lane 2	481	1.0	1006	0.478	82[6]	9.2	LOS A	3.2	79.6	Short	400	0.0	NA
Approach	1147	1.0		0.585		9.9	LOS A	5.3	134.3				
West: Rock Springs Rd													
Lane 1[d]	424	1.0	746	0.568	100	13.8	LOS B	4.6	115.8	Full	1600	0.0	0.0
Lane 2	212	1.0	555	0.383	67[6]	12.4	LOS B	2.1	52.7	Short	200	0.0	NA
Approach	636	1.0		0.568		13.3	LOS B	4.6	115.8				
Intersection	3049	1.0		0.585		10.7	LOS B	5.3	134.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	855	1	0	1155
Future Vol, veh/h	0	1	855	1	0	1155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	881	1	0	1191

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	882	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	348	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	348	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	348	-
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	15.4	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

LANE SUMMARY

Site: 101 [P6 Panola Rd @ Ceder Rock Drive - 2047 PM - Single Lane (LOS B)]

Panola Rd @ Ceder Rock Drive - 2047 PM (environment factor 1.05)
Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	929	1.0	1360	0.683	100	11.6	LOS B	9.0	227.0	Full	1600	0.0	0.0
Approach	929	1.0		0.683		11.6	LOS B	9.0	227.0				
East: Ceder Rock Drive													
Lane 1[d]	43	1.0	580	0.075	100	7.1	LOS A	0.5	11.9	Full	1600	0.0	0.0
Approach	43	1.0		0.075		7.1	LOS A	0.5	11.9				
North: Panola Rd													
Lane 1[d]	1245	1.0	1397	0.891	100	22.9	LOS C	32.7	823.0	Full	1600	0.0	0.0
Approach	1245	1.0		0.891		22.9	LOS C	32.7	823.0				
Intersection	2217	1.0		0.891		17.8	LOS C	32.7	823.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	855	1	0	1120
Future Vol, veh/h	0	1	855	1	0	1120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	1	864	1	0	1131

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	864	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	357	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	357	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	357	-
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	15.1	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	0	0	85	10	765	5	0	1105	15
Future Vol, veh/h	5	0	5	0	0	85	10	765	5	0	1105	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	0	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	1	0	2	0	0	1	0
Mvmt Flow	5	0	5	0	0	86	10	773	5	0	1116	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1952	1909	1116	-	-	776	1131	0	0	-	-	0
Stage 1	1116	1116	-	-	-	-	-	-	-	-	-	-
Stage 2	836	793	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	-	-	6.21	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	3.309	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	49	69	255	0	0	399	625	-	-	0	-	-
Stage 1	254	285	-	0	0	-	-	-	-	0	-	-
Stage 2	364	403	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	38	68	255	-	-	399	625	-	-	-	-	-
Mov Cap-2 Maneuver	38	68	-	-	-	-	-	-	-	-	-	-
Stage 1	250	285	-	-	-	-	-	-	-	-	-	-
Stage 2	281	397	-	-	-	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	69.2	16.5	0.1	0
HCM LOS	F	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWT	SWR
Capacity (veh/h)	625	-	-	399	66	-	-
HCM Lane V/C Ratio	0.016	-	-	0.215	0.153	-	-
HCM Control Delay (s)	10.9	-	-	16.5	69.2	-	-
HCM Lane LOS	B	-	-	C	F	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.5	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	5	25	755	20	85	1025
Future Vol, veh/h	5	25	755	20	85	1025
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	5	26	778	21	88	1057

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2022	400	0	0	799	0
Stage 1	789	-	-	-	-	-
Stage 2	1233	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	58	605	-	-	833	-
Stage 1	413	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	43	605	-	-	833	-
Mov Cap-2 Maneuver	43	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	207	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	27.6	0	0.8
HCM LOS	D		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	190	833	-
HCM Lane V/C Ratio	-	-	0.163	0.105	-
HCM Control Delay (s)	-	-	27.6	9.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.4	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	705	5	110	920	5	70
Future Vol, veh/h	705	5	110	920	5	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	0	1	0	0	1
Mvmt Flow	734	5	115	958	5	73

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	739	0	1925	737
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	1188	-
Critical Hdwy	-	-	4.11	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	872	-	74	420
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	292	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	872	-	53	420
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	210	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	22.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	287	-	-	872	-
HCM Lane V/C Ratio	0.272	-	-	0.131	-
HCM Control Delay (s)	22.2	-	-	9.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.5	-

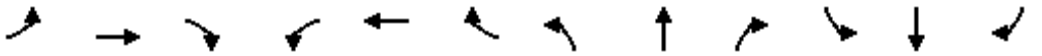
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	↱
Traffic Vol, veh/h	15	1	10	25	5	5	1	690	55	5	895	25
Future Vol, veh/h	15	1	10	25	5	5	1	690	55	5	895	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	2	0
Mvmt Flow	16	1	11	27	5	5	1	734	59	5	952	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1733	1757	952	1748	1755	764	979	0	0	793	0	0
Stage 1	962	962	-	766	766	-	-	-	-	-	-	-
Stage 2	771	795	-	982	989	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	70	86	317	68	86	407	713	-	-	837	-	-
Stage 1	310	337	-	398	415	-	-	-	-	-	-	-
Stage 2	396	402	-	302	327	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	65	85	317	64	85	407	713	-	-	837	-	-
Mov Cap-2 Maneuver	65	85	-	64	85	-	-	-	-	-	-	-
Stage 1	309	333	-	397	414	-	-	-	-	-	-	-
Stage 2	385	401	-	287	323	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	57.8	91.3	0	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	713	-	-	95	76	837	-	-
HCM Lane V/C Ratio	0.001	-	-	0.291	0.49	0.006	-	-
HCM Control Delay (s)	10.1	0	-	57.8	91.3	9.3	0	-
HCM Lane LOS	B	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	2	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	195	10	50	235	25	20	510	85	150	630	150
Future Volume (veh/h)	210	195	10	50	235	25	20	510	85	150	630	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1900	1737	1900	1885	1900	1900	1870	1900	1870	1870	1900
Adj Flow Rate, veh/h	223	207	11	53	250	0	21	543	90	160	670	160
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	0	11	0	1	0	0	2	0	2	2	0
Cap, veh/h	404	676	524	87	287		40	829	714	360	911	784
Arrive On Green	0.12	0.36	0.36	0.19	0.19	0.00	0.02	0.44	0.44	0.07	0.49	0.49
Sat Flow, veh/h	1767	1900	1472	236	1505	1610	1810	1870	1610	1781	1870	1610
Grp Volume(v), veh/h	223	207	11	303	0	0	21	543	90	160	670	160
Grp Sat Flow(s),veh/h/ln	1767	1900	1472	1742	0	1610	1810	1870	1610	1781	1870	1610
Q Serve(g_s), s	9.7	7.9	0.5	13.0	0.0	0.0	1.1	22.8	3.3	4.7	28.6	5.7
Cycle Q Clear(g_c), s	9.7	7.9	0.5	17.0	0.0	0.0	1.1	22.8	3.3	4.7	28.6	5.7
Prop In Lane	1.00		1.00	0.17		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	676	524	375	0		40	829	714	360	911	784
V/C Ratio(X)	0.55	0.31	0.02	0.81	0.00		0.53	0.65	0.13	0.44	0.74	0.20
Avail Cap(c_a), veh/h	510	798	618	382	0		90	829	714	364	911	784
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	23.3	20.9	39.5	0.0	0.0	48.4	21.8	16.4	16.0	20.5	14.6
Incr Delay (d2), s/veh	1.2	0.3	0.0	12.0	0.0	0.0	10.3	4.0	0.4	0.9	5.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	3.5	0.2	8.5	0.0	0.0	0.6	10.4	1.2	1.8	12.9	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	23.5	20.9	51.5	0.0	0.0	58.6	25.9	16.8	16.9	25.8	15.2
LnGrp LOS	C	C	C	D	A		E	C	B	B	C	B
Approach Vol, veh/h		441			303			654			990	
Approach Delay, s/veh		25.1			51.5			25.7			22.6	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	48.8		40.1	6.7	53.2	16.5	23.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.8	37.7		42.0	5.0	39.5	18.0	19.5				
Max Q Clear Time (g_c+I1), s	6.7	24.8		9.9	3.1	30.6	11.7	19.0				
Green Ext Time (p_c), s	0.0	3.1		1.3	0.0	3.3	0.3	0.1				

Intersection Summary			
HCM 6th Ctrl Delay		27.6	
HCM 6th LOS		C	

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	15	0	0	1	0	615	1	0	685	5
Future Vol, veh/h	0	0	15	0	0	1	0	615	1	0	685	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	0	0	16	0	0	1	0	676	1	0	753	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	379	-	-	676	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	625	0	0	457	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	625	-	-	457	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	12.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	625	457	-	-
HCM Lane V/C Ratio	-	-	0.026	0.002	-	-
HCM Control Delay (s)	-	-	10.9	12.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	30	5	600	670	30
Future Vol, veh/h	15	30	5	600	670	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	16	32	5	645	720	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1375	720	752	0	-	0
Stage 1	720	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	162	431	867	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	431	867	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	521	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	867	-	276	-	-
HCM Lane V/C Ratio	0.006	-	0.175	-	-
HCM Control Delay (s)	9.2	0	20.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	565	25	30	670
Future Vol, veh/h	5	40	565	25	30	670
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	2	0	4	1
Mvmt Flow	5	43	608	27	32	720

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1032	608	0	0	635	0
Stage 1	608	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Critical Hdwy	6.6	6.23	-	-	4.16	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.319	-	-	2.238	-
Pot Cap-1 Maneuver	246	495	-	-	935	-
Stage 1	547	-	-	-	-	-
Stage 2	634	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	232	495	-	-	935	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	598	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	440	935	-
HCM Lane V/C Ratio	-	-	0.11	0.035	-
HCM Control Delay (s)	-	-	14.2	9	0.2
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

LANE SUMMARY

Site: 101 [P9 Panola Rd @ Browns Mill SR 212 - 2047 PM - Turbo (LOS C)]

Panola Rd @ Browns Mill SR 212 - 2047 PM
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	511	2.0	755	0.677	100	17.5	LOS C	6.9	174.3	Full	1600	0.0	0.0
Lane 2	174	2.0	503	0.346	51[5]	12.6	LOS B	1.7	44.1	Full	1600	0.0	0.0
Approach	685	2.0		0.677		16.3	LOS C	6.9	174.3				
East: Rock Springs Rd													
Lane 1	424	1.0	809	0.524	100	11.9	LOS B	4.7	118.1	Full	1600	0.0	0.0
Lane 2[d]	473	1.0	903	0.524	100	10.9	LOS B	4.8	120.7	Full	1600	0.0	0.0
Approach	897	1.0		0.524		11.4	LOS B	4.8	120.7				
North: Panola Rd													
Lane 1[d]	712	4.0	829	0.859	100	28.7	LOS D	15.2	391.3	Full	1600	0.0	0.0
Lane 2	22	4.0	482	0.045	100	8.0	LOS A	0.2	4.5	Full	1600	0.0	0.0
Approach	734	4.0		0.859		28.1	LOS D	15.2	391.3				
West: Rock Springs Rd													
Lane 1	338	0.5	491	0.689	100	25.5	LOS D	7.9	198.1	Full	1600	0.0	0.0
Lane 2[d]	401	0.5	581	0.689	100	22.2	LOS C	8.6	216.5	Full	1600	0.0	0.0
Approach	739	0.5		0.689		23.7	LOS C	8.6	216.5				
Intersection	3054	1.8		0.859		19.5	LOS C	15.2	391.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Project 10
Synchro and SIDRA Analysis Results

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	40	905	20	0	655
Future Volume (Veh/h)	0	40	905	20	0	655
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	42	943	21	0	682
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						551
pX, platoon unblocked	0.91					
vC, conflicting volume	1294	954			943	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1126	954			943	
tC, single (s)	7.3	6.9			4.3	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.3	
p0 queue free %	100	84			100	
cM capacity (veh/h)	151	259			676	

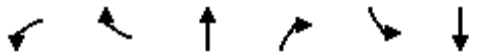
Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	42	964	341	341
Volume Left	0	0	0	0
Volume Right	42	21	0	0
cSH	259	1700	1700	1700
Volume to Capacity	0.16	0.57	0.20	0.20
Queue Length 95th (ft)	15	0	0	0
Control Delay (s)	21.5	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	21.5	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	5	925	640	15
Future Volume (Veh/h)	0	40	5	925	640	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	42	5	974	674	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					762	
pX, platoon unblocked	0.84	0.84	0.84			
vC, conflicting volume	1658	674	674			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1689	512	512			
tC, single (s)	6.5	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.2			
p0 queue free %	100	91	99			
cM capacity (veh/h)	84	454	889			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	42	979	674	16
Volume Left	0	5	0	0
Volume Right	42	0	0	16
cSH	454	889	1700	1700
Volume to Capacity	0.09	0.01	0.40	0.01
Queue Length 95th (ft)	8	0	0	0
Control Delay (s)	13.7	0.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.7	0.2	0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	10	890	0	0	615
Future Volume (Veh/h)	0	10	890	0	0	615
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	11	957	0	0	661
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			822			
pX, platoon unblocked	0.71	0.71			0.71	
vC, conflicting volume	1618	957			957	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1666	736			736	
tC, single (s)	6.4	6.6			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	76	259			625	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	11	957	0	661
Volume Left	0	0	0	0
Volume Right	11	0	0	0
cSH	259	1700	1700	1700
Volume to Capacity	0.04	0.56	0.01	0.39
Queue Length 95th (ft)	3	0	0	0
Control Delay (s)	19.5	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	19.5	0.0		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

LANE SUMMARY

Site: 101 [2027 AM]

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	978	3.0	1298	0.753	100	14.5	LOS B	11.0	282.2	Full	1600	0.0	0.0
Approach	978	3.0		0.753		14.5	LOS B	11.0	282.2				
North: Panola Rd													
Lane 1[d]	723	3.0	1318	0.548	100	8.7	LOS A	5.4	138.6	Full	1600	0.0	0.0
Approach	723	3.0		0.548		8.7	LOS A	5.4	138.6				
West: Ousley Church Drwy													
Lane 1[d]	7	4.0	738	0.009	100	5.0	LOS A	0.0	1.2	Full	1600	0.0	0.0
Approach	7	4.0		0.009		5.0	LOS A	0.0	1.2				
Intersection	1708	3.0		0.753		12.0	LOS B	11.0	282.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	45	815	65	0	955
Future Volume (Veh/h)	0	45	815	65	0	955
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	48	867	69	0	1016
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						551
pX, platoon unblocked	0.78					
vC, conflicting volume	1410	902			867	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	973	902			867	
tC, single (s)	6.8	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	83			100	
cM capacity (veh/h)	199	279			766	

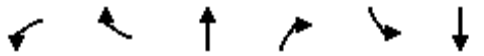
Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	48	936	508	508
Volume Left	0	0	0	0
Volume Right	48	69	0	0
cSH	279	1700	1700	1700
Volume to Capacity	0.17	0.55	0.30	0.30
Queue Length 95th (ft)	16	0	0	0
Control Delay (s)	20.6	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	20.6	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	30	0	880	915	40
Future Volume (Veh/h)	0	30	0	880	915	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	33	0	957	995	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					762	
pX, platoon unblocked	0.67	0.67	0.67			
vC, conflicting volume	1952	995	995			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2178	742	742			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	88	100			
cM capacity (veh/h)	34	279	582			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	33	957	995	43
Volume Left	0	0	0	0
Volume Right	33	0	0	43
cSH	279	1700	1700	1700
Volume to Capacity	0.12	0.56	0.59	0.03
Queue Length 95th (ft)	10	0	0	0
Control Delay (s)	19.6	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	19.6	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	5	795	10	0	860
Future Volume (Veh/h)	0	5	795	10	0	860
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	5	874	11	0	945
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			822			
pX, platoon unblocked	0.74	0.74			0.74	
vC, conflicting volume	1819	874			874	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1929	658			658	
tC, single (s)	6.4	6.5			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	55	317			698	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	5	874	11	945
Volume Left	0	0	0	0
Volume Right	5	0	11	0
cSH	317	1700	1700	1700
Volume to Capacity	0.02	0.51	0.01	0.56
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	16.5	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	16.5	0.0		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

LANE SUMMARY

Site: 101 [2027 PM]

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	871	1.0	1254	0.694	100	12.6	LOS B	7.8	195.4	Full	1600	0.0	0.0
Approach	871	1.0		0.694		12.6	LOS B	7.8	195.4				
North: Panola Rd													
Lane 1[d]	1027	1.0	1358	0.756	100	14.1	LOS B	13.5	340.4	Full	1600	0.0	0.0
Approach	1027	1.0		0.756		14.1	LOS B	13.5	340.4				
West: Ousley Church Drwy													
Lane 1[d]	11	0.0	574	0.019	100	6.5	LOS A	0.1	2.9	Full	1600	0.0	0.0
Approach	11	0.0		0.019		6.5	LOS A	0.1	2.9				
Intersection	1909	1.0		0.756		13.4	LOS B	13.5	340.4				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	50	1100	25	0	795
Future Volume (Veh/h)	0	50	1100	25	0	795
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	52	1146	26	0	828
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						551
pX, platoon unblocked	0.86					
vC, conflicting volume	1573	1159			1146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1339	1159			1146	
tC, single (s)	7.3	6.9			4.3	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.3	
p0 queue free %	100	72			100	
cM capacity (veh/h)	101	189			562	

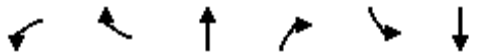
Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	52	1172	414	414
Volume Left	0	0	0	0
Volume Right	52	26	0	0
cSH	189	1700	1700	1700
Volume to Capacity	0.28	0.69	0.24	0.24
Queue Length 95th (ft)	28	0	0	0
Control Delay (s)	31.1	0.0	0.0	0.0
Lane LOS	D			
Approach Delay (s)	31.1	0.0	0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	50	0	1125	770	25
Future Volume (Veh/h)	0	50	0	1125	770	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	53	0	1184	811	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					762	
pX, platoon unblocked	0.77	0.77	0.77			
vC, conflicting volume	1995	811	811			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2140	609	609			
tC, single (s)	6.5	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.2			
p0 queue free %	100	86	100			
cM capacity (veh/h)	40	369	757			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	53	1184	811	26
Volume Left	0	0	0	0
Volume Right	53	0	0	26
cSH	369	1700	1700	1700
Volume to Capacity	0.14	0.70	0.48	0.02
Queue Length 95th (ft)	13	0	0	0
Control Delay (s)	16.4	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	16.4	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	10	1080	1	0	735
Future Volume (Veh/h)	0	10	1080	1	0	735
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	11	1161	1	0	790
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			822			
pX, platoon unblocked	0.55	0.55			0.55	
vC, conflicting volume	1951	1161			1161	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2317	886			886	
tC, single (s)	6.4	6.6			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	23	164			426	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	11	1161	1	790
Volume Left	0	0	0	0
Volume Right	11	0	1	0
cSH	164	1700	1700	1700
Volume to Capacity	0.07	0.68	0.00	0.46
Queue Length 95th (ft)	6	0	0	0
Control Delay (s)	28.6	0.0	0.0	0.0
Lane LOS	D			
Approach Delay (s)	28.6	0.0		0.0
Approach LOS	D			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

LANE SUMMARY

Site: 101 [2047 AM]

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	1185	3.0	1261	0.940	100	31.3	LOS D	30.2	773.3	Full	1600	0.0	0.0
Approach	1185	3.0		0.940		31.3	LOS D	30.2	773.3				
North: Panola Rd													
Lane 1[d]	891	3.0	1304	0.684	100	11.9	LOS B	10.5	268.4	Full	1600	0.0	0.0
Approach	891	3.0		0.684		11.9	LOS B	10.5	268.4				
West: Ousley Church Drwy													
Lane 1[d]	7	4.0	605	0.011	100	6.1	LOS A	0.1	1.6	Full	1600	0.0	0.0
Approach	7	4.0		0.011		6.1	LOS A	0.1	1.6				
Intersection	2083	3.0		0.940		22.9	LOS C	30.2	773.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	55	975	75	0	1170
Future Volume (Veh/h)	0	55	975	75	0	1170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	59	1037	80	0	1245
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						551
pX, platoon unblocked	0.66					
vC, conflicting volume	1700	1077			1037	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1033	1077			1037	
tC, single (s)	6.8	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	72			100	
cM capacity (veh/h)	153	213			660	

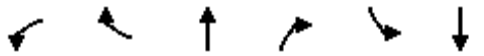
Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	59	1117	622	622
Volume Left	0	0	0	0
Volume Right	59	80	0	0
cSH	213	1700	1700	1700
Volume to Capacity	0.28	0.66	0.37	0.37
Queue Length 95th (ft)	28	0	0	0
Control Delay (s)	28.3	0.0	0.0	0.0
Lane LOS	D			
Approach Delay (s)	28.3	0.0	0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	1050	1115	55
Future Volume (Veh/h)	0	40	0	1050	1115	55
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	43	0	1141	1212	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					762	
pX, platoon unblocked	0.48	0.48	0.48			
vC, conflicting volume	2353	1212	1212			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3295	894	894			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	74	100			
cM capacity (veh/h)	5	163	365			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	43	1141	1212	60
Volume Left	0	0	0	0
Volume Right	43	0	0	60
cSH	163	1700	1700	1700
Volume to Capacity	0.26	0.67	0.71	0.04
Queue Length 95th (ft)	26	0	0	0
Control Delay (s)	34.8	0.0	0.0	0.0
Lane LOS	D			
Approach Delay (s)	34.8	0.0	0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	10	950	15	0	1055
Future Volume (Veh/h)	0	10	950	15	0	1055
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	11	1044	16	0	1159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			822			
pX, platoon unblocked	0.65	0.65			0.65	
vC, conflicting volume	2203	1044			1044	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2585	796			796	
tC, single (s)	6.4	6.5			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	18	229			541	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	11	1044	16	1159
Volume Left	0	0	0	0
Volume Right	11	0	16	0
cSH	229	1700	1700	1700
Volume to Capacity	0.05	0.61	0.01	0.68
Queue Length 95th (ft)	4	0	0	0
Control Delay (s)	21.5	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	21.5	0.0		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

LANE SUMMARY

Site: 101 [2047 PM]

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Panola Rd													
Lane 1[d]	1043	1.0	1215	0.859	100	21.9	LOS C	15.6	394.0	Full	1600	0.0	0.0
Approach	1043	1.0		0.859		21.9	LOS C	15.6	394.0				
North: Panola Rd													
Lane 1[d]	1255	1.0	1349	0.930	100	28.6	LOS D	53.6	1351.0	Full	1600	0.0	0.2
Approach	1255	1.0		0.930		28.6	LOS D	53.6	1351.0				
West: Ousley Church Drwy													
Lane 1[d]	11	0.0	299	0.036	100	12.7	LOS B	0.3	6.7	Full	1600	0.0	0.0
Approach	11	0.0		0.036		12.7	LOS B	0.3	6.7				
Intersection	2310	1.0		0.930		25.5	LOS D	53.6	1351.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Appendix K

Benefit Cost Analysis Results

GDOT Benefit-Cost Calculator

Project Information

ID: Panoala Road Scoping Sudy Study

Description: Project 1:
Replace stop control into Right In Right Out / Median and add signal at West Fairington Parkway

Cost Estimate

Date of estimate	June 2023
Preliminary Engineering	$ 614,277
Coningency	$ 460,708
Right-of-Way	$ 846,560
Construction	$ 3,071,387
Total	**$ 4,992,933**

Source of traffic data

No Build Traffic Data: SimTraffic
Build Traffic Data: SimTraffic

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,936	110.8	2,714	98.8	2,443	101.7	850	841.6
Vehicle Denied	593	521	510	198.2	659	377	3,055	1,270.0
Total Delay (hr)	145.3		102.6		138.1		1,276.4	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	2,575	29.8	3,249	47.8	3,100	56.7	3,555	74.2
Vehicle Denied	1	1			13	25	376	209.0
Total Delay (hr)	21.3		43.1		48.9		95.1	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used		
Open year	2016	2027	2027	===> Operational Design Life =	20 Years
Design year	2036	2047	2047		
Discount rate	7%		7.0%		
AM peak period (hr)	2	2	2		
PM peak period (hr)	3	2	2		
Value of auto travel ($/hr)	13.75		13.75		
Value of truck travel ($/hr)	72.65		72.65		
Percent trucks	12%	3.0%	3.0%		
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000		
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000		
Visible Injury Cost (Bc)		$ 600,000	$600,000		
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000		
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000		
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000		
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor =	50%

Operational Benefits

Costs	**$**	**4,992,933**
Open Year (2027) Auto Delay Costs		
Nobuild	$	1,653,091
Build	$	429,834
Auto delay savings	**$**	**1,223,257**
Open Year (2027) Truck Delay Costs		
Nobuild	$	270,134
Build	$	70,240
Truck delay savings	**$**	**199,894**
Open Year (2027) Benefits	**$**	**1,423,151**
Design Year (2047) Auto Delay Costs		
Nobuild	$	9,433,139
Build	$	960,404
Auto delay savings	**$**	**8,472,735**
Design Year (2047) Truck Delay Costs		
Nobuild	$	1,541,483
Build	$	156,941
Truck delay savings	**$**	**1,384,542**
Design Year (2047) Benefits	**$**	**9,857,277**
Design Life Benefits	**$**	**112,804,284**
Design Life Benefit-Cost Ratio		**22.59**

Safety Benefits

Targeted Crash Types: All

Sub Project
Right In Right Out Segments

Description	Symbol	Value
Reduction Factor (F, I)	R	0.540
Reduction Factor (PDO)	Rp	0.350
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 4,865,453

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.6
Visible Injury	B	1.8
Complaint Injury	C	0.0
Property Damage Only	O	8.0

Weighted cost of fatal and injury collisions
Q = $ 1,135,000

Annual Benefit: $ 1,549,360
Annual Cost: $ 443,294
Annual B/C Ratio: **3.50**

Sub Project
Signal Segment

Description	Symbol	Value
Reduction Factor (F, I)	R	0.400
Reduction Factor (PDO)	Rp	0.390
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 127,480

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.2
Visible Injury	B	0.8
Complaint Injury	C	0.0
Property Damage Only	O	14.8

Weighted cost of fatal and injury collisions
Q = $ 1,028,000

Annual Benefit: $ 572,816
Annual Cost: $ 31,091
Annual B/C Ratio: **18.42**

Design Life Benefit
B = $ 42,443,520

Design Life Cost
C = $ 9,487,703

Design Life Benefit/Cost Ratio
B/C = **4.5**

Total Project Benefit

Design Life Operational Benefit		$112,804,284	**Weight=**	50%
Design Life Safety Benefit		$42,443,520	**Weight=**	50%
Total Weighted Benefit		**$77,623,902**		
Design Life Operational Cost	$	4,992,933	**Weight=**	50%
Design Life Safety Cost		$9,487,703	**Weight=**	50%
Total Weighted Cost		**$7,240,318**		
Project Benefit-Cost Ratio		**10.72**		

GDOT Benefit-Cost Calculator

Project Information

ID	Panoala Road Scoping Sudy Study
Description	Project 2: Panola Road @ Thompson Mill Road Add southbound right turn lane + Eastbound right turn lane

Cost Estimate

Date of estimate		June 2023
Preliminary Engineering	$	71,896
Coningency	$	53,922
Right-of-Way	$	101,910
Construction	$	359,481
Total	**$**	**587,209**

Source of traffic data

No Build Traffic Data: Synchro
Build Traffic Data: Synchro

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,950	14.4	2,380	19.5	2,355	17.1	2,880	23.7
Vehicle Denied								
Total Delay (hr)	7.8		12.9		11.2		19.0	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,950	11.6	2,380	14.0	2,355	13.9	2,880	16.6
Vehicle Denied								
Total Delay (hr)	6.3		9.3		9.1		13.3	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used	
Open year	2016	2027	2027	
Design year	2036	2047	2047	
Discount rate	7%		7.0%	
AM peak period (hr)	2	2	2	
PM peak period (hr)	3	2	2	
Value of auto travel ($/hr)	13.75		13.75	
Value of truck travel ($/hr)	72.65		72.65	
Percent trucks	12%	6.0%	6.0%	
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000	
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000	
Visible Injury Cost (Bc)		$ 600,000	$600,000	
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000	
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000	
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000	
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor = 50%

===> Operational Design Life = 20 Years

Operational Benefits

Costs	**$**	**587,209**
Open Year (2027) Auto Delay Costs		
Nobuild	$	133,720
Build	$	100,420
Auto delay savings	**$**	**33,300**
Open Year (2027) Truck Delay Costs		
Nobuild	$	45,097
Build	$	33,867
Truck delay savings	**$**	**11,230**
Open Year (2027) Benefits	**$**	**44,530**
Design Year (2047) Auto Delay Costs		
Nobuild	$	194,820
Build	$	144,585
Auto delay savings	**$**	**50,235**
Design Year (2047) Truck Delay Costs		
Nobuild	$	65,704
Build	$	48,762
Truck delay savings	**$**	**16,942**
Design Year (2047) Benefits	**$**	**67,177**
Design Life Benefits	**$**	**1,117,075**
Design Life Benefit-Cost Ratio		**1.90**

Safety Benefits

Targeted Crash Types: All

Recommendation	CRF IDs	Ek	R	r	Rp	rp
From Signal to Additional Turn Lanes	270/274	0.087	0.09	0.91	0.10	0.90

Description	Symbol	Value
Reduction Factor (F, I)	R	0.090
Reduction Factor (PDO)	Rp	0.100
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 587,209

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.2
Visible Injury	B	1.6
Complaint Injury	C	0.0
Property Damage Only	O	13.6

Weighted cost of fatal and injury collisions
Q = $ 837,778

Annual Benefit: $ 173,800
Annual Cost: $ 71,087
Annual B/C Ratio: **2.44**

Design Life Benefit
B = $ 3,476,000

Design Life Cost
C = $ 1,421,744

Design Life Benefit/Cost Ratio
B/C = **2.4**

Total Project Benefit

Design Life Operational Benefit	$1,117,075	**Weight=** 50%
Design Life Safety Benefit	$3,476,000	**Weight=** 50%
Total Weighted Benefit	**$2,296,537**	
Design Life Operational Cost	$587,209	**Weight=** 50%
Design Life Safety Cost	$1,421,744	**Weight=** 50%
Total Weighted Cost	**$1,004,476**	
Project Benefit-Cost Ratio	**2.29**	

GDOT Benefit-Cost Calculator

Project Information

ID	Panoala Road Scoping Sudy Study
Description	Project 3: Panola Road @ Panola Mill Drive Replace stop control into single lane roundabout

Cost Estimate

Date of estimate		June 2023
Preliminary Engineering	$	428,885
Coningency	$	321,663
Right-of-Way	$	316,740
Construction	$	2,144,423
Total	**$**	**3,211,711**

Source of traffic data

No Build Traffic Data: Synchro
Build Traffic Data: Sidra

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,570	1.0	1,715	0.9	1,895	1.8	2,080	2.4
Vehicle Denied								
Total Delay (hr)	0.4		0.4		0.9		1.4	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,570	15.1	1,715	15.0	1,895	16.2	2,080	15.8
Vehicle Denied								
Total Delay (hr)	6.6		7.1		8.5		9.1	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used			
Open year	2016	2027	2027			
Design year	2036	2047	2047			
Discount rate	7%		7.0%			
AM peak period (hr)	2	2	2			
PM peak period (hr)	3	2	2			
Value of auto travel ($/hr)	13.75		13.75			
Value of truck travel ($/hr)	72.65		72.65			
Percent trucks	12%	6.0%	6.0%			
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000			
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000			
Visible Injury Cost (Bc)		$ 600,000	$600,000			
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000			
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000			
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000			
Operational Benefit Factor	100%	50%	50%	**===> Safety Benefit Factor =**	**50%**	

===> Operational Design Life = **20** **Years**

Operational Benefits

Costs	**$**	**3,211,711**
Open Year (2027) Auto Delay Costs		
Nobuild	$	5,589
Build	$	88,737
Auto delay savings	**$**	**(83,148)**
Open Year (2027) Truck Delay Costs		
Nobuild	$	1,885
Build	$	29,927
Truck delay savings	**$**	**(28,042)**
Open Year (2027) Benefits	**$**	**(111,190)**
Design Year (2047) Auto Delay Costs		
Nobuild	$	15,085
Build	$	114,104
Auto delay savings	**$**	**(99,020)**
Design Year (2047) Truck Delay Costs		
Nobuild	$	5,087
Build	$	38,482
Truck delay savings	**$**	**(33,395)**
Design Year (2047) Benefits	**$**	**(132,415)**
Design Life Benefits	**$**	**(2,436,048)**
Design Life Benefit-Cost Ratio		**(0.76)**

Safety Benefits

Targeted Crash Types: All

Recommendation	CRF IDs	Ek	R	r	Rp	rp
From Stop Control to Single lane Roundabout	233/234	0.087	0.78	0.22	0.39	0.61

Description	Symbol	Value
Reduction Factor (F, I)	R	0.780
Reduction Factor (PDO)	Rp	0.390
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 3,211,711

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.0
Visible Injury	B	0.0
Complaint Injury	C	0.0
Property Damage Only	O	3.6

Weighted cost of fatal and injury collisions
Q = $ -

Annual Benefit: $ 39,312
Annual Cost: $ 299,419
Annual B/C Ratio: **0.13**

Design Life Benefit
B = $ 786,240

Design Life Cost
C = $ 5,988,377

Design Life Benefit/Cost Ratio
B/C = **0.1**

Total Project Benefit

Design Life Operational Benefit	($2,436,048)	**Weight=** 50%
Design Life Safety Benefit	$786,240	**Weight=** 50%
Total Weighted Benefit	**($824,904)**	
Design Life Operational Cost	$3,211,711	**Weight=** 50%
Design Life Safety Cost	$5,988,377	**Weight=** 50%
Total Weighted Cost	**$4,600,044**	
Project Benefit-Cost Ratio	**-0.18**	

GDOT Benefit-Cost Calculator

Project Information

ID: Panoala Road Scoping Sudy Study

Description: Project 4: Panola Road @ Black Foot Drive
Replace stop control into single lane roundabout

Cost Estimate

Date of estimate		June 2023
Preliminary Engineering	$	356,190
Coningency	$	267,143
Right-of-Way	$	145,840
Construction	$	1,780,951
Total	**$**	**2,550,124**

Source of traffic data

No Build Traffic Data: Synchro
Build Traffic Data: Sidra

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,510	0.2	1,670	0.1	1,820	0.2	2,025	0.3
Vehicle Denied								
Total Delay (hr)	0.1		0.0		0.1		0.2	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,510	13.7	1,670	14.3	1,820	14.4	2,025	15.2
Vehicle Denied								
Total Delay (hr)	5.7		6.6		7.3		8.6	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used		
Open year	2016	2027	2027	===> Operational Design Life =	20 Years
Design year	2036	2047	2047		
Discount rate	7%		7.0%		
AM peak period (hr)	2	2	2		
PM peak period (hr)	3	2	2		
Value of auto travel ($/hr)	13.75		13.75		
Value of truck travel ($/hr)	72.65		72.65		
Percent trucks	12%	6.0%	6.0%		
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000		
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000		
Visible Injury Cost (Bc)		$ 600,000	$600,000		
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000		
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000		
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000		
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor =	50%

Operational Benefits

Costs	**$**	**2,550,124**
Open Year (2027) Auto Delay Costs		
Nobuild	$	842
Build	$	80,006
Auto delay savings	**$**	**(79,164)**
Open Year (2027) Truck Delay Costs		
Nobuild	$	284
Build	$	26,982
Truck delay savings	**$**	**(26,698)**
Open Year (2027) Benefits	**$**	**(105,862)**
Design Year (2047) Auto Delay Costs		
Nobuild	$	1,744
Build	$	102,301
Auto delay savings	**$**	**(100,557)**
Design Year (2047) Truck Delay Costs		
Nobuild	$	588
Build	$	34,501
Truck delay savings	**$**	**(33,913)**
Design Year (2047) Benefits	**$**	**(134,471)**
Design Life Benefits	**$**	**(2,403,328)**
Design Life Benefit-Cost Ratio		**(0.94)**

Safety Benefits

Targeted Crash Types: All

Recommendation	CRF IDs	Ek	R	r	Rp	rp
From Stop Control to Single lane Roundabout	233/234	0.087	0.78	0.22	0.39	0.61

Description	Symbol	Value
Reduction Factor (F, I)	R	0.780
Reduction Factor (PDO)	Rp	0.390
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 2,550,124

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.0
Visible Injury	B	0.0
Complaint Injury	C	0.0
Property Damage Only	O	1.8

Weighted cost of fatal and injury collisions
Q = $ -

Annual Benefit: $ 19,656
Annual Cost: $ 241,861
Annual B/C Ratio: **0.08**

Design Life Benefit
B = $ 393,120

Design Life Cost
C = $ 4,837,217

Design Life Benefit/Cost Ratio
B/C = **0.1**

Total Project Benefit

Design Life Operational Benefit	($2,403,328)	**Weight=** 50%
Design Life Safety Benefit	$393,120	**Weight=** 50%
Total Weighted Benefit	**($1,005,104)**	
Design Life Operational Cost	$2,550,124	**Weight=** 50%
Design Life Safety Cost	$4,837,217	**Weight=** 50%
Total Weighted Cost	**$3,693,671**	
Project Benefit-Cost Ratio	**-0.27**	

GDOT Benefit-Cost Calculator

Project Information

ID	Panoala Road Scoping Sudy Study
Description	Project 5: Panola Road @ Rock Springs Road Replace signal into multi lane roundabout

Cost Estimate

Date of estimate		June 2023
Preliminary Engineering	$	624,496
Coningency	$	468,372
Right-of-Way	$	152,140
Construction	$	3,122,482
Total	**$**	**4,367,491**

Source of traffic data

No Build Traffic Data: Synchro
Build Traffic Data: Sidra

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	2,215	27.4	2,315	24.7	2,680	34.2	2,805	30.8
Vehicle Denied								
Total Delay (hr)	16.9		15.9		25.5		24.0	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	2,215	13.5	2,315	7.9	2,680	10.7	2,805	10.7
Vehicle Denied								
Total Delay (hr)	8.3		5.1		8.0		8.3	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used	
Open year	2016	2027	2027	
Design year	2036	2047	2047	
Discount rate	7%		7.0%	
AM peak period (hr)	2	2	2	
PM peak period (hr)	3	2	2	
Value of auto travel ($/hr)	13.75		13.75	
Value of truck travel ($/hr)	72.65		72.65	
Percent trucks	12%	3.0%	3.0%	
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000	
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000	
Visible Injury Cost (Bc)		$ 600,000	$600,000	
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000	
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000	
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000	
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor = 50%

===> Operational Design Life = 20 Years

Operational Benefits

Costs	**$**	**4,367,491**
Open Year (2027) Auto Delay Costs		
Nobuild	$	218,349
Build	$	89,270
Auto delay savings	**$**	**129,078**
Open Year (2027) Truck Delay Costs		
Nobuild	$	35,681
Build	$	14,588
Truck delay savings	**$**	**21,093**
Open Year (2027) Benefits	**$**	**150,171**
Design Year (2047) Auto Delay Costs		
Nobuild	$	329,825
Build	$	108,718
Auto delay savings	**$**	**221,107**
Design Year (2047) Truck Delay Costs		
Nobuild	$	53,897
Build	$	17,766
Truck delay savings	**$**	**36,131**
Design Year (2047) Benefits	**$**	**257,238**
Design Life Benefits	**$**	**4,074,096**
Design Life Benefit-Cost Ratio		**0.93**

Safety Benefits

Targeted Crash Types: All

Recommendation	CRF IDs	Ek	R	r	Rp	rp
From Signal to Multi-lane Roundabout	233/234	0.087	0.78	0.22	0.39	0.61

Description	Symbol	Value
Reduction Factor (F, I)	R	0.780
Reduction Factor (PDO)	Rp	0.390
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 4,367,491

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.6
Visible Injury	B	1.2
Complaint Injury	C	0.0
Property Damage Only	O	26.2

Weighted cost of fatal and injury collisions
Q = $ 1,313,333

Annual Benefit: $ 2,130,024
Annual Cost: $ 399,972
Annual B/C Ratio: **5.33**

Design Life Benefit
B = $ 42,600,480

Design Life Cost
C = $ 7,999,434

Design Life Benefit/Cost Ratio
B/C = **5.3**

Total Project Benefit

Design Life Operational Benefit	$4,074,096	**Weight=** 50%
Design Life Safety Benefit	$42,600,480	**Weight=** 50%
Total Weighted Benefit	**$23,337,288**	
Design Life Operational Cost	$4,367,491	**Weight=** 50%
Design Life Safety Cost	$7,999,434	**Weight=** 50%
Total Weighted Cost	**$6,183,462**	
Project Benefit-Cost Ratio	**3.77**	

GDOT Benefit-Cost Calculator

Project Information

ID	Panoala Road Scoping Sudy Study
Description	Project 6: Panola Road @ Cedar Rock Drive Replace stop control into single lane roundabout

Cost Estimate

Date of estimate		June 2023
Preliminary Engineering	$	216,104
Coningency	$	162,078
Right-of-Way	$	113,050
Construction	$	1,080,521
Total	**$**	**1,571,753**

Source of traffic data

No Build Traffic Data: Synchro
Build Traffic Data: Sidra

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,545	0.5	1,685	0.8	1,885	0.9	2,040	1.2
Vehicle Denied								
Total Delay (hr)	0.2		0.4		0.5		0.7	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,545	13.4	1,685	16.0	1,885	13.8	2,040	17.8
Vehicle Denied								
Total Delay (hr)	5.8		7.5		7.2		10.1	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used	
Open year	2016	2027	2027	
Design year	2036	2047	2047	
Discount rate	7%		7.0%	
AM peak period (hr)	2	2	2	
PM peak period (hr)	3	2	2	
Value of auto travel ($/hr)	13.75		13.75	
Value of truck travel ($/hr)	72.65		72.65	
Percent trucks	12%	6.0%	6.0%	
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000	
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000	
Visible Injury Cost (Bc)		$ 600,000	$600,000	
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000	
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000	
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000	
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor = 50%

===> Operational Design Life = 20 Years

Operational Benefits

Costs	**$**	**1,571,753**
Open Year (2027) Auto Delay Costs		
Nobuild	$	3,807
Build	$	85,562
Auto delay savings	**$**	**(81,755)**
Open Year (2027) Truck Delay Costs		
Nobuild	$	1,284
Build	$	28,856
Truck delay savings	**$**	**(27,572)**
Open Year (2027) Benefits	**$**	**(109,327)**
Design Year (2047) Auto Delay Costs		
Nobuild	$	7,440
Build	$	111,882
Auto delay savings	**$**	**(104,442)**
Design Year (2047) Truck Delay Costs		
Nobuild	$	2,509
Build	$	37,733
Truck delay savings	**$**	**(35,223)**
Design Year (2047) Benefits	**$**	**(139,666)**
Design Life Benefits	**$**	**(2,489,928)**
Design Life Benefit-Cost Ratio		**(1.58)**

Safety Benefits

Targeted Crash Types: All

Recommendation	CRF IDs	Ek	R	r	Rp	rp
From Stop Control to Single lane Roundabout	233/234	0.087	0.78	0.22	0.39	0.61

Description	Symbol	Value
Reduction Factor (F, I)	R	0.780
Reduction Factor (PDO)	Rp	0.390
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 1,571,753

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.2
Visible Injury	B	0.6
Complaint Injury	C	0.0
Property Damage Only	O	6.0

Weighted cost of fatal and injury collisions
Q = $ 1,135,000

Annual Benefit: $ 773,760
Annual Cost: $ 156,743
Annual B/C Ratio: **4.94**

Design Life Benefit
B = $ 15,475,200

Design Life Cost
C = $ 3,134,851

Design Life Benefit/Cost Ratio
B/C = **4.9**

Total Project Benefit

Design Life Operational Benefit	($2,489,928)	**Weight=** 50%
Design Life Safety Benefit	$15,475,200	**Weight=** 50%
Total Weighted Benefit	**$6,492,636**	
Design Life Operational Cost	$1,571,753	**Weight=** 50%
Design Life Safety Cost	$3,134,851	**Weight=** 50%
Total Weighted Cost	**$2,353,302**	
Project Benefit-Cost Ratio	**2.76**	

GDOT Benefit-Cost Calculator

Project Information

ID	Panoala Road Scoping Sudy Study
Description	Project 7: Panola Road @ Oak Tree Trail Add southbound right turn lane + Eastbound right turn lane

Cost Estimate

Date of estimate		June 2023
Preliminary Engineering	$	132,054
Coningency	$	99,041
Right-of-Way	$	23,430
Construction	$	660,271
Total	**$**	**914,796**

Source of traffic data

No Build Traffic Data: Synchro
Build Traffic Data: Synchro

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,495	2.5	1,650	0.9	1,820	4.1	1,995	1.1
Vehicle Denied								
Total Delay (hr)	1.0		0.4		2.1		0.6	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,495	2.5	1,650	0.9	1,820	4.1	1,995	1.1
Vehicle Denied								
Total Delay (hr)	1.0		0.4		2.1		0.6	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used	
Open year	2016	2027	2027	
Design year	2036	2047	2047	
Discount rate	7%		7.0%	
AM peak period (hr)	2	2	2	
PM peak period (hr)	3	2	2	
Value of auto travel ($/hr)	13.75		13.75	
Value of truck travel ($/hr)	72.65		72.65	
Percent trucks	12%	6.0%	6.0%	
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000	
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000	
Visible Injury Cost (Bc)		$ 600,000	$600,000	
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000	
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000	
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000	
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor = 50%

===> Operational Design Life = 20 Years

Operational Benefits

Costs	**$**	**914,796**
Open Year (2027) Auto Delay Costs		
Nobuild	$	9,375
Build	$	9,375
Auto delay savings	**$**	**-**
Open Year (2027) Truck Delay Costs		
Nobuild	$	3,162
Build	$	3,162
Truck delay savings	**$**	**-**
Open Year (2027) Benefits	**$**	**-**
Design Year (2047) Auto Delay Costs		
Nobuild	$	17,335
Build	$	17,335
Auto delay savings	**$**	**-**
Design Year (2047) Truck Delay Costs		
Nobuild	$	5,846
Build	$	5,846
Truck delay savings	**$**	**-**
Design Year (2047) Benefits	**$**	**-**
Design Life Benefits	**$**	**-**
Design Life Benefit-Cost Ratio		**-**

Safety Benefits

Targeted Crash Types: All

Recommendation	CRF IDs	Ek	R	r	Rp	rp
Stop Control to Add Turn Lanes	270/274	0.087	0.09	0.91	0.10	0.90

Description	Symbol	Value
Reduction Factor (F, I)	R	0.090
Reduction Factor (PDO)	Rp	0.100
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 914,796

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.2
Visible Injury	B	1.6
Complaint Injury	C	0.0
Property Damage Only	O	13.6

Weighted cost of fatal and injury collisions
Q = $ 837,778

Annual Benefit: $ 173,800
Annual Cost: $ 99,587
Annual B/C Ratio: **1.75**

Design Life Benefit
B = $ 3,476,000

Design Life Cost
C = $ 1,991,746

Design Life Benefit/Cost Ratio
B/C = **1.7**

Total Project Benefit

Design Life Operational Benefit	$0	**Weight=** 50%
Design Life Safety Benefit	$3,476,000	**Weight=** 50%
Total Weighted Benefit	**$1,738,000**	
Design Life Operational Cost	$914,796	**Weight=** 50%
Design Life Safety Cost	$1,991,746	**Weight=** 50%
Total Weighted Cost	**$1,453,271**	
Project Benefit-Cost Ratio	**1.20**	

GDOT Benefit-Cost Calculator

Project Information

ID	Panoala Road Scoping Sudy Study
Description	Project 8: Panola Road @ Salem Road Add eastbound and westbound left turn lane at Salem Road

Cost Estimate

Date of estimate		June 2023
Preliminary Engineering	$	292,369
Coningency	$	219,277
Right-of-Way	$	227,830
Construction	$	1,461,844
Total	**$**	**2,201,320**

Source of traffic data

No Build Traffic Data: SimTraffic
Build Traffic Data: SimTraffic

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,730	40.9	1,880	40.2	2,115	53.9	2,270	56.4
Vehicle Denied								
Total Delay (hr)	19.7		21.0		31.7		35.6	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,730	26.8	1,880	23.0	2,115	33.3	2,270	27.6
Vehicle Denied								
Total Delay (hr)	12.9		12.0		19.6		17.4	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used	
Open year	2016	2027	2027	
Design year	2036	2047	2047	
Discount rate	7%		7.0%	
AM peak period (hr)	2	2	2	
PM peak period (hr)	3	2	2	
Value of auto travel ($/hr)	13.75		13.75	
Value of truck travel ($/hr)	72.65		72.65	
Percent trucks	12%	6.0%	6.0%	
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000	
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000	
Visible Injury Cost (Bc)		$ 600,000	$600,000	
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000	
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000	
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000	
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor = 50%

===> Operational Design Life = 20 Years

Operational Benefits

Costs	**$**	**2,201,320**
Open Year (2027) Auto Delay Costs		
Nobuild	$	262,688
Build	$	160,852
Auto delay savings	**$**	**101,836**
Open Year (2027) Truck Delay Costs		
Nobuild	$	88,592
Build	$	54,248
Truck delay savings	**$**	**34,345**
Open Year (2027) Benefits	**$**	**136,181**
Design Year (2047) Auto Delay Costs		
Nobuild	$	434,471
Build	$	238,900
Auto delay savings	**$**	**195,571**
Design Year (2047) Truck Delay Costs		
Nobuild	$	146,527
Build	$	80,570
Truck delay savings	**$**	**65,957**
Design Year (2047) Benefits	**$**	**261,529**
Design Life Benefits	**$**	**3,977,096**
Design Life Benefit-Cost Ratio		**1.81**

Safety Benefits

Targeted Crash Types: All

Recommendation	CRF IDs	Ek	R	r	Rp	rp
From Signal to Additional Turn Lanes	270/274	0.087	0.09	0.91	0.10	0.90

Description	Symbol	Value
Reduction Factor (F, I)	R	0.090
Reduction Factor (PDO)	Rp	0.100
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 2,201,320

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.0
Visible Injury	B	0.2
Complaint Injury	C	0.0
Property Damage Only	O	13.8

Weighted cost of fatal and injury collisions
Q = $ 600,000

Annual Benefit: $ 49,440
Annual Cost: $ 211,515
Annual B/C Ratio: **0.23**

Design Life Benefit
B = $ 988,800

Design Life Cost
C = $ 4,230,296

Design Life Benefit/Cost Ratio
B/C = **0.2**

Total Project Benefit

Design Life Operational Benefit	$3,977,096	**Weight=** 50%
Design Life Safety Benefit	$988,800	**Weight=** 50%
Total Weighted Benefit	**$2,482,948**	
Design Life Operational Cost	$2,201,320	**Weight=** 50%
Design Life Safety Cost	$4,230,296	**Weight=** 50%
Total Weighted Cost	**$3,215,808**	
Project Benefit-Cost Ratio	**0.77**	

GDOT Benefit-Cost Calculator

Project Information

ID: Panoala Road Scoping Sudy Study

Description: Project 9: Panola Road @ Browns Mill Road / SR 212
Replace signal into multi lane roundabout

Cost Estimate

Date of estimate		June 2023
Preliminary Engineering	$	350,973
Coningency	$	263,229
Right-of-Way	$	332,570
Construction	$	1,754,863
Total	**$**	**2,701,635**

Source of traffic data

No Build Traffic Data: Synchro
Build Traffic Data: Sidra

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,970	49.5	2,315	43.0	2,395	89.6	2,810	77.0
Vehicle Denied								
Total Delay (hr)	27.1		27.7		59.6		60.1	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,970	12.9	2,315	15.7	2,395	16.9	2,810	19.5
Vehicle Denied								
Total Delay (hr)	7.1		10.1		11.2		15.2	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used	
Open year	2016	2027	2027	
Design year	2036	2047	2047	
Discount rate	7%		7.0%	
AM peak period (hr)	2	2	2	
PM peak period (hr)	3	2	2	
Value of auto travel ($/hr)	13.75		13.75	
Value of truck travel ($/hr)	72.65		72.65	
Percent trucks	12%	3.0%	3.0%	
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000	
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000	
Visible Injury Cost (Bc)		$ 600,000	$600,000	
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000	
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000	
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000	
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor = 50%

===> Operational Design Life = 20 Years

Operational Benefits

Costs	**$**	**2,701,635**
Open Year (2027) Auto Delay Costs		
Nobuild	$	365,040
Build	$	114,403
Auto delay savings	**$**	**250,637**
Open Year (2027) Truck Delay Costs		
Nobuild	$	59,652
Build	$	18,695
Truck delay savings	**$**	**40,957**
Open Year (2027) Benefits	**$**	**291,594**
Design Year (2047) Auto Delay Costs		
Nobuild	$	798,327
Build	$	176,482
Auto delay savings	**$**	**621,845**
Design Year (2047) Truck Delay Costs		
Nobuild	$	130,456
Build	$	28,839
Truck delay savings	**$**	**101,617**
Design Year (2047) Benefits	**$**	**723,462**
Design Life Benefits	**$**	**10,150,553**
Design Life Benefit-Cost Ratio		**3.76**

Safety Benefits

Targeted Crash Types: All

Recommendation	CRF IDs	Ek	R	r	Rp	rp
From Signal to Multi-lane Roundabout	236 & 237	0.087	0.71	0.29	0.32	0.68

Description	Symbol	Value
Reduction Factor (F, I)	R	0.710
Reduction Factor (PDO)	Rp	0.320
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 2,701,635

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.2
Visible Injury	B	1.8
Complaint Injury	C	0.0
Property Damage Only	O	28.4

Weighted cost of fatal and injury collisions
Q = $ 814,000

Annual Benefit: $ 1,410,344
Annual Cost: $ 255,042
Annual B/C Ratio: **5.53**

Design Life Benefit
B = $ 28,206,880

Design Life Cost
C = $ 5,100,845

Design Life Benefit/Cost Ratio
B/C = **5.5**

Total Project Benefit

Design Life Operational Benefit	$10,150,553	**Weight=** 50%
Design Life Safety Benefit	$28,206,880	**Weight=** 50%
Total Weighted Benefit	**$19,178,717**	
Design Life Operational Cost	$2,701,635	**Weight=** 50%
Design Life Safety Cost	$5,100,845	**Weight=** 50%
Total Weighted Cost	**$3,901,240**	
Project Benefit-Cost Ratio	**4.92**	

GDOT Benefit-Cost Calculator

Project Information

ID	Panoala Road Scoping Sudy Study
Description	Project 10: Construct a raised median from Thompson Mill Rd to Rock Springs Rd, Construct a single lane roundabout at Ousley Church

Cost Estimate

Date of estimate		August 2023
Preliminary Engineering	$	886,177
Coningency	$	664,633
Right-of-Way	$	604,690
Construction	$	4,430,885
Total	**$**	**6,586,385**

Source of traffic data

No Build Traffic Data: Synchro
Build Traffic Data: Synchro and Sidra

Without project (No-Build)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,550	1.8	1,835	2.0	1,980	3.1	2,230	4.0
Vehicle Denied								
Total Delay (hr)	**0.8**		**1.0**		**1.7**		**2.5**	

With project (Build Roundabout)	Open Year 2027				Design Year 2047			
	AM		PM		AM		PM	
	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)	Number of Vehicles	Delay per vehicle (s)
Vehicle Served	1,550	13.8	1,835	15.5	1,980	25.0	2,230	28.2
Vehicle Denied								
Total Delay (hr)	**5.9**		**7.9**		**13.8**		**17.5**	

F: Annual number of collisions involving fatalities during study period
I: Average annual number of collisions involving injured people for the period of the study
P: Average annual number of collisions involving only property damage for the period of the study
R: Reduction of fatal and injury collisions by type (from Table A - Appendix E)
r: Crash modification factor for fatal and injury collisions
Rp: Reduction of property damage only collisions by type (from Table A - Appendix E)
rp: Crash modification factor for property damage only collisions
Pc: Average cost, in thousands of $, per property damage only collision
Q: Weighted cost, in thousands of $, of fatal and injury collisions
Ic: Average cost per injury in thousands of $
Fc: Average cost per fatality in thousands of $
Ek: Capital recovery factor based on countermeasure life (from Table B - Appendix E)
Ci: Estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of $
Cm: Estimated annual maintenance and operating cost of the countermeasure in thousands of $

Parameters	Default	Override	Used			
Open year	2016	2027	2027	===> Operational Design Life =	20	Years
Design year	2036	2047	2047			
Discount rate	7%		7.0%			
AM peak period (hr)	2	2	2			
PM peak period (hr)	3	2	2			
Value of auto travel ($/hr)	13.75		13.75			
Value of truck travel ($/hr)	72.65		72.65			
Percent trucks	12%	3.0%	3.0%			
Fatality Cost (Kc)	$9,100,000	$ 12,450,000	$12,450,000			
Serious Injury Cost (Ac)		$ 2,740,000	$2,740,000			
Visible Injury Cost (Bc)		$ 600,000	$600,000			
Complaint Injury Cost (Cc)	$955,500	$ 129,000	$129,000			
Property Damage Only Cost (Oc)	$27,300	$ 28,000	$28,000			
Annual Maintenance/Operating Cost (Cm)	$20,000		$20,000			
Operational Benefit Factor	100%	50%	50%	===> Safety Benefit Factor =	50%	

Operational Benefits

Costs	**$**	**6,586,385**
Open Year (2027) Auto Delay Costs		
Nobuild	$	11,967
Build	$	92,213
Auto delay savings	**$**	**(80,247)**
Open Year (2027) Truck Delay Costs		
Nobuild	$	1,955
Build	$	15,069
Truck delay savings	**$**	**(13,113)**
Open Year (2027) Benefits	**$**	**(93,360)**
Design Year (2047) Auto Delay Costs		
Nobuild	$	27,894
Build	$	208,372
Auto delay savings	**$**	**(180,478)**
Design Year (2047) Truck Delay Costs		
Nobuild	$	4,558
Build	$	34,050
Truck delay savings	**$**	**(29,492)**
Design Year (2047) Benefits	**$**	**(209,971)**
Design Life Benefits	**$**	**(3,033,305)**
Design Life Benefit-Cost Ratio		**(0.46)**

Safety Benefits

Targeted Crash Types: All

Sub Project
Right In Right Out Segments

Description	Symbol	Value
Reduction Factor (F, I)	R	0.540
Reduction Factor (PDO)	Rp	0.350
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 4,985,130

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.0
Visible Injury	B	0.2
Complaint Injury	C	0.0
Property Damage Only	O	7.8

Weighted cost of fatal and injury collisions
Q = $ 600,000

Annual Benefit:	$	141,240
Annual Cost:	$	453,706
Annual B/C Ratio:		**0.31**

Sub Project
Roundabout Segment

Description	Symbol	Value
Reduction Factor (F, I)	R	0.780
Reduction Factor (PDO)	Rp	0.390
Capital Recovery Factor	Ek	0.087
Initial Improvement Cost	Ci	$ 1,601,256

Accident Data	Symbol	Value
Fatality	K	0.0
Serious Injury	A	0.0
Visible Injury	B	0.2
Complaint Injury	C	0.0
Property Damage Only	O	0.6

Weighted cost of fatal and injury collisions
Q = $ 600,000

Annual Benefit:	$	100,152
Annual Cost:	$	159,309
Annual B/C Ratio:		**0.63**

Design Life Benefit
B = $ 4,827,840

Design Life Cost
C = $ 12,260,310

Design Life Benefit/Cost Ratio
B/C = **0.4**

Total Project Benefit

Design Life Operational Benefit		($3,033,305)	**Weight=**	50%
Design Life Safety Benefit		$4,827,840	**Weight=**	50%
Total Weighted Benefit		**$897,267**		
Design Life Operational Cost	$	6,586,385	**Weight=**	50%
Design Life Safety Cost		$12,260,310	**Weight=**	50%
Total Weighted Cost		**$9,423,348**		
Project Benefit-Cost Ratio		**0.10**		

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